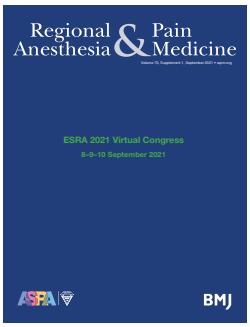
Regional Anesthesia & Pain Medicine

Volume 70, Supplement 1, September 2021 • rapm.org

ESRA 2021 Virtual Congress

8–9–10 September 2021

BMJ



RAPM is owned by the American Society of Regional Anesthesia and Pain Medicine. It is also the official publication of the European Society of Regional Anaesthesia and Pain Therapy (ESRA), the Asian and Oceanic Society of Regional Anesthesia (AOSRA), the Latin American Society of Regional Anesthesia (LASRA), the African Society for Regional Anesthesia, and the Academy of Regional Anaesthesia of India (AORA-India).

Impact factor: 6.288

Associate Editors

Rohit Aiver (Canada)
Eric Albrecht (Switzerland)
Magda Anitescu (USA)
John Antonakakis (USA)
Anuj Bhatia (Canada)
Mark Bicket (USA)
Andre Boezaart (USA)
Jan Boublik (USA)
KiJinn Chin (Canada)
Laura Clark (USA)
Mario J Conceicao (Brazil)
Joseph Cravero (USA)
Tina Doshi (USA)
Nabil Elkassabany (USA)
Hesham Elsharkawy (USA)
Carlo D Franco (USA)
Rodney Gabriel (USA)
Michael Gofeld (Canada)
Andrew T Gray (USA)
Yavuz Gurkan (Turkey)
Monica Harbell (USA)
Stephen Haskins (USA)
Afton Hassett (USA)
Salim Hayek (USA)
W Michael Hooten (USA)
Pia Jæger (Denmark)
Manoj K Karmakar (Hong Kong)
Sandra L Kopp (USA)
Daniel B Larach (USA)
Lisa Leffert (USA)
Gregory A Liguori (USA)
Jiabin Liu (USA)
Edward R Mariano (USA)
Weidong Mi (China)
Steven L Orebaugh (USA)
Michelle Parra (USA)
Philip Peng (Canada)
Richard W Rosenquist (USA)
Xavier Sala-Blanch (Spain)
Francis V Salinas (USA)
Axel Sauter (Norway)
Hariharan Shankar (USA)
Alexandra Sideris (USA)
Eellan Sivanesan (USA)
Ellen Soffin (USA)
Balavenkat Subramanian (India)
Athmaja Thottungal (UK)
Tiffany R Tedore (USA)
Vishal Uppal (Canada)
Ban Tsui (USA)
Jan van Zundert (Belgium)
Eugene R Viscusi (USA)
Jacques T YaDeau (USA)

Regional Anesthesia & Pain Medicine, official publication of the American Society of Regional Anesthesia and Pain Medicine (ASRA), is a monthly journal that publishes peer-reviewed scientific and clinical studies to advance the understanding and clinical application of regional techniques for surgical anesthesia and postoperative analgesia. Coverage includes intraoperative regional techniques, perioperative pain, chronic pain, obstetric anesthesia, pediatric anesthesia, outcome studies, and complications.

Editor-in-Chief
Brian D Sites (USA)

Executive Editors
Chad M Brummett (USA)
Asokumar Buvanendran (USA)
Xavier Capdevila (France)
Steven P Cohen (USA)
Yun Guan (USA)
Spencer S Liu (USA)
Stavros Memtsoudis (USA)
Anahi Perlas (Canada)
De Q H Tran (Canada)
Christopher L Wu (USA)

Editors
Thomas Bendtsen (Denmark)
Jens Børglum (Denmark)
John F Butterworth (USA)
Andrea Chadwick (USA)
Vincent W S Chan (Canada)
Urs Eichenberger (Switzerland)
Roderick Finlayson (Canada)
Brian M Ilfeld (USA)
Rebecca Johnson (USA)
Colin J L McCartney (Canada)
Samer Narouze (USA)
David A Provenzano (USA)
Eric S Schwenk (USA)
Ricardo Vallejo (USA)
Effrossyni (Gina) Vota-Vellis (USA)

Associate Editor-in-Chief for Statistics
Matthew A Davis (USA)

Social Media Editors
Eric S Schwenk (USA)
Rajnish K Gupta (USA)

Guidelines for Authors and Reviewers
Full instructions are available online at http://rapm.bmj.com/pages/authors/. Articles must be submitted electronically http://mc.manuscriptcentral.com/rapm. Authors retain copyright but are required to grant Regional Anesthesia & Pain Medicine Journal an exclusive licence to publish (http://rapm.bmj.com/pages/authors/).

Permissions
See http://www.bmj.com/company/products-services/rights-and-licensing/permissions/

Subscription Information

Regional Anesthesia & Pain Medicine is published monthly (subscribers receive all supplements)

Institutional Rates 2021

Online
Site licences are priced on FTE basis and allow access by the whole institution.

Personal Rates 2021

Print (includes online access at no additional cost)
$623

Online Only
$416

Personal print or online only subscriptions may be purchased online at http://journals.bmj.com/content/subscribers?rapm (payment by MasterCard/Visa only).

Residents of some EC countries must pay VAT; for details call us or visit http://journals.bmj.com/content/subscribers?rapm

For more information on subscription rates or to subscribe online please visit rapm/bmj.com/pages/contact-us/

Contact Details

Publisher
Kathleen Lyons
E: **klyons@bmj.com**

Editorial Office
E: **info.rapm@bmj.com**

Production Editor
Teresa Jobson
E: **production.rapm@bmj.com**

American Society of Regional Anesthesia and Pain Medicine
3 Penn Center West
Suite 224
Pittsburgh, PA 15276
T: **+1 412-471-2718**

Customer support
For general queries and support with existing and new subscriptions:
W: **support.bmj.com**
T: **+44 (0)20 7111 1105**
E: **support@bmj.com**

Self-archiving and permissions
W: **bmj.com/company/products-services/rights-and-licensing/**
E: **bmj.permissions@bmj.com**

Advertising
W: **bmj.com/company/for-advertisers-and-sponsor/**

Display Advertising ROW
Sophie Fitzsimmons
T: **+44 (0)20 3655 5612**
E: **sfitzsimmons@bmj.com**

Online Advertising ROW
Marc Clifford
T: **+44 (0)20 3655 5610**
E: **mclifford@bmj.com**

Display & Online Advertising Americas
Cunningham Associates
T: **+1 201 767 4170**
E: **jcunningham@cunnasso.com**

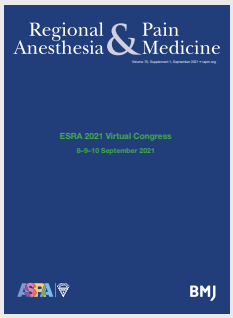
Reprints

Author Reprints
BMJ Reprints Team
E: **admin.reprints@bmj.com**

Commercial Reprints ROW
Nadia Gurney-Randall
M: **+44 (0)7866 262 344**
E: **ngurneyrandall@bmj.com**

Commercial Reprints Americas
Ray Thibodeau
T: **+1 267 895 1758**
M: **+1 215 933 8484**
E: **ray.thibodeau@contentednet.com**

For all other journal contacts:
rapm.bmj.com/contact-us



Editor in Chief
Brian D Sites (USA)

Associate Editor-in-Chief for Statistics
Matthew A Davis (USA)

Executive Editors
Chad M Brummett (USA)
Asokumar Buvanendran (USA)
Xavier Capdevila (France)
Steven P Cohen (USA)
Yun Guan (USA)
Spencer S Liu (USA)
Stavros Memtsoudis (USA)
Anahi Perlas (Canada)
De Q H Tran (Canada)
Christopher L Wu (USA)

Editorial Office
BMJ Publishing Group Ltd, BMA House, Tavistock Square, London WC1H 9JR, UK
T: **+1 919 650 1459**
F: **+44 (0)20 7383 6668**
E: **info.rapm@bmj.com**

Impact factor: 6.288

Disclaimer: The Editor of *Regional Anesthesia and Pain Medicine* has been granted editorial freedom and *Regional Anesthesia and Pain Medicine* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *Regional Anesthesia and Pain Medicine* is primarily intended for healthcare professionals and its content is for information only. The Journal is published without any guarantee as to its accuracy or completeness and any representations or warranties are expressly excluded to the fullest extent permitted by law. Readers are advised to independently verify any information on which they choose to rely. Acceptance of advertising by *Regional Anesthesia and Pain Medicine* does not imply endorsement. Neither *American Society of Regional Anesthesia & Pain Medicine* nor BMJ Publishing Group Limited shall have any liability for any loss, injury or damage howsoever arising from *Regional Anesthesia and Pain Medicine* (except for liability which cannot be legally excluded).

Copyright: © 2021 American Society of Regional Anesthesia and Pain Medicine. All rights reserved; no part of this publication may be reproduced in any form without permission of *Regional Anesthesia and Pain Medicine*.

Regional Anesthesia and Pain Medicine is published by BMJ Publishing Group Ltd, typeset by Exeter Premedia Services Private Ltd, Chennai, India and printed in the UK on acid-free paper.

Regional Anesthesia & Pain Medicine ISSN 1472-0205 (USPS 580_990). BMA House, Tavistock Square, London WC1H 9JR, UK. The US annual subscription price is $578.

Airfreight and mailing in the USA by agent named World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Periodicals postage paid at Brooklyn, NY 11256. US POSTMASTER: Send address changes to *Regional Anesthesia & Pain Medicine*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at BMJ Publishing Group Ltd, 12th Floor, Southgate House, Wood Street, Cardiff, CF10 1GH, Wales. Air Business Ltd is acting as our mailing agent.

A1 Best free paper session I – Regional anaesthesia
A3 Best free paper session II – Chronic pain
A6 Case report
A21 Central nerve blocks
A38 Chronic pain management
A43 Miscellaneous
A53 Obstetric
A64 Pediatric
A70 Peripheral nerve blocks
A110 Postoperative pain management
A124 Author index

MORE CONTENTS ►

EDITOR'S CHOICE
This article has been chosen by the Editor to be of special interest or importance and is freely available online.

OPEN ACCESS
This article has been made freely available online under the BMJ Journals open access scheme.
See **http://authors.bmj.com/open-access**

COPE
Member since 2008
JM00025
This journal is a member of and subscribes to the principles of the Committee on Publication Ethics
www.publicationethics.org.uk

equator network

recycle
When you have finished with this please recycle it

Best free paper session I – Regional anaesthesia

1 EFFECTIVENESS OF ULTRASOUND – GUIDED BILATERAL ERECTOR SPINAE PLANE BLOCK IN LAPAROSCOPIC CHOLECYSTECTOMIES. A RANDOMIZED, CONTROLLED, DOUBLE BLIND, PROSPECTIVE TRIAL

[1]F Sifaki*, [2]I Mantzoros, [3]E Koraki, [3]S Bagntasarian, [3]P Christidis, [1]K Theodoraki. [1]*National and Kapodistrian University of Athens, Athens, Greece*; [2]*Aristotle University of Thessaloniki, Thesaloniki, Greece*; [3]*Georgios Papanikolaou, General Hospital of Thessaloniki, Thessaloniki, Greece*

10.1136/rapm-2021-ESRA.1

Background and Aims Laparoscopic cholecystectomy (LC) is one of the most common procedures performed by general surgeons. Postoperative pain can be moderate to severe, requiring administration of large doses of opioids. Erector Spinae Plane block (ESPB) is a trunk block performed as a method of postoperative analgesia in various surgical procedures. Its analgesic efficacy in LCs when dexmedetomidine is added in the local anesthetic mixture, has not been proven yet. In this study, we explored its efficacy as a perioperative analgesic method in patients undergoing LC.

Methods This study was designed as a double-blinded, randomized, controlled, prospective study. 60 patients were randomized into Group C: ESPB N/S 0,9%, Group D: ESPB ropivacaine 0,375%, dexmedetomidine 1 mcg/kg, Group R: ESPB ropivacaine 0,375%. ESPB was performed bilaterally before the induction of general anesthesia, with ultrasound guidance. Statistical analysis was performed with ANOVA, two-way ANOVA for repeated measures, Kruskal-Wallis, Spearman test.

Results All patients remained hemodynamically stable and no major complications were observed. Total intraoperative remifentanil was statistically different between the three groups. Median 24h morphine consumption, median NRS scores at all time points and mobilization time, were statistically different between Groups C and D, Groups C and R, but insignificant between Groups R and D. Satisfaction score was found to be statistically significant between Group C and D.

Conclusions ESPB performance with ropivacaine or ropivacaine/dexmedetomidine in patients scheduled for LC is a novel, safe and simple method, which can help improve the quality of analgesia, avoid the complications of opioid administration and thus achieve pre-emptive, multimodal and 'opioid-free analgesia'.



Abstract 1 Figure 1

2 PROSPECT GUIDELINE FOR ELECTIVE CAESAREAN SECTION: UPDATED SYSTEMATIC REVIEW AND PROCEDURE-SPECIFIC POSTOPERATIVE PAIN MANAGEMENT RECOMMENDATIONS

[1]E Veef*, [2]E Roofthooft, [1]M Van de Velde, PROSPECTWorking Group. [1]*KULeuven, Leuven, Belgium*; [2]*GZA Hospitals, Antwerpen, Belgium*

10.1136/rapm-2021-ESRA.2

Background and Aims Caesarean section (CS) is associated with postoperative pain, which can influence recovery, satisfaction, breastfeeding success, mother-child bonding and can lead to persistent pain (1,2,3). Pain after CS is often undertreated due to fears that analgesia might induce maternal/neonatal side-effects. The aim is to develop recommendations for pain management after elective CS under neuraxial anaesthesia.

Methods A systematic review, utilising the PROSPECT methodology (4), was performed, evaluating the effects of analgesic/anaesthetic and surgical interventions during CS. Randomised controlled trials (RCT's), systematic reviews and meta-analyses published between 1 May 2014 and 22 October 2020 were retrieved from MEDLINE, Embase, PubMed and Cochrane databases.

Results Included were 145 studies (126 RCT's and 19 systematic reviews and meta-analyses). For patients undergoing elective CS performed under neuraxial anaesthesia, recommendations include intrathecal morphine 50–100 micrograms or diamorphine 300 micrograms administered pre-operatively. Paracetamol, NSAIDs and intravenous dexamethasone administered after delivery. If intrathecal opioids were not administered, local anaesthetic wound infiltration or fascial plane blocks (transversus abdominis plane block or quadratus lumborum block) are recommended. The postoperative regimen should include regular paracetamol and NSAIDs with opioids used for rescue. The surgical technique should include a Johel-Cohen incision, non-closure of the peritoneum and abdominal binders. Transcutaneous electrical nerve stimulation could be an analgesic adjunct.

Conclusions Recommendations were made to optimize postoperative pain management after elective CS performed under neuraxial anaesthesia. The PROSPECT recommendations for postoperative analgesia after CS are a multimodal approach with pre-, intra- and postop analgesic strategies which combined with certain surgical procedures and adjuvant techniques may provide excellent analgesia.

3

THE EFFECT OF PASSIVE MUSCLE CONTRACTION ON THE DISTRIBUTION OF LOCAL ANAESTHETICS AFTER SUPRA-INGUINAL FASCIA ILIAC COMPARTMENT BLOCK EVALUATED ON MRI

[1]K Vermeylen, [2]S Thieren*, [1]I Leunen. *[1]AZ Turnhout, Turnhout, Belgium; [2]UZ Leuven, Leuven, Belgium*

10.1136/rapm-2021-ESRA.3

Background and Aims Ultrasound-guided fascial plane blocks are a recent development in modern regional anesthesia research.

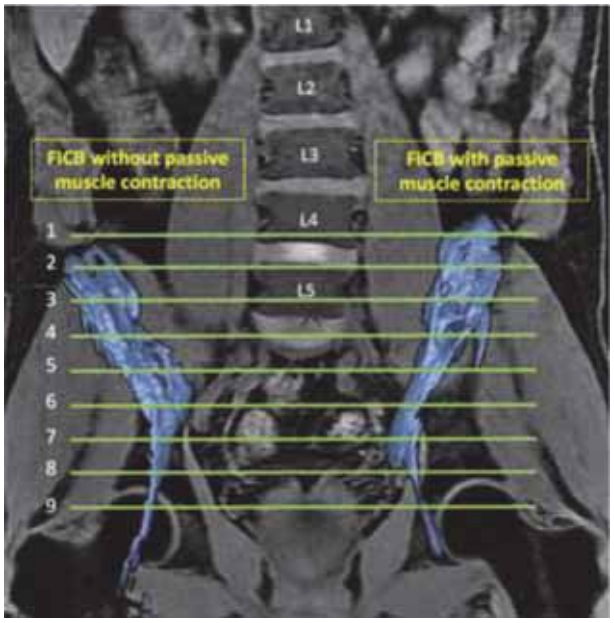
The goal of this pilot study was to look for a possible effect of passive mobilization on local anesthesia distribution after a fascial plane block (S-FICB).

The aim of fascial plane blocks analgesia is a plane between two fascial layers or between a fascia and a muscle. Perioperative movement of fascia layers or muscles may result in active transport of LA. This might be explained by the biomechanics properties of fascia and the hidden role of fascial dynamics.

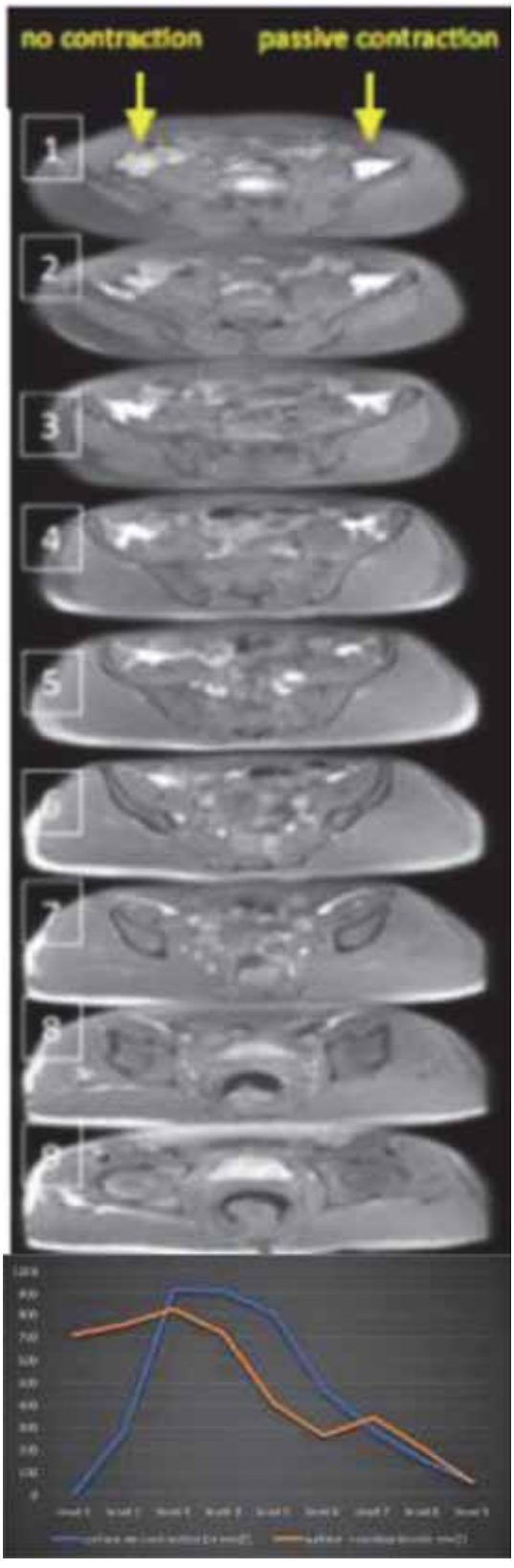
Methods A bilateral fascia iliaca compartment injection was performed on a healthy volunteer (180 cm and 83 kg). After performance of the first side a series of passive leg movements were carried out – simulating a preoperative setting during total hip arthroplasty -. After these series of movements, a second FICB was performed after which the volunteer was not moved anymore. The needle was positioned under the fascia iliac at the level of the deep circumflex iliac artery. 40 mL of contrast was injected.

Results The MRI-images show the spread of contrast. The spread of local anesthetics is different when there is no passive muscle contraction. In this example, the spread was larger in level 3–6 and there is more spread to the posterior side of the psoas.

Conclusions The study showed that biomechanics of fascial plane can influence the distribution of local anesthetics.



Abstract 3 Figure 1



Abstract 3 Figure 2

4 ANTERIOR QUADRATUS LUMBORUM BLOCK FOR POSTOPERATIVE RECOVERY AFTER TOTAL HIP ARTHROPLASTY: A RANDOMIZED, MULTIPLE-BLIND, PLACEBO-CONTROLLED TRIAL

M Kikuchi*, Y Mizuno, T Goto. *Yokohama City University Hospital, Yokohama, Japan*

10.1136/rapm-2021-ESRA.4

Background and Aims Appropriate pain management is essential to improve the postoperative recovery after total hip arthroplasty (THA). Some randomized trials have indicated that anterior quadratus lumborum block (QLB) provides effective postoperative analgesia in THA. However, whether anterior QLB improves postoperative recovery after THA is unclear.

Methods The participants were randomly assigned to either the anterior QLB or placebo groups. After induction of general anesthesia, anterior QLB was performed by using 0.25% levobupivacaine or normal saline. The primary outcome was the quality of recovery 40 score (QoR-40). Secondary outcomes included the visual analog scale score of pain intensity at rest and movement, intraoperative and postoperative doses of fentanyl, and incidence of postoperative nausea and vomiting.

Results This study included and analyzed 70 participants of the anterior QLB group and 69 participants of the placebo group. The pain dimension in QoR-40 score 24 hours after the surgery was higher in the anterior QLB group than in the placebo group (median 30.5 [IQR 27.0, 32.0] vs 28.0 [24.0, 32.0] p=0.033). However, total score of QoR-40, which is the primary outcome, were not statistically significant different between each group (169 [153, 177] vs 158 [142, 177] p=0.122) (table 1). The anterior QLB group needed less intraoperative dose of fentanyl than the placebo group (275 [200, 350] vs 350 [250, 425] p=0.007). Other secondary outcomes were not statistically significant different.

Abstract 4 Table 1

	Anterior QLB(n=70)	Placebo(n=69)	P value
Total score of QoR-40	168.50 [153.25, 177.00]	158.00 [142.00, 177.00]	0.122
· physical comfort	50.50 [45.25, 54.00]	47.00 [41.00, 54.00]	0.156
· emotional state	39.00 [35.25, 41.00]	38.00 [33.00, 42.00]	0.483
· physical independence	15.50 [12.00, 20.00]	15.00 [12.00, 19.00]	0.886
· psychological support	34.00 [29.00, 35.00]	33.00 [29.00, 35.00]	0.525
· pain	30.50 [27.00, 32.00]	28.00 [24.00, 32.00]	0.033

Conclusions Anterior QLB combined with general anesthesia did not improved postoperative recovery after total hip arthroplasty.

5 COMPARISON OF PERIPHERAL NERVE BLOCK WITH GENERAL ANESTHESIA AND GENERAL ANESTHESIA ALONE IN TERMS OF POSTOPERATIVE DELIRIUM AND COMPLICATIONS USING A NATIONWIDE DATABASE

M Yoshimura*, H Shiramoto, M Koga, A Yoshimatsu, Y Morimoto. *Ube Industries Central Hosp., Ube, Japan*

10.1136/rapm-2021-ESRA.5

Background and Aims The effect of peripheral nerve block (PNB) under general anesthesia (GA) on the clinical outcome comparing GA alone remains unknown. We hypothesized that PNB is associated with reduced postoperative delirium and improved patients morbidity after surgical procedures.

Methods We used a nationwide inpatient database in Japan to compare patient outcomes by GA with PNB versus GA alone from April 2016 to October 2019. Our primary outcome was postoperative delirium. The incidence of morbidity were secondary outcomes. We conducted propensity score matched analyses of patients who underwent all surgical procedures using 41 covariates. Chi-square analyses were performed to calculate odds ratios and their 95% confidence intervals (CI). For sensitivity analyses, we performed instrumental variables and restricted the definition of postoperative delirium and subgroup.

Results Of 591,578 patients, 82,461 received GA-PNB, and 509,117 received GA group. After one to four propensity score matching, 81,873 patients were included in the GA-PNB group and 204,932 in the GA group. The adjusted odds ratios for postoperative delirium, composite morbidity were 0.953 (95%CI 0.924 to 0.982), 0.766 (95%CI 0.727 to 0.806), respectively, for the GA-PNB group with reference to the GA group. For sensitivity analyses, findings were also consistent with instrumental variable and subgroup analyses.

Conclusions This retrospective, nationwide cohort study demonstrated that PNB underwent GA was associated with reduced postoperative delirium and composite morbidity.

Best free paper session II – Chronic pain

6 REAL-TIME ULTRASOUND-COMPUTED TOMOGRAPHY IMAGE FUSION TRANSFORAMINAL LUMBAR APPROACH

[1]A Pourveur*, [2]J Gouwy, [2]M Renard, [2]I Mocanu, [2]S Pather, [2]O Vannieuwenhove, [1]E Guntz. *[1]Université Libre de Bruxelles/CHIREC de Braine l'Alleud-Waterloo, Braine-l'Alleud, Belgium; [2]CHIREC de Braine l'Alleud-Waterloo, Braine-l'Alleud, Belgium*

10.1136/rapm-2021-ESRA.6

Background and Aims Transforaminal approach under ultrasounds (US) remains challenging. We evaluated on phantoms if fusions of computed tomography (CT) images with dynamic US examinations lead to precise location and puncture of the foramina between the fourth and fifth lumbar vertebra (L4-L5).

Methods Three anesthesiologists performed fusions of US and CT images with 3 different techniques on 2 models of phantom. Technique 1: fusion of the edge of the spinous process of L5 and the 2 posterior superior iliac spines. Technique 2: location of the 2 lateral extremities of the laminae instead of iliac spines. Technique 3: skin landmarks. Comparisons were performed with the value of precision (VP). 3 punctures targeting the right L4-L5 foramina were performed, needles positions were checked under X-ray. VPs were compared with ANOVAs, $p<0.05$ considered significant and results reported as means ± standard deviation.

Results One hundred and fifty fusions were recorded. Techniques 1 and 2 were performed on the gelatin phantom; technique 2 was superior to technique 1 (VP: 1.12 ± 0.54 vs 2.38 ± 1.49 for operator 1, 0.6 ± 0.39 vs 3.66 ± 1.22 for operator 2, 0.89 ± 0.31 vs 1.23 ± 0.63 for operator 3, $p<0.001$). There was no difference between the 3 techniques evaluated with the marketed phantom. X-ray examinations confirmed

that punctures under fusion led the tip of the needle in the L4-L5 foramina.

Conclusions Bony and surface landmarks allow an accurate fusion of CT and US images of the lumbar spine and precise localizations and puncturing of lumbar neural foramina.

7 RELATIONSHIP BETWEEN COMORBIDITIES IN PATIENTS WITH CHRONIC LOW BACK PAIN UNDERGOING INTERVENTIONAL PAIN MANAGEMENT TECHNIQUES, AND PATIENT SATISFACTION AND CLINICAL RESPONSE

R Vela*, F Higuero, F De la Gala, A Alonso, E López, J Blanco, S Zapatero, J Aguilar, I Fuertes, L Velasco, P Lejarraga, S Garcia-Hernandez. *Hospital General Universitario Gregorio Marañon, Madrid, Spain*

10.1136/rapm-2021-ESRA.7

Background and Aims Response to Interventional Pain Management Techniques is often variable and unpredictable. This study aims to evaluate the association between comorbidities of 251 patients undergoing Interventional Pain Management Techniques (IPMT) for Chronic Low Back Pain (CLBP) with patient satisfaction and clinical response at 1 month after IPMT.

Methods

- This is a sub–study of a prospective longitudinal observational study (PReTI–Back, NCT NCT04451252).
- Adult patients who were prescribed a IPMT were eligible. Patients who refused to participate in the study and those who had intercurrent pathology that could interfere with the evaluation of pain were excluded.
- Approval has been granted by the ethics committee of our hospital.

Results No statistically significant differences regarding fibromyalgia, anxiety/depression, substance abuse disorder, diabetes, arthrosis, osteoporosis, rheumatic disease, obesity and other chronic pain were identified. The following findings were statistically significant. Patients with failed back surgery syndrome (FBSS) or neuropathic pain (NP)obtained a lower clinical response rate and lower percentage of patient satisfaction.


Hospital General Universitario Gregorio Marañón

DICTAMEN DEL COMITÉ de ÉTICA DE LA INVESTIGACIÓN con MEDICAMENTOS

D. Camino Sarobe González, Secretaria Técnica del COMITÉ de ÉTICA DE LA INVESTIGACIÓN con MEDICAMENTOS HOSPITAL GENERAL UNIVERSITARIO GREGORIO MARAÑÓN

CERTIFICA

Que se ha evaluado la propuesta de modificación sustancial del promotor referida al estudio observacional No-EPA:

Código PRETI-DOL-V1

TÍTULO: "Predictores de respuesta en técnicas intervencionistas en dolor crónico lumbar (PRETI-DOL): Desarrollo de un modelo predictivo. Estudio prospectivo de recogida de datos clínicos"

Modificación sustancial. Protocolo versión 5. Fecha: 24/05/20.

Promotor: Servicio de Anestesiología, Reanimación y Terapéutica del Dolor. Unidad del Dolor. Hospital General Universitario Gregorio Marañón.

y considera que, este CEIm actuando como comité evaluador, emite dictamen favorable y acepta que dicha modificación sea asumida por todos los participantes en el estudio.

Y HACE CONSTAR QUE:

1º En la reunión celebrada el día 06 de julio de 2020, acta 17/2020 se decidió emitir el informe correspondiente al estudio de referencia.

2º En dicha reunión se cumplieron los requisitos establecidos en la legislación vigente (Real Decreto 1090/2015 y Decreto 39/94 de la Comunidad de Madrid) para que la decisión del citado CEIm sea válida.

3º El CEIm, tanto en su composición, como en los PNT cumple con las normas de BPC (CPMP/ ICH/ 135/95)

4º La composición actual del CEIm es la siguiente:

Abstract 7 Figure 1

Abstract 7 Table 1

		N (total=251)	Moderate improvement	Major improvement	A	B
COMORBIDITIES						
Fibromyalgia						
	YES	19	31.60%	10.50%	57.90%	84.20%
	NO	232	29.30%	13.40%	50.90%	78.40%
	P		0.50	0.53	0.36	0.4
Anxiety/Depression						
	YES	65	30.80%	12.30%	52.30%	80%
	NO	186	29%	13.40%	51.10%	78.50%
	P		0.45	0.5	0.49	0.47
Substance abuse						
	YES	5	60%	40%	40%	60%
	NO	246	28.90%	12.60%	51.60%	79.30%
	P		0.15	0.13	0.47	0.28
Failed back surgery syndrome						
	YES	55	16.40%	3.60%	36.40%	69.10%
	NO	196	33.20%	15.80%	55.60%	81.60%
	P		0.01	0.01	0.01	0.04
Diabetes						
	YES	38	31.60%	15.80%	47.40%	78.90%
	NO	213	29.10%	12.70%	52.10%	78.90%
	P		0.45	0.38	0.35	0.60
Arthrosis						
	YES	122	32%	14,.0%	54.10%	82%
	NO	129	27.10%	11.60%	48.80%	76%
	P		0.24	0.29	0.24	0.16
Rheumatic disease						
	YES	12	41.70%	16.70%	50%	75%
	NO	239	28.90%	13%	51.50%	79.10%
	P		0.26	0.49	0.58	0.48
History of cancer						
	YES	12	66.70%	16.70%	75%	91.70%
	NO	239	27.60%	13%	50.20%	78.20%
	P		0.01	0.49	0.08	0.24
Obesity						
	YES	16	12.50%	6.30%	56.30%	87.50%
	NO	235	30.60%	13.60%	51.10%	78.30%
	P		0.10	0.35	0.44	0.30
Other chronic pain						
	YES	51	39.20%	13.70%	52.90%	76.50%
	NO	200	27%	13%	51%	79.50%
	P		0.06	0.52	0.46	0.38
Neuropathic pain						
	YES	114	21.90%	7%	43%	86.10%
	NO	137	35.80%	18.20%	58.40%	70.20%
	P		0.01	0.01	0.01	0.002
Neurogenic claudication						
	YES	81	23.50%	7.40%	48.10%	75.30%
	NO	170	32.40%	15.90%	52.90%	80.60%
	P		0.10	0.045	0.28	0.21

Also, patients with neurogenic claudication (NC) had a lower rate of major improvement (table 1).

Conclusions FBSS, NP and NC were associated with worse response to IPMT.

Further investigation is needed to address the importance of comorbidities in IPMT response, so as to be taken into account when individualizing management of CLBP.

8 KNEE PAIN: EXPERIMENTAL RADIOFREQUENCY

[1]A Amorim*, [2]J Melo, [3]M Silva, [1]I Reis, [1]M Caldeira, [1]D Correia. *[1]Hospital Central do Funchal, Funchal, Portugal; [2]Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal; [3]Instituto Português de Oncologia do Porto Francisco Gentil, Porto, Portugal*

10.1136/rapm-2021-ESRA.8

Background and Aims Knee osteoarthritis (OA) is a major cause of disability with growing impact in a more aging society. Conservative therapies have shown limited efficacy. After Total knee arthroplasty 15% to 30% of patients continue experiencing pain.

Radiofrequency ablation of genicular nerves is effective in relieving pain. Bony landmarks under fluoroscopic guidance



Abstract 8 Figure 1

have been used but, ultrasound is an alternative without any radiation exposure and visualization of genicular arteries and tendons.

Pulsed radiofrequency, is a safe causing neuromodulation of sensitive fibers without nerve damage, effective in neuropathic pain and better tolerated during treatment.

Methods A number of 3 patients with chronic knee pain and unsuccessful treatments were submitted to US-guided PRF of the superior medial, superior lateral, and inferior medial genicular nerves. The landmarks used where an adaptation of those described by Fonkoue L, et al.[1] in their anatomic study. The Brief Pain Inventory (BPI) and Western Ontario and McMaster Universities Osteoarthritis (WOMAC) scores were assessed before treatment, and at 30 days following the procedure.

Results All patients had a similar severity pain baseline – mean WOMAC score of 78.6 (range 75–81) and mean VAS score of 69 (range 65–72). All patients had a reduction of perceived pain and functionality with improvement of 35% in WOMAC score (mean 51.3) and 50.7% in BPI score (mean 35). No adverse outcomes reported.

Conclusions Our preliminary results suggest that US-guided PRF of genicular nerves is a safe and effective procedure that alleviates pain in patients with severe degenerative disease and we intend to continue to improve the technique.

9 EFFECTS OF ULTRASOUND-GUIDED ERECTOR SPINAE PLANE BLOCK AND PECTORALIS NERVE BLOCK ON POSTOPERATIVE ACUTE AND CHRONIC PAIN IN PATIENTS WHO UNDERWENT BREAST CANCER SURGERY

C Genç*, C Kaya. *Ondokuz Mayis University Faculty of Medicine, Department of Anesthesiology and Reanimation, Samsun, Turkey*

10.1136/rapm-2021-ESRA.9

Background and Aims In this study, the effects of ultrasound (US) guided erector spinae plane (ESP) block and pectoralis nerve (PECS) block on acute and chronic pain in patients who underwent breast cancer surgery were studied.

Methods Ninety patients were divided into three groups: the ESP, PECS and the control group (ethical approval number-24237859-207). All blocks were applied in the preoperative period using 30 ml of 0.25% bupivacaine (figure 1). The control group received no intervention.

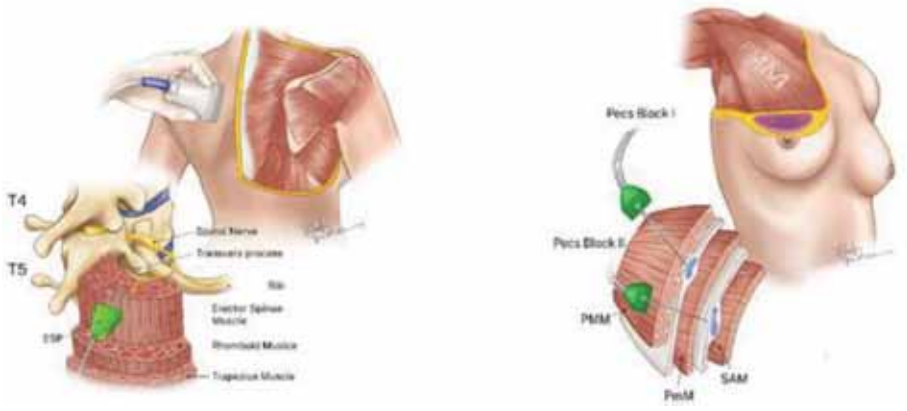
The measures recorded were time to onset of block, intraoperative remifentanil consumption, time to first request for analgesia via patient-controlled analgesia (PCA), morphine consumption in the first postoperative 24 hours, the number of patients who requested rescue analgesia, and the visual

Abstract 9 Table 1 Time to onset of block, intraoperative remifentanil and postoperative morphine consumption, the time to first request for analgesia via PCA, and use of rescue analgesia by groups

Time to onset of block, intraoperative remifentanil and postoperative morphine consumption, the time to first request for analgesia via PCA, and use of rescue analgesia by groups

		Group PECS (n=30)	Group ESP (n=30)	Group Control (n=30)	p*
Onset of block (min)		16 ± 5 15 (13-20)	22 ± 5 20 (20-25)	--	<0,001
The time to first request for analgesia via PCA (h)		3 ± 2,1 3[a] (2-4)	2 ± 1,9 2[a] (1-3)	1 ± 1,3 1[b] (1-1)	<0,001
Postoperative morphine consumption (mg)		3,1 ± 1,4 3[a] (2-4)	3,8 ± 1,9 4[a] (2-5)	5,2 ± 1,4 5[b] (4-6)	<0,001
Intraoperative remifentanil consumption (µg)		258 ± 113 230[a] (197-352)	280 ± 137 250[a] (200-302)	432 ± 131 410[b] (350-512)	<0,001
Use of rescue analgesia by groups	Yes	30[a]	24[b]	19[b]	0,001
	No	0	6	11	

a-b-c: There is no difference between groups with the same letter. Datas are presented as mean ± standard deviation and median (Interquartile range, IQR). *p <0.05 value was considered significant. PCA: Patient controlled analgesia.



Abstract 9 Figure 1

Abstract 9 Table 2 VAS pain scores of the arm at rest and in abduction

VAS pain scores of the arm at rest and in abduction

VAS scores at rest	Group PECS (n=30)	Group ESP (n=30)	Group Control (n=30)	p*
1 h	3,3 ± 1,8 3ª(2-4)	4,3 ± 1,5 5ᵇ(3-5)	5,9 ± 1,5 6ᶜ(5-7)	<0,001
3 h	3,1 ± 1,2 3ª(2-4)	3,4 ± 1,2 4ª(2-4)	5,1 ± 1,4 5ᵇ(4-6)	<0,001
6 h	2,3 ± 0,9 2ª(2-3)	2,8 ± 1,3 3ª(2-3)	3,9 ± 1,1 4ᵇ(3-5)	<0,001
12 h	1,6 ± 0,8 2ª(1-2)	2,0 ± 1,0 2ª(1-3)	3,0 ± 1,1 3ᵇ(2-4)	<0,001
24 h	1,1 ± 0,6 1ª(1-1)	1,2 ± 0,6 1ª(1-1)	1,9 ± 1,1 2ᵇ(1-2)	0,002
3 month	0,1 ± 0,3 0ª(0-0)	0,0 ± 0,2 0ª(0-0)	0,4 ± 0,6 0ᵇ(0-1)	0.008
VAS scores in abduction				
1 h	4,8 ± 1,6 5ª(4-5)	5,8 ± 1,7 6ª(5-7)	7,4 ± 1,4 8ᵇ(7-8)	<0,001
3 h	4,7 ± 1,4 5ª(4-5)	4,9 ± 1,6 5ª(4-6)	6,5 ± 1,5 7ᵇ(6-8)	<0,001
6 h	3,8 ± 1,4 4ª(2-5)	4,4 ± 1,7 5ª(3-6)	5,8 ± 1,3 6ᵇ(5-7)	<0,001
12 h	3,1 ± 1,5 4ª(2-4)	3,5 ± 1,5 4ª(2-5)	4,6 ± 1,1 5ᵇ(4-5)	<0,001
24 h	2,4 ± 1,1 3ª(1-3)	2,6 ± 1,3 2ª(1-4)	3,7 ± 1,6 4ᵇ(2-5)	0,001
3 month	0,2 ± 0,4 0ª(0-0)	0,3 ± 0,5 0ª(0-1)	0,8 ± 0,6 1ᵇ(0-1)	<0,001

a-b-c: There is no difference between groups with the same letter. Datas are presented as mean ± standard deviation and median (Interquartile range, IQR). *p <0.05 value was considered significant.

analogue scale (VAS) pain scores of the arm at rest and in abduction at hours 1, 3, 6, 9, 12, and 24. In addition, the VAS pain scores in the third month following discharge were asked to evaluate the development of chronic pain.

Results Both VAS scores, intraoperative remifentanil consumption, and postoperative 24-hour morphine consumption were lower in the ESP and PECS groups compared with the control group. The time to first request for analgesia via PCA was longer in the groups performed block compared with the control group. While the time to onset of block was found to be shorter in the PECS group, none of the patients needed rescue analgesia.

Conclusions The study demonstrated that the US-guided ESP and PECS block performed in patients who underwent breast cancer surgery provided effective analgesia for ***acute and chronic pain.***

10 SPONTANEUS REDUCTION OF ANALGESICS AFTER INTERVENTIONAL TECHNIQUE FOR LUMBAR CHRONIC PAIN, AS A MARKER OF IT'S EFFECTIVENESS

I Fuertes-Arenal*, P Lejarraga, R Vela-Pascual, L Velasco, S Garcia-Hernandez, F Higuero-Cantonero, F De la Gala Garcia, A Alonso Chico, S Zapatero García, J Blanco Aceituno, E Lopez Perez, J Aguilar Godoy. *Hospital General Universitario Gregorio Marañon, Madrid, Spain*

10.1136/rapm-2021-ESRA.10

Background and Aims Interventional techniques for chronic lumbar Pain Release (ITPR) are widely performed but there's little evidence about how to assess its success. The aim of this study is to assess if quitting or reducing analgesics one month after an ITPR is useful as an objective measure of its success.

Methods 251 adult patients were included in this observational prospective study.Pain intensity (numeric rating score) and disability (Oswestry scale) were assessed via telephone before ITPR, and 1 month later. In addition, analgesics cessation or dose reduction was asked.

Abstract 10 Table 1

Table 1	Major Improvement	No Improvement
Cease medication	16 (48,48%)*	9 (4,23%)*
Same Medication	17 (51,52%)*	204 (95,77%)*
	Moderate Improvement	No Improvement
Cease medication	20 (27,40%)*	5 (2,89%)*
Same Medication	53 (72,60%)*	168 (97,11%)*
	Major Improvement	No Improvement
Dose reduction	18 (54,55%)*	38 (17,76%)*
Same medication	14 (42,42%)*	176 (82,24%)*
	Moderate Improvement	No Improvement
Dose reduction	31 (42,47%)*	25 (14,45%)*
Same Medication	41 (56,16%)*	148 (85,55%)*

*Percentages are referred to total of each column

As success we considered major improvement when a 3 point in NRS and a 40% in Oswestry reduction was reported. Moderate improvement was considered to be a 2 point reduction and a 20% respectively. If either criteria were met, no improvement was assessed.

We calculated sensitivity, specifity, and predictive values of quitting or reducing medication, for each success criteria.

Results Number/percentage of patients meeting each criteria are shown in table no.1

Cease of medication showed a 95% and 97% specifity for major and moderate improvement. Sensibility was 48% and 27%. PPV was 64% and 80%. NPV was 92% and 76% respectively.

Dose reduction showed an 82% and 85% specifity for major and minor improvement, and 56% and 43% sensibility. PPV was 32% and 55%. NPV was 92 and 78%.

Conclusions 48,5% of those who had major improvement with an ITPR quitted spontaneously at least one analgesic of its daily medication. Also, it showed an 92,3% NPV and 64% PPV. Prevalence of major improvement was 13%.

Case report

11 ASYMPTOMATIC CEREBROSPINAL FLUID FISTULA FOLLOWING COMBINED SPINAL-EPIDURAL ANAESTHESIA IN A HEALTHY PARTURIENT

RF Santos, RL Silva*, J Rego, F Moura. *Centro Hospitalar Tâmega e Sousa, Guilhufe, Penafiel, Portugal*

10.1136/rapm-2021-ESRA.11

Background and Aims Cerebrospinal fluid (CSF) cutaneous fistula is a rare complication that can occur after a neuraxial anaesthesia technique. It can cause serious complications such as incapacitating headaches, cranial nerve symptoms, central nervous system infection and intracranial subdural hematoma.[1]

Methods Description of a case report in the section below.

Results Case report: A healthy pregnant woman was subjected to a c-section after an uneventful combined spinal-epidural neuraxial block. On the second postoperative day, upon the removal of the epidural catheter, a fluid leakage was noticed emerging from the puncture site. The fluid was crystalline and had a measured glucose level of 83 mg/dL. The patient was completely asymptomatic. Following neurosurgery consultation,

the leak site was sutured at the skin level after 24h of persistent leakage. The patient was discharged home the next day completely asymptomatic. She had the suture removed 3 days later, without any recurrence of the leakage. She didn´t report any symptoms during a two-month follow-up.

Conclusions This report presents another case of a CSF fistula after a neuraxial block and highlights the success of a conservative approach that avoided not only a blood patch, but also a surgical procedure, in an asymptomatic young woman.

12 FLUOROSCOPIC APPROACH TO NEURAXIAL ANAESTHESIA IN A PATIENT OF KYPHOSCOLIOSIS

S Gupta*, R Mane. *Jawaharlal Nehru Medical College, KAHER, Belagavi, India*

10.1136/rapm-2021-ESRA.12

Background and Aims Kyphoscoliosis is a complex deformity of the spine resulting in lateral curvature and rotation of the vertebrae and a deformity of the rib cage. There is usually secondary involvement of the cardio-respiratory and neurologic systems.

Neuraxial block is routinely performed without the aid of imaging modalities and approached blindly for placement of epidural catheter. Kyphoscoliosis poses a remarkable challenge to administration of neuraxial anaesthesia and may result in multiple pricks and complications such as nerve injury and hematoma formation.

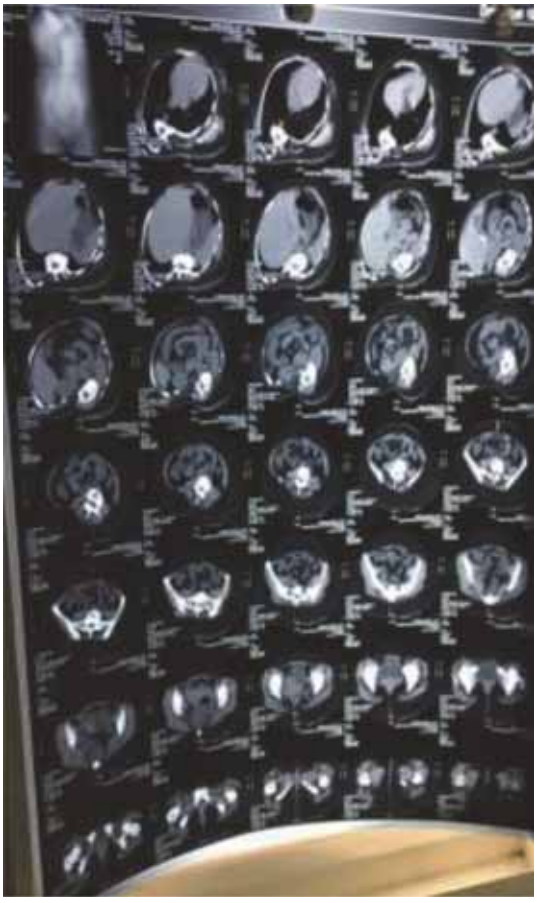
We aimed to assess the feasibility and success of using fluoroscopy guidance for administration of epidural anaesthesia in a case of severe kyphoscoliosis.

Methods A 18-year-old female 132 cm tall, with severe kyphoscoliosis was posted for Cholecystectomy. She had severe dextrorotatory-thoracic scoliosis [Cobb angle- 62°] and a compensatory levorotatory-lumbar curve [45°]. Respiratory examination showed restricted breathing with B/L wheeze. PFT showed a restrictive pattern. Open cholecystectomy was planned under Epidural Anaesthesia. Serial MRI films were assessed to determine the direction of placement of the epidural needle which was enhanced with the use of fluroscopy guidance during the intraoperative period.

Results Intraoperative period assessed in terms of patient compliance and adequate surgical anaesthesia was satisfactory.



Abstract 12 Figure 1



Abstract 12 Figure 2



Abstract 12 Figure 3

Intraoperative use of analgesics was significantly reduced. Epidural analgesia was continued for 2 days postoperatively.

Conclusions Despite various challenges, this case of severe kyphoscoliosis was successfully managed with fluoroscopy-guided epidural anaesthesia. Fluoroscopy is a well-established imaging modality and its knowledge adds to the Anaesthesiologist armamentarium and offers an opportunity to provide neuraxial anaesthesia in patients with anticipated difficulty.

13 CONTINUOUS ERECTOR SPINAE PLANE BLOCK AS MULTIMODAL ANALGESIA AND INTRAOPERATIVE HEMODYNAMIC STABILITY IN OPEN NEPHRECTOMY FOR LIVING DONOR KIDNEY TRANSPLANT

R Rahmi*, RB Sukmono. *Universitas Indonesia, Jakarta, Indonesia*

10.1136/rapm-2021-ESRA.13

Background and Aims Open nephrectomy is associated with moderate to severe postoperative pain.1 Erector spinae plane block (ESPB) provides effective analgesia for various surgical procedure but only a few reports on ESPB used for pain control in open nephrectomy.2 We reported two cases of continuous ESPB as multimodal analgesia and intraoperative hemodynamic stability in open nephrectomy for living donor kidney transplant.

Methods Two adult patients underwent open nephrectomy for living donor renal transplant. ESPB was performed before general anesthesia with ultrasound guided using high frequency linear probe at level of T8-T9. After transversus process and erector spinae muscle were identified, hydro dissection with 2 ml of normal saline was used to confirm the correct needle tip position. 18-gauge epidural catheter then inserted into the plane between erector spinae and transverse process. 20 ml local anesthetic 0,25% levobupivacaine was injected and spread of local anesthetic under erector spinae muscle was seen by ultrasound. For postoperative pain control, patients were administered 10 ml levobupivacaine 0,125% via catheter at the end of surgery, continuous levobupivacaine 0,125% 6



Abstract 13 Figure 1



Abstract 13 Figure 2



Abstract 13 Figure 3

ml/hour and paracetamol 1 gr/8 hours. Vital sign was recorded intraoperatively. NRS was measured at recovery room, 6, 12, 24 hours postoperatively.
Results Hemodynamic instability was not observed during incision and intraoperatively. NRS was 2 in recovery room and ward. No additional opioid used intraoperatively.
Conclusions Continuous ESPB is effective to reduce pain, total opioid consumption and can be used as alternative for epidural analgesia. Prospective trials are needed to evaluate the efficacy of continuous ESPB for open nephrectomy.

14 SUPERIOR TRUNK BLOCK AND SUPERFICIAL CERVICAL PLEXUS IN PATIENT WITH DIFFICULT AIRWAY FOR CLAVICULA SURGERY: A MANAGEMENT OPTION

JC Delgado Marquez*, G Hernandez Rodriguez. *Hospital General de Queretaro, Santiago de Queretaro, Mexico*

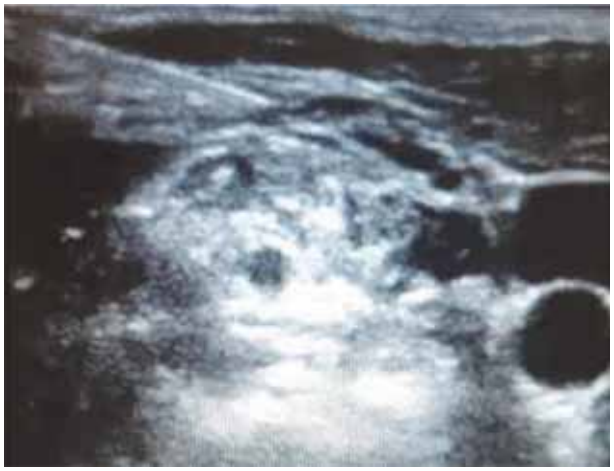
10.1136/rapm-2021-ESRA.14

Background and Aims There are different scales to assess the degree of difficulty to ventilate and intubate the different patients. unfortunately there is the possibility of having an unanticipated difficult airway scenario. In this case, a 71-year-old female patient with chronic arterial hypertension managed with a diuretic and calcium antagonist; hypothyroidism treated with levothyroxine 100 milligrams a day. His current condition begins with a fall from the stairs with pain in his left shoulder, with deformity and inability to move his upper limb. She has a history of difficult intubation, in her last surgery she required advanced CPR secondary to hypoxia. Therefore, this patient represents a challenge.

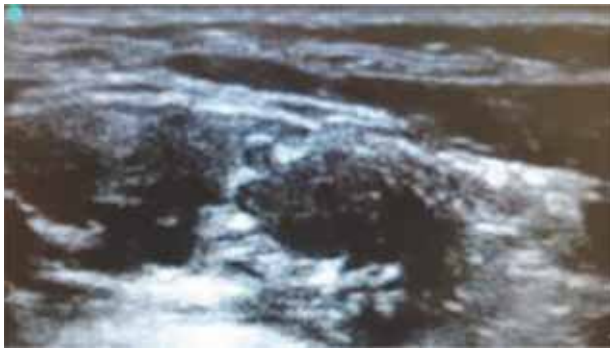
The objective is to demonstrate the usefulness and advantages offered by this regional technique.
Methods An ultrasound-guided block was performed with a 50 mm needle with 20 gauge in the superficial cervical plexus and upper trunk of the brachial plexus in plane, with doses of ropivacaine at 0.25% and lidocaine with epinephrine at 1.75% with a volume of 10 and 5 milliliters, respectively without complications.
Results The combined locoregional blockade in this patient was satisfactory, allowing the surgery to be performed with the patient awake, avoiding compromise and manipulation of the airway.
Conclusions The anesthetic technique of choice in this type of patient is controversial, but the use of resources and alternatives that can be used is important to reduce the risks and possible complications associated with unwanted events during surgery. It is important to individualize the cases and assess the risk benefit of each anesthetic technique.



Abstract 14 Figure 1



Abstract 14 Figure 2



Abstract 14 Figure 3

15 ANTERIOR SERRATUS PLANE BLOCK FOR AWAKE BREAST SURGERY; A CASE REPORT

D Liotiri*. *General Hospital of Rhodes, Rhodes, Greece*

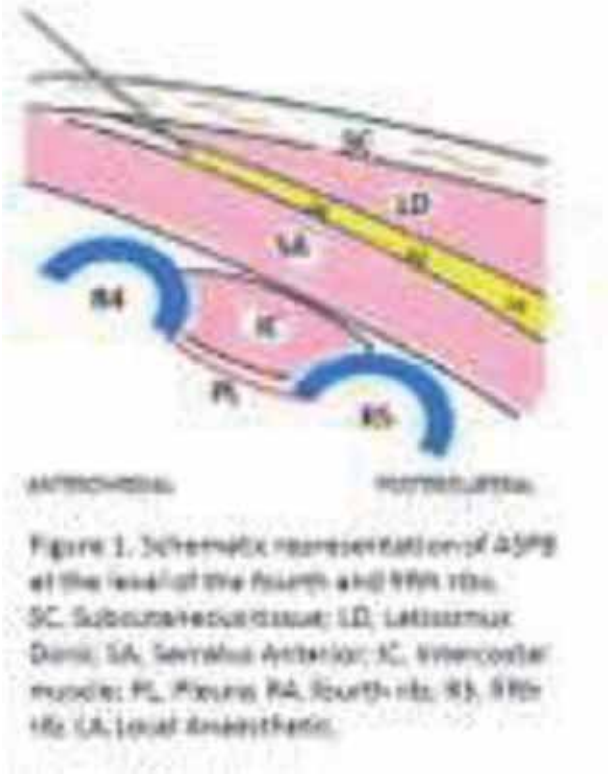
10.1136/rapm-2021-ESRA.15

Background and Aims We report a case of an 87-year-old female patient, ASA 3, with significant comorbidities who underwent awake right breast lumpectomy under anterior serratus plane block (ASPB), because of her high risk for general anaesthesia. Following a right total mastectomy 3 years ago, she presented with cancer recurrence; the lump was located close to the lateral aspect of previous mastectomy scar and close to axilla. The superficial ASPB was chosen because it blocks the nerves that innervate the lateral half of breast and the axilla.[1]

Methods Written informed consent was obtained by the patient for publication. The block was performed at the level of the fifth rib at the anterior axillary line with the patient supine. An ultrasound-guided in plane transverse approach was used. A total of 30 ml ropivacaine 0.5% was administered in incremental boluses at the plane between the serratus anterior and the latissimus dorsi (figure 1). The patient was mildly sedated intraoperatively with 75 mcg Fentanyl and 60 mcg Clonidine and tolerated the procedure well.

Results Procedure and recovery were uneventful. She did not complain of any pain and she did not require any painkillers for the next 24 hours following the block. Her pain thereafter was controlled with rescue Paracetamol.

Conclusions Awake breast surgery under ASPB as single block technique is feasible when the surgery is limited to the lateral half of the breast and the axilla. Understanding the anatomy of the surgical technique is important to decide between the various regional techniques available for breast surgery.



Abstract 15 Figure 1

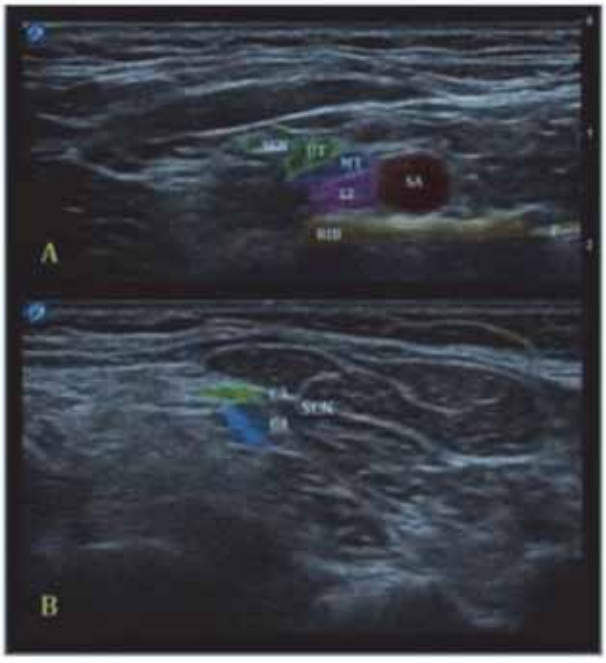
16 SUCCESSFUL REGIONAL ANESTHESIA MANAGEMENT FOR AWAKE SCAPULAR FRACTURE SURGERY: A CASE REPORT

[1,2,3,4]E Yamak Altinpulluk, [1,5]D Nystad*, [1,6]LF Valdes-Vilchesa, [1,7]F Gallucio, [1,2,4,8]I Ince, [1,9,10]T Ergonenc, [1,11]CH Salazar-Zamorano, [1,12]M Fajardo-Pérez. *[1]Morphological Madrid Research Center (MoMaRC), Madrid, Spain; [2]Department of Outcomes Research, Cleveland Clinic, Cleveland, USA; [3]Cerrahpasa Medical School, Istanbul, Turkey; [4]Anesthesiology Clinical Research Office, Ataturk University, Erzurum, Turkey; [5]Anesthesiology Department, University Hospital North Norway, Narvik, Norway; [6]Anesthesiology Department, Hospital Costa del Sol, Agencia 54 Sanitaria Costa del Sol. Marbella, Malaga, Spain; [7]Dipartimento di Medicina Sperimentale e Clinica: Firenze, 60 Università degli Studi di Firenze, toscana, Italy; [8]Department of Anesthesiology and Reanimation, School of Medicine, Ataturk University, Erzurum, Turkey; [9]Department of Anesthesiology, Akyazi Pain and Palliative Care Center, Sakarya, Turkey; [10]Sakarya Training and Research Hospital, Sakarya, Turkey; [11]Anesthesiology Department, 12 de Octubre Universitary Hospital, MADRID, Spain; [12]Anesthesiology Department, Mostoles Universitary Hospital, Mostoles, Spain*

10.1136/rapm-2021-ESRA.16

Background and Aims Since scapula innervation are very complex, the surgery for scapular fractures usually is done under general anesthesia.[1] The aim was to perform successful regional anesthesia management with mild sedation for awake scapular fracture surgery with selective target block combinations.

Methods A 77-year-old female patient with a right scapula fracture was scheduled for an open reduction and internal fixation by posterior approach at the beach-chair position. With informed consent, we performed the upper trunk block, a selective supraclavicular, and T3 thoracic paravertebral block. Upper trunk block[2] at the point where it bifurcates into the suprascapular nerve/posterior and anterior division was performed with the in-plane technique and 17 mL of Ropivacaine 0.5% in a semi-sitting position in the supraclavicular fossa. (figure 1A). In this case, the supraclavicular nerve, divided



Abstract 16 Figure 1 A. Ultrasound image of Brachial Plexus, SN; suprascapular nerve, UTa; Upper trunk anterior division UTp; Upper trunk posterior division MT; medial trunk LT; Lateral trunk SA; Subclavian Artery B. Ultrasound image of two branches (from C3 and C4) of supraclavicular nerve, SCN; Supraclavicular nerve

into two branches, was blocked separately by 3 mL Ropivacaine 0.5%. (figure 1B) The thoracic paravertebral block at T3 with a total of 20 mL Ropivacaine 0.5% was performed at the sitting position by in the oblique sagittal in-plain technique from lateral to medial.

Results The patient was completely awake (Richmond agitation scale 0) during the surgery and no pain in the postoperative care unit. (NRS 0/10). The acetaminophen 1 g orally just once given after almost 5 hours of surgery and she was discharged home 24 hours after the surgery.

Conclusions The selective target block combinations might be considered for all structures with complex innervation, such as scapula.

17 ULTRASOUND GUIDED ASSOCIATED TO THE FLUOROSCOPY COULD IMPROVE THE EFFICACY AND SAFETY OF THE RADIOFREQUENCY APPLICATION ON THE GANGLION IMPAR: A CASE REPORT

[1]P Fusco, [2]F Angelucci*, [2]S Tullj, [3]W Ciaschi, [2]F Marinangeli. *[1]1Department of Anesthesia and Intensive Care, San Salvatore Academic Hospital, L'Aquila, Italy; [2]University of L'Aquila, Department of Life, Health and Environmental Sciences, L'Aquila, Italy; [3]Department of Anesthesia and Intensive Care, F. Spaziani Academic Hospital, Frosinone, Italy*

10.1136/rapm-2021-ESRA.17

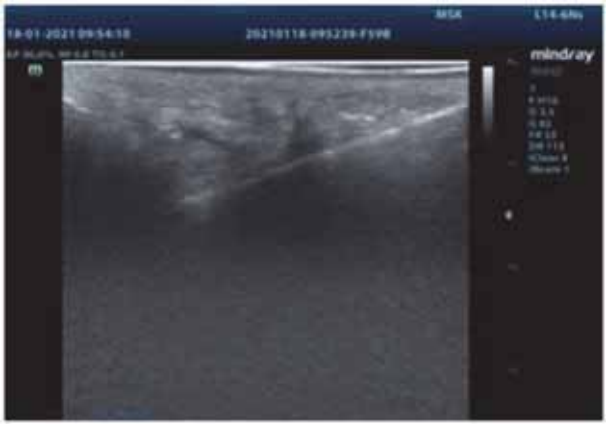
Background and Aims Chronic perineal pains is a painful condition. In this study, we aimed to assess the effect the ultrasound associated to the fluoroscopy for improve the effectiveness and the safety of the radiofrequency on the ganglion impar in the patient with perianal pain[1], who did not respond to standard drug therapies[2]

Methods The case was a 79-year-old woman with history of continuous stabbing pain in the anal region. At her first visit, the VAS was 9/10.

The patient was in the prone position on the operating table.

After disinfection in the region of the sacral, a sterile echographic linear probe was placed transversely on the lower portion of the sacred until the identification of the sacral cornets.

Then, the probe is rotated in a longitudinal position until the identification of the sacrococcygea joint.Under constant ultrasound guidance and fluoroscopy, a 22 G 100 mm radiofrequency needle was introduced in the precoccigeo space near the ganglion impar.



Abstract 17 Figure 1



Abstract 17 Figure 2

The position of the needle tip was confirmed by injecting 1 mL of radiopaque dye in the retroperitoneal space.Then, a thermocouple connected to a radiofrequency generator was inserted to reproduce the patient's paresthesia via sensitive stimulation, 0.4–0.5 mV. The radiofrequency was performed at 90°C for 90 seconds.

Results At the end of the procedure the patient reported VAS 0.

Conclusions The result suggests that ultrasound guided combined with fluoroscopy enhances the safety and accuracy of radiofrequency on the ganglion impar. Furthermore, it significantly reduces radiation exposure for both patients and operator.

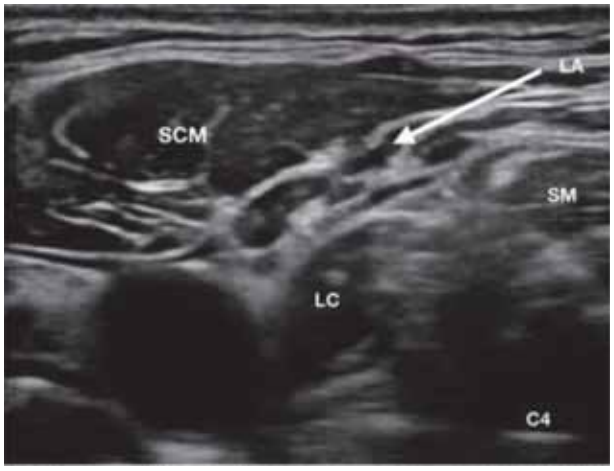
18 THE EFFICACY OF THE ULTRASOUND-GUIDED INTERMEDIATE CERVICAL PLEXUS BLOCK FOR CAROTID ENDARTERECTOMY

D Mathew*, MH Wong. *Khoo Teck Puat Hospital, Singapore, Singapore*

10.1136/rapm-2021-ESRA.18

Background and Aims Carotid Endarterectomy (CEA) is a prophylactic surgery performed to prevent embolic stroke in patients with atheromatous disease in the carotid bifurcation. Reducing perioperative stress is critical in minimizing cardiovascular and cerebrovascular complications. Both superficial and deep cervical plexus block (CPB) have been described to provide effective analgesia and anaesthesia for head and neck surgery. Recently, an intermediate cervical plexus block has been described as a variant. We report a case that was successfully managed with ultrasound guided intermediate cervical plexus block for CEA in a high-risk patient.

Methods Patient consent was obtained for the case report. A 63-year-old male patient was scheduled for a left sided CEA with synthetic patch grafting. The patient presented with a history of right sided sensory-motor syndrome with a CT four



Abstract 18 Figure 1 Transverse sonogram of the lateral cervical area at the C4 level. The posterior cervical space is located between the sternocleidomastoid (SCM), longus colli (LC) and scalene (SM) muscles. Solid white arrow indicates the needle location for intermediate cervical plexus block where local anaesthetic (LA) spreads towards the carotid sheath

vessel angiogram demonstrating worsening of stenosis in the left proximal cervical segment of internal carotid artery. An ultrasound-guided Intermediate CPB was performed with Ropivacaine 0.4% 10 mL via a BBraun Stimuplex 22G 50 mm insulated needle preoperatively (figure 1). The patient opted for a general anaesthesia for the surgery. Intraoperative course was uneventful during both cross clamping of the carotid artery and internal carotid artery shunting.

Results Postoperatively, the patient was conscious, oriented, pain-free with no focal neurological deficits. The patient was monitored in surgical intensive care unit for a day and discharged to the ward.

Conclusions We demonstrated the Intermediate CPB to be feasible, effective and safe with low perioperative complications. Further studies are still required to explore this technique, including dose-finding studies to achieve optimum analgesia.

19 ULTRASSOUND-GUIDED INFRAZYGOMATIC MAXILLARY NERVE BLOCK: AN ALTERNATIVE APPROACH TO MAXILLOFACIAL SURGERY – A CASE REPORT

[1]GS Sousa*, [2]A Vaz. *[1]Anesthesiology Resident from Centro Hospitalar Tondela-Viseu, Viseu, Portugal; [2]Assistant of Anesthesiology from Centro Hospitalar Tondela-Viseu, Viseu, Portugal*

10.1136/rapm-2021-ESRA.19

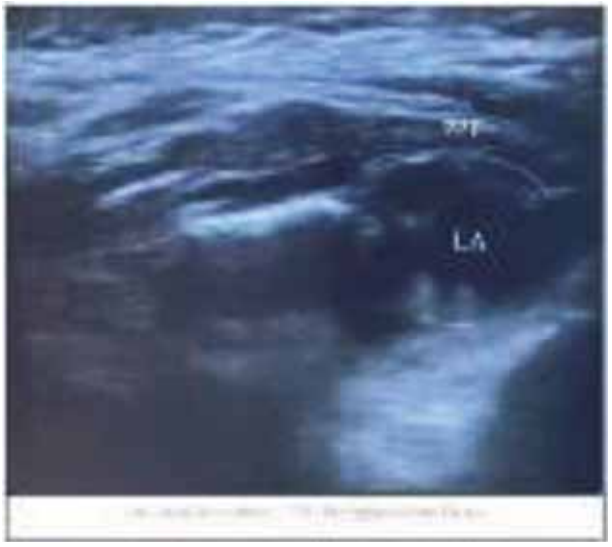
Background and Aims Nose surgical procedures are associated with moderate postoperative pain, being the first 24 hours the most intense pain period. A lower level of postoperative pain promotes better healing, decreases anxiety and increases patient's comfort. Multimodal analgesia approach should be applied in order to provide maximum comfort while avoiding opioids adverse effects such as postoperative nausea and vomiting (PONV). PONV risk is exacerbated due to a passive blood flow that reaches the stomach during procedure.[2] We report a case of an infrazygomatic maxillary nerve block (IZMNB) as part of multimodal analgesia for rhinoplasty surgery.

We intend to increase awareness to IZMNB as an effective analgesic technique for maxillofacial surgery.

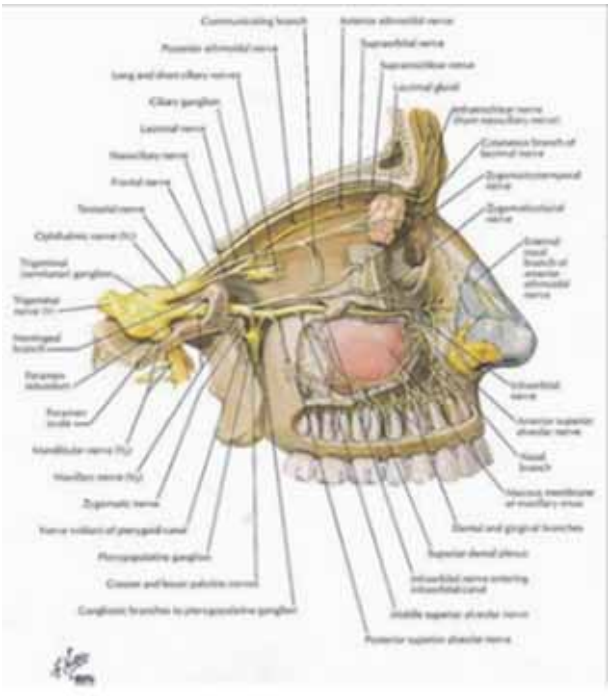
Methods Case report and literature review.

Results A 28-year-old patient, ASA II, was admitted for a rhinoplasty and mentoplasty. Under general anesthesia, an ultrasound-guided IZMNB was performed bilaterally with ropivacaine 0.1%, 5cc each side, as part of a multimodal analgesic technique. Paracetamol and cetorolac were also administered. After emergence, patient referred low level of pain, needing only 2 mg of morphine at the post-anesthetic care unit, due to chin pain (glossopharyngeal nerve area).

Conclusions IZMNB mechanism of action relies on local anesthetic dispersion within the pterygopalatine fossa. The



Abstract 19 Figure 1



Abstract 19 Figure 2

maxillary nerve block (second branch of the trigeminal nerve), at pterygopalatine fossa level, promotes effective analgesia to the middle third of the face.

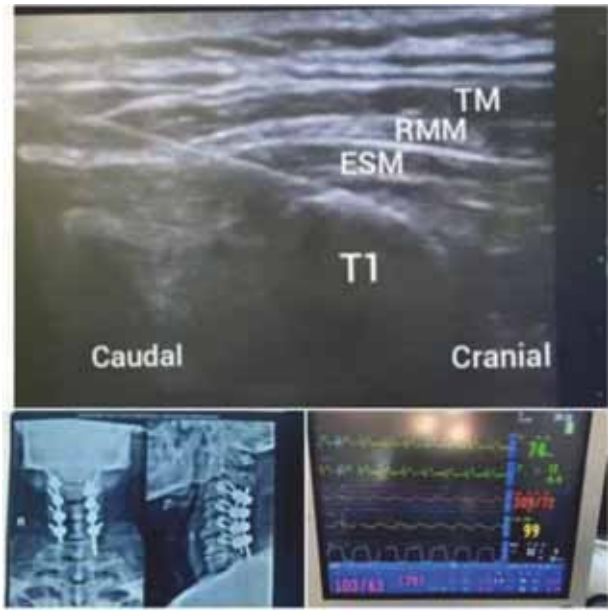
20 *'THE ANALGESIC PLANE'* FOR POSTERIOR CERVICAL SPINE FUSION SURGERIES

BT Arish*, RV Ranjan, S Segaran, B Hariharasudan. *Pondicherry Institute of Medical Sciences, Puducherry, India*

10.1136/rapm-2021-ESRA.20

Background and Aims Posterior C spine fusion surgeries will lead to severe post-operative pain arising from tissue trauma which affects the physiological functions of circulation and respiration as well as seriously affects early activities. We share our experience in this 4 cases which were managed with erector spinae along with GA which was effective during perioperative period.

Methods After informed written consent all 4 patients were anaesthetised by using standard general anaesthesia protocol and positioned prone. High frequency US probe (FUJIFILM SONOSITE M TURBO) placed over the transverse process of C7 (case 1), T1 (case 2), T2 (case 3 & 4) to identify the erector spinae muscles (ESM). Using 23 G quincke needle, by in plane approach the needle tip was placed between ESM and the transverse process. After confirmation with saline, B/L CESPB was given (15 ml of 0.25% bupivacaine + 4 mg dexamethasone) on each side. Inj. paracetamol 15 mg/kg was given before skin incision and continued 6th hourly for 1st24 hrs post op. All patients hemodynamics were monitored. Postoperative pain was assessed using VAS score every hour for the 1st12 hours and 2nd Hourly till 24 hours. Inj tramadol 50 mg was used for breakthrough pain (VAS score $\geq$ 4) in the post op.



Abstract 20 Figure 1

Abstract 20 Table 1 Demographic data

	Case 1	Case 2	Case 3	Case 4
Age / sex	67 / M	72 / M	38 / M	51 / M
BMI	22	40	24.2	26
Co Morbidities	NIL	HTN, DM, OSA	Smoker, alcoholic	NIL
ASA physical status	I	III	II	I
Surgical level	C3–C6	C3–C6	C5–C7	C3–C7
CESP	C7	T1	T2	T2
Surgical duration	240 mins	270 mins	270 mins	300 mins

Abstract 20 Table 2

	Case 1	Case 2	Case 3	Case 4
Additional Intra op opioids use	NIL	NIL	NIL	NIL
Time of post op opioid requirement	12th & 22nd hr	16th & 24nd hr	14th hr	14th & 20th hr
Total dose of opioid consumption in the post op (mg)	50 + 50	50 + 50	50	50 + 50
Post op complications	NIL	NIL	NIL	NIL

Results No additional opioids were requried during intra op peroid

Reduced post op opioid requirements

Promotes early mobilization

Conclusions We found CESPB provides an excellent site specific intra op and post-op analgesia and reduces the perioperative opioid requirements; thereby promotes early mobilization and hospital discharge.

21 CONTINUOUS THORACIC PARAVERTEBRAL BLOCK FOR SIMPLE MASTECTOMY IN A PATIENT WITH MULTIPLE COMORBIDITIES – A CASE REPORT

S Soni*, A Roy, D Mukherjee, A Das. *Nil Ratan Sircar Medical College and Hospital, Kolkata, India*

10.1136/rapm-2021-ESRA.21

Background and Aims Anesthetic management in patients with multiple comorbidities is challenging for anesthesiologists.

Aim: To highlight the role of continuous thoracic paravertebral block (TPVB) for providing effective anesthesia and analgesia in breast surgery.

Methods A 63 years old female with uncontrolled hypertension, hypothyroid and coronary artery disease (LVEF 26%, NYHA Class III) was scheduled for urgent simple mastectomy for Phylloides tumour of the right breast. Ultrasound guided continuous thoracic paravertebral block was performed at T4 level administering 20 ml of 0.75% ropivacaine bolus followed by 0.2% ropivacaine infusion. Intraoperative sedation was maintained with dexmedetomidine infusion. 0.2% ropivacaine infusion at 5 ml/hr was continued for 48 hrs, after that catheter was removed.

Results Continuous TPVB provided adequate anesthesia, good hemodynamic stability and opioid sparing perioperative analgesia.

The VAS score in postoperative period at rest was 2/10 and on movement was 3/10.

There were no block related complications.

Conclusions Continuous thoracic paravertebral block is quite effective for breast surgery with comparative efficacy but lesser complications than general anesthesia.



Abstract 21 Figure 1



Abstract 21 Figure 2



Abstract 21 Figure 3

22 **SACROILIETIS IS A LEADING CAUSE OF FAILED BACK SURGERY SYNDROME: A CASE STUDY**

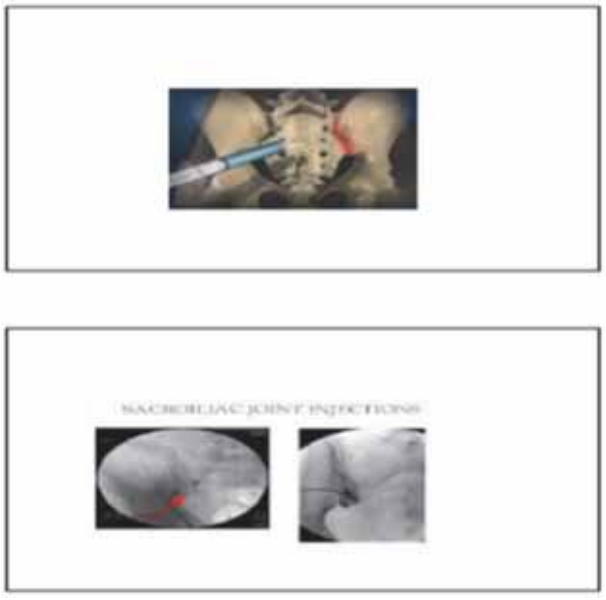
V Kanojiya*, R Jain. *L.N.Medical College and Research Center, Bhopal, India*

10.1136/rapm-2021-ESRA.22

Background and Aims Most people experience low back pain at some point in their life with one common cause of back pain. In particular, SI joint pain causes axial back pain affecting between 15 and 25% of people. Pain generated in the SI joint or surrounding structures can present as low back pain, leg pain, sacral pain, pelvic pain, or gluteal pain.Unilateral pain is more common than bilateral. It may be the result of direct trauma, unidirectional pelvic shear, repetitive and torsional forces Sacroiliac joint pain mostly diagnosed based upon the history and physical examination test.

Currently, most reliable method of diagnosing SIJ pain is a diagnostic block of local anaesthetic directly into the SIJ.Current evidence favours lateral branch radiofrequency (RF) lesioning as the most effective treatment.Moreover,it is an alternative treatment.

Methods Patient developed failed back surgery syndrome for which after discussion with neurosurgeon and patient we have decided to give diagnostic Right SI joint block using inj bupivacaine 0.25% with Triamcilone 40 mg under fluoroscopy with dye guidance. Informed consent taken.Post procedure no neurological deterioration.Patient was kept in hospital for 2 hours and then discharged.



Abstract 22 Figure 1

Results Right SI Joint block under fluoroscpic guidance was performed uneventfully. Post procedure no neurological deterioration. After 2 hours patient got 50% pain relief.All analgesics stopped,Pregabalin was tapered and patient discharged.

Conclusions Interventional pain procedures are minimally invasive day care procedures. In properly selected patients they can prevent surgery, cost effective also decreases Morbidity. If pain is resistant and significant neurological deficit is not there they can prevent unnecessary surgery.

23 SUPRACLAVICULAR BLOCK FOR ELBOW FRACTURES

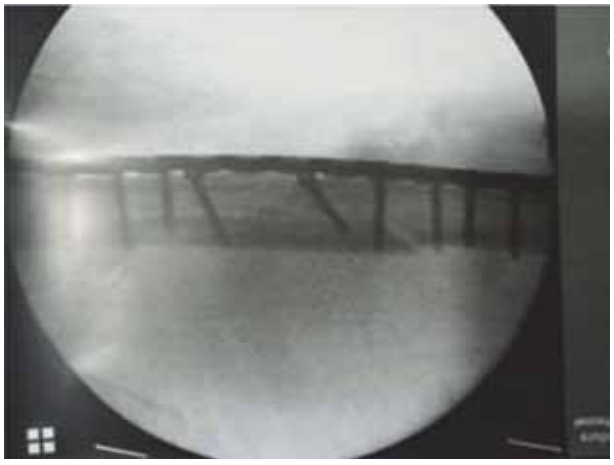
W Kamal*. *Elyoussef Medical Teaching Hospital, Military Central Hospital, Akkar, Lebanon*

10.1136/rapm-2021-ESRA.23

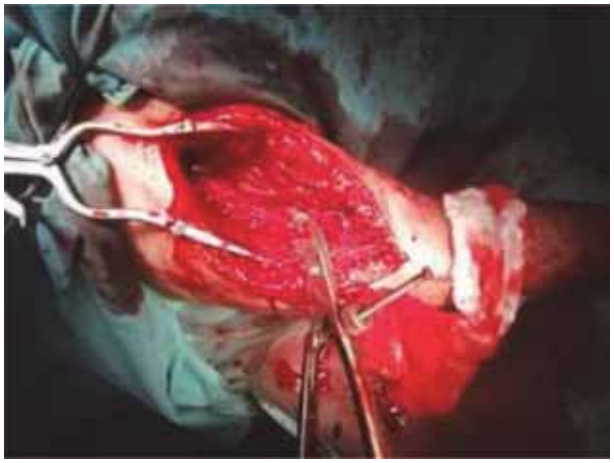
Background and Aims The aim is to demonstrate the efficiency of supraclavicular block with a mixture of Bupivicaine 0.5% and lidocaine 2%.

Methods Patients with elbow fractures were scheduled for supraclavicular block using a mixture (50/50) of bupivicaine 0.5% and lidocaine 2%. The volume used was 40 ml. Dexamethasone 8 mg was added i. V. It was opened surgery with insertion of 2 plaques with screws. Duration of operations was 2–3 hours. Some patients who were put in sitting position received an intubation with 50mcg fentanyl, propofol 150 mg, rocuronium 30 mg, and the maintenance was on sevoflurane 1%, with oxygene/air(50/50). Patients that were put laterally received midazolam 1–3 mg iv, snd 50–70 mg propofol and maintained on spontaneous respiration on oxygen mask.

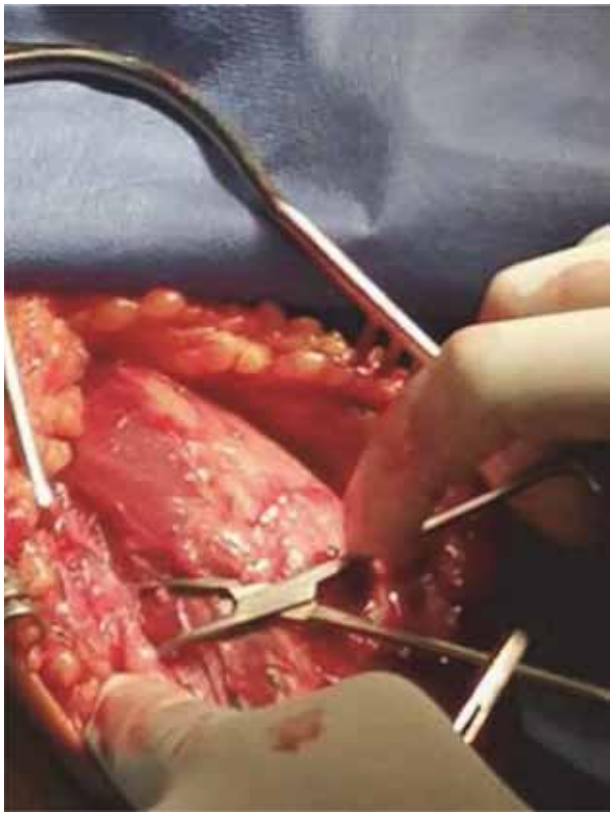
Results Perioperatively, the pulse, heart rate and pressure did not change more then 20%. Patients were stable hemodynamically. They were sent to the recovery room to be observed for 30 min and tben transferred to the wards. They received paracetamol 1g iv/6h and ketorolac 30 mg iv/8h. The EVA was always <4. They went home on the next day.



Abstract 23 Figure 1



Abstract 23 Figure 2



Abstract 23 Figure 3

Conclusions A mixture of bupivicaine 0.5% isobar with lidocaine 2%, with a total volume of 40 ml and dexamethasone 8 mg iv, gives adequate analgesia and anesthesia for elbows fractures that were operated by insertion of plaques.

24 ANTERIOR CERVICAL EPIDURAL HEMATOMA AFTER COMBINED SPINAL EPIDURAL ANESTHESIA: A CASE REPORT

SK Coşarcan*, AT Doğan, D Akbay, Ö Erçelen. *VKV American Hospital, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.24

Background and Aims The choice of anesthetic technique should be based on the maternal and fetal condition, comorbidities, the expected duration and difficulty of the procedure, and the presence or absence of an in-situ epidural or spinal catheter. Venous thromboembolism (VTE) remains an important cause of morbidity and mortality in the obstetric population. This article presents a case about cervical anterior epidural bleeding and conservative management seen after cesarean with combined spinal-epidural anesthesia.

Methods A 32-year-old woman was admitted to our clinic for a cesarean operation for 36 weeks twin pregnancy. A combined spinal-epidural was planned for the cesarean operation anesthesia. After the operation, the patient with no complaints was transferred to the inpatient clinic by adjusting the epidural patient-controlled analgesia device (PCA) doses.

Results She had a headache in the posterior region of the head that spreads neck and shoulders started 48 hours after the operation. The next day patient was pain-free with analgesic medications and has discharged with low molecular weight

heparin prophylaxis. On the postoperative 6th day, neck and shoulder pain were worsened unless she took any anti-inflammatory drug. In the cervical and thoracic MRI, there was a hematoma was detected. Intravenous hydration and anti-inflammatory therapy were organized. The neck and shoulder pain on the second day of his second admission decreased dramatically.

Conclusions The most important thing to mention is that PDDH can mask the hematoma-induced headache. It should be kept in mind that a spinal hematoma can be observed even VTE prophylaxis was started according to guidelines.

25 CONTINUOUS SPINAL ANESTHESIA AS A SAFE ALTERNATIVE FOR RETROPUBIC PROSTATECTOMY IN A HIGH-RISK PATIENT

P Rebelo, M Cunha, C Pereira*. *Hospital Pedro Hispano, Matosinhos, Portugal*

10.1136/rapm-2021-ESRA.25

Background and Aims Anesthetic management of patients with pulmonary hypertension (PH) is complex and carries a high potential of perioperative morbidity and mortality.

Methods We report a continuous spinal anesthesia (CSA) for retropubic prostatectomy.

Results A 71-year-old man, ASA IV with a very severe COPD conditioning severe PH was proposed for retropubic prostatectomy. Because of the risks of general anesthesia (GA) in this patient, we decided to perform a CSA with the IntraLong kit from PAJUNK. In lateral position under full aseptic precaution, a 21G pencil point needle was inserted into the L3-L4 space. After obtaining free flow of cerebrospinal fluid, a 25G catheter was introduced. We started with 5 mg of levobupivacaine. With a light slope the dose was titrated (2,5 mg at the time) until adequate block was achieved. During surgery, the patient was always hemodynamically stable and we used a total of 15 mg of levobupivacaine.

At the end of the surgery the catheter was withdrawn, and postoperative recovery was uneventful.

Conclusions The anesthetic management of a patient with PH is a challenge. GA with positive pressure ventilation in associated with a potential risk of cardiorespiratory decompensation. However, spinal anesthesia is associated with a risk of severe hypotension which can be catastrophic in a patient with low functional capacity. With the use of CSA we can titrate the local anesthetic to maintain hemodynamic stability in the perioperative period with no vasopressors needed and with spontaneous ventilation with a peripheral saturation >92%.

26 ANAESTHETIC CONSIDERATIONS: A CASE OF MCCUNE-ALBRIGHT SYNDROME POSTED FOR OPTIC NERVE DECOMPRESSION – A CASE REPORT

[1]R Kashyap, [2]K R*, [2]D Goswami. *[1]Chandra Laxmi Hospital, Vaishali, India; [2]All India Institute of Medical Sciences, New Delhi, India*

10.1136/rapm-2021-ESRA.26

Background and Aims Mccune Albright syndrome (MAS) consists of a triad of Fibrous dysplasia, café-au-lait macules and autonomous hyperfunctoning endocrinopathies, caused by mutation in $G_s\alpha$ subunit of G-protein coupled receptors (GPCRs). Anaesthetic management of these patients could be complicated by difficult airway, increased risk of perioperative arrhythmias, other manifestations of associated endocrinopathies and pathological fractures.

Methods We present the anaesthetic management of a 13 years old boy, case of MAS posted for optic nerve decompression. He had history of multiple fractures involving upper and lower limbs. Drug history included tab carbimazole for hyperthyroidism, calcitriol, calcium and sodium acid phosphate for dysplastic bone. Airway examination revealed coarse facial features with large head and tongue with restricted neck movement towards the right side. NCCT orbit revealed narrowed optic canal secondary to expanded dysplastic bone, causing vision loss in right eye. On the day of surgery, radial artery cannulation was done under local anaesthesia. Intravenous induction was done with fentanyl, propofol and atracurium along with dexmedetomidine infusion. C-Mac video laryngoscope and bougie guided intubation done.

Results Anaesthesia was maintained with oxygen, nitrous oxide, isoflurane, atracurium boluses and dexmedetomidine infusion. Patient positioning was done with extreme care. Paracetamol, ketorolac and morphine were given for pain control. Surgery was uneventful. The patient was shifted to ICU for postoperative monitoring and extubated the next day.

Conclusions Throughout surgery, the patient had increased requirement of anaesthetic agents. GPCRs have been considered as potential targets of inhalational anaesthetics, whether this could have an implication on patients with MAS needs further research.



Abstract 26 Figure 1



Abstract 26 Figure 2



Abstract 26 Figure 3

27 ANAESTHETIC MANAGEMENT IN PARTURIENT WITH COARCTATION OF AORTA, PATENT DUCTUS ARTERIOSUS AND ARNOLD CHIARI MALFORMATION FOR ELECTIVE CAESAREAN SECTION

L Aishwarya*, RS Mane, MC Patil. *Jawaharlal Nehru Medical College, KLE University, Belagavi, India*

10.1136/rapm-2021-ESRA.27

Background and Aims Coarctation of aorta represents 6%-8% of CHD with associated Patent ductus arteriosus. Arnold chiari malformation is characterized by prolapse of cerebellar tonsils below the foramen magnum causing compressive symptoms. The primary goal is to minimize the incidence of haemodynamic stressor response and brainstem herniation which is a possible risk with endotracheal intubation.

Methods A case of 24year G2P1L0 with 34weeks POG, a known case of ACM was diagnosed with COA and PDA. She was planned for elective caesarean due to uncontrolled upper limb hypertension. Examination revealed pansystolic murmur and Loud P2 with suzzman's sign positive. She had feeble femoral pulse with radiofemoral delay. Uppler limb BP : 190/100 mmhg and lowerlimb BP: 130/80 mmhg. 2DEcho revealed Large PDA with left to right shunt, dilated RA, RV. Severe COA with PPG 76 mmhg. Trivial TR with PPG 40 mmhg. No sensory and motor deficits noted. Graded epidural anaesthesia was administered.

Results Parturient with congenital anomalies has been successfully managed perioperatively with graded epidural doses and by providing adequate post-operative analgesia.

Conclusions Parturient with Coarctation of the aorta and Arnold chiari malformation presents with unique challenges to the anaesthetist and management must be tailored to avoid hemodynamic instability and associated risk of tonsillar herniation. The use of epidural anaesthesia in graded dose was successful in achieving this goal.

28 LOCAL ANAESTHETIC SYSTEMIC TOXICITY AFTER AXILLARY BRACHIAL PLEXUS BLOCK IN AMBULATORY SURGERY – A CASE REPORT

[1]GS Sousa*, [2]M Oliveira, [2]P Esperança, [3]E Segura Grau. *[1]Centro Hospitalar Tondela-Viseu, Viseu, Portugal; [2]Centro Hospitalar Universitário São João, Porto, Portugal; [3]Anesthesiology, Centro Hospitalar Tondela-Viseu, Viseu, Portugal*

10.1136/rapm-2021-ESRA.28

Background and Aims Local anaesthetic systemic toxicity (LAST) is a rare but potentially fatal complication of regional anaesthesia. LAST affects two major systems, namely neurologic and cardiovascular[1]. The number of regional anaesthesia has been increasing and the risk of LAST, despite all the good practices, increases proportionally. Axillary brachial plexus block is reported as the most associated block to LAST events.[2]

We pretend to increase awareness to this rare but life-threatening entity.

Methods Case report and literature review.

Results A 55-years-old female patient, ASA II, was admitted for left hand ambulatory surgery. It was performed an ultrasound-guided axillary brachial plexus block. The left axillary artery and the branches of median, radial and cubital nerves were identified. Then 200 mg of mepivacaine and 37.5 mg of levobupivacaine were administered through an in-plane

technique. Ten minutes later, the patient became agitated, referring general discomfort, blurred vision, perioral numbness and metallic flavour. She became progressively more lethargic and less responsive to stimulus. She became bradycardic and with high blood pression. LAST treatment was immediately started according to our hospital's protocol. After stabilization, she was admitted to anaesthetic post-care unit for surveillance and treatment of eventual complications. The symptoms progressively disappeared and she was discharged on the day after.

Conclusions Despite ultrasound technique may increase safety compared with landmark block technique, the risk of vascular injection is not completely abolished.[3] The anatomical inter-individual differences of brachial plexus vascularization could be the major factor for reported LAST cases after this approach.

29 POSTOPERATIVE DELIRIUM: A SURGEON'S DILEMMA

R Khandelwal*. *AHPGIC, Cuttack, India*

10.1136/rapm-2021-ESRA.29

Background and Aims Iatrogenic meningitis following spinal anesthesia is rare but serious complication which can perplex the surgeon. The diagnosis of iatrogenic meningitis is difficult in the usual setting. As, all post – operative complications are directly targeted at the surgeon, this one too puts the surgeon in a challenging situation. It at times becomes difficult to explain to the relatives the cause of the patient's condition.

Methods A 49 year female attended the OPD for complain of post menopausal bleeding since 3 months. Her ultrasound report showed an endometrial thickness of 11 mm with slightly enlarged uterus. An office endometrial biopsy (EB) was done. The EB report was suggestive of simple hyperplasia without any atypia. So, considering her symptoms she was planned for vaginal hysterectomy and, pre- anesthetic clearance was obtained. Eight hours following the surgery, the patient was found to be somnolent and confused.

Results Post-spinal meningitis should be considered in differential diagnosis of patients having post-spinal headache, convulsions and changes in mental status.Its etiology includes failure of aseptic techniques, presence of asymptomatic bacteremia, contamination during puncture through microscopic bleeding and possibility of aseptic chemical meningitis.

Conclusions The diagnosis of post-spinal aseptic meningitis caused probably by the hyperbaric bupivacaine injected in the subarachnoid space was made and this should alert surgeon and anesthesiologist about the possible but rare consequences of spinal anesthesia. We believe that the rarity of this complication necessitates health care providers all over the world to share such cases for early diagnosis and for instituting proper care to such patients.

30 CASE REPORT: IMPORTANT CONSIDERATIONS FOR NEURAXIAL ANAESTHESIA IN THE MULTIDISCIPLINARY MANAGEMENT OF THE PATIENT WITH PLACENTA ACCRETA

S Chan*, R James. *Royal Victoria Hospital, Belfast, UK*

10.1136/rapm-2021-ESRA.30

Background and Aims Placenta accreta is a spectrum disorder ranging from abnormally adherent to deeply invasive placental tissue. It is frequently associated with major obstetric haemorrhage. Multidisciplinary planning is vital in optimising maternal and fetal outcomes. In this case report, we describe some important considerations for the anaesthetist planning the use of neuraxial techniques for prophylactic procedures prior to caesarean section. Awareness of the limitations of patient positioning for these procedures is required in order to avoid difficulties in administering neuraxial blockade. In particular, the need to avoid hip flexion following iliac artery balloon insertion can hinder subsequent patient positioning for spinal or epidural anaesthesia.

Methods Case report and review of the literature.

Results A 47 year old parturient with placenta accreta, possibly invading the cervix and bladder serosa, presented for elective caesarean section. Prophylactic measures to reduce the risk of major haemorrhage began with radiological iliac artery occlusion balloon insertion under local anaesthetic. Thereafter, she underwent spinal anaesthesia to facilitate cystoscopy and prophylactic bilateral ureteric stent insertion. However, due to the need to avoid hip flexion and the risk of dislodging the balloon catheters, these procedures had to be carried out with the patient in a suboptimal position. The intrathecal block was administered with the patient in the left lateral position, without any hip or knee flexion, increasing technical difficulty. We discuss the implications of this and possible solutions.

Conclusions Multidisciplinary planning can help avoid potential pitfalls in administering neuraxial techniques to patients with placenta accreta undergoing multiple prophylactic procedures.

31 REGIONAL ANAESTHESIA MANAGEMENT OF A TRAUMA PATIENT WITH UPPER AND LOWER EXTREMITY INJURIES

[1]M Georgiou*, [1]E Xynis, [2]S Coppens. *[1]Nicosia General Hospital, Nicosia, Cyprus; [2]University Hospitals, Leuven, Belgium*

10.1136/rapm-2021-ESRA.31

Background and Aims Regional anaesthesia remains an essential part of perioperative care. Along with excellent pain control it reduces opioid need while diminishing stress response. Despite these obvious advantages, regional anaesthesia is often underutilized in trauma patients. This is due to time management issues as well as fear of complications like masking of compartment syndrome and nerve damage. We present a case of multiple trauma patient with upper and lower extremity injuries managed solely with regional anaesthesia and sedation.

Methods 47-year- old male 75 kg presented to the emergency department after a motorcycle accident with fractures of the left femur, pelvis, right tibia and left wrist. Further radiological results were negative. The patient showed signs of upper respiratory tract infection. The perioperative plan incorporating regional anaesthesia was consented.

Results Combined spinal epidural anaesthesia was initiated for surgery of lower extremity injuries. Additionally, an infraclavicular block was performed for anaesthesia of wrist fracture. Sedation with propofol and ketamine aided with protracted operative time. The procedure was further uneventful.

Conclusions Trauma patients are more prone to long term opioid dependence. Therefore sparing opioid use and

combining multiple regional techniques is a safe alternative, using low dose local anaesthetics to reduce chances of LAST. Follow up, monitoring and a multimodal analgesia plan is imperative. More evidence is needed on the effect of inflammation, wound healing, length of stay and chronic pain.

32 SUCCESSFUL SELECTIVE SENSORY NERVE BLOCKS FOR AWAKE HAND SURGERY USING NERVE STIMULATOR

A Oiwa*. *Toho University School of Medicine, Oomori-Nishi, Ota-ku, Tokyo, Japan*

10.1136/rapm-2021-ESRA.32

Background and Aims The selective sensory nerve blocks in awake tendon reconstruction have been started since 2020 in our institute. We managed these surgeries under general anesthesia combined with blocking only sensory nerves under echo guidance.
Methods In this presentation, we would like to present 11cases and extract our problems. The surgeries were finger tendon repairs and finger/hand joint functional reconstructions. The tourniquet was used during surgery in all cases. General anesthesia was performed by the 'asleep-awake' technique, and the patient was awakened when the tourniquet was released after the tendon repairment.
Results The sites of regional anesthesia were the lateral forearm cutaneous nerve, the medial upperarm/forearm cutaneous nerve, the posterior cutaneous nerve, the distal radial nerve, the forearm interosseous nerve, and the distal ulnar nerve.

2.5–4 ml of 0.1 to 0.125% levobupivacaine was used for cutaneous nerves and 1–3 ml of 0.5% levobupivacaine was used for other nerves. In all 8 cases, it was possible to move their digits during surgery. The most important is, even though we tried to reduce the injection amount and tried more regionally, but in the first 2 cases, the maintenance of finger muscles strength was slightly insufficient. After using the nerve stimulator, this problem was resolved.
Conclusions There was one patient who complained of pain, but it was possible to deal with adding local anesthesia. No vomiting, toxicity or respiratory problems were observed, and no cases abandoned awakening. Hand surgery with selective sensory nerve blocks was a good method with high treatment accuracy.

33 TEAMWORK AND COMMUNICATION IN THE OPERATING ROOM (OR) – A LOCAL ANESTHESIA (LA) SYSTEMIC TOXICITY CASE REPORT

[1]J Castro Nunes, [2]G Cruz*, [2]A Claudia. *[1]Instituto Português de Oncologia, Lisboa, Portugal; [2]Centro Hospitalar Universitário Lisboa Norte, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.33

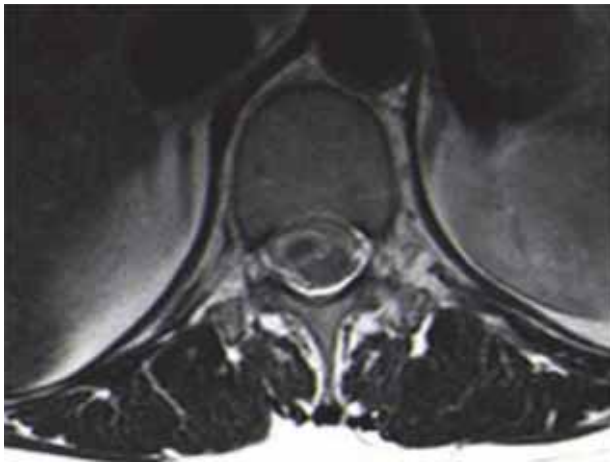
Background and Aims Local anesthetic systemic toxicity (LAST) is a rare but potentially life-threatening adverse event that occurs after local anesthetic administration through different routes[1]. This case intends to highlight the importance of bidirectional communication in the operating room (OR) and identification of warning signs and symptoms of LAST.
Methods A healthy 22-year-old female (weight 56 Kg, height 159cm), with a type III odontoid fracture due to a vehicle roll over was brought to the OR for a halo-vest placement. The procedure was executed under monitored anesthesia care, with the use of local anesthetic (LA) alone, as requested by the surgical team, allowing neurological examination throughout its execution. 2% lidocaine without adrenaline was administered subcutaneously in the frontotemporal region for pin insertion.
Results After 40 minutes, the patient became agitated, complained of blurred vision, metallic taste, and developed supraventricular tachycardia. When questioned, the surgical team revealed that 30 mL of lidocaine had been administered. The anesthesia team presumed the complaints were due to LAST and Institutional protocol was implemented. It includes antiepileptic therapy, hemodynamic and ventilatory support and lipid emulsion therapy. Upon termination, the patient was transferred to a post-anesthetic-care-unit and was discharged 24h later without any further complications.
Conclusions Systemic toxicity can be life threatening and rapid identification is key to prevent mortality. Although subcutaneous administration is less prone to toxicity, multiple injections in the scalp, witch is a highly vascularized area, cause a rapid absorption[2]. Bidirectional team communication in the OR is essential for complication prevention, intraoperative differential diagnosis and systematic approach in such critical events.

34 SUBARACHNOID HEMATOMA AFTER ATTEMPTED SPINAL BLOCK

RF Santos, RL Silva*, A Gomes, N Ribeiro, F Moura. *Centro Hospitalar Tâmega e Sousa, Guilhufe, Penafiel, Portugal*

10.1136/rapm-2021-ESRA.34

Background and Aims Subarachnoid hematoma is a rare but potentially serious complication of a subarachnoid block. Its occurrence is associated with several risk factors such as multiple spinal attempts, traumatic puncture and concurrent therapy with anticoagulants and/or antiplatelet agents.[1]
Methods Description of a case report in the section below.
Results Case Report: A healthy pregnant woman was admitted for an elective c-section under subarachnoid spinal block. After two hematic punctures at different lumbar levels, it was decided to proceed with a general anaesthesia instead. Surgery was performed with no reports of complications. About 7 days later, the patient reported neurologic symptoms and a spinal hematoma was diagnosed (figure 1 and 2). After



Abstract 34 Figure 1 Dorsolumbar MRI, T2 axial section image of dorsolumbar subarachnoid hematoma with a maximum width of 9 mm



Abstract 34 Figure 2 Dorsolumbar MRI, sagittal section image

consultation with a neurosurgical team, a conservative approach was decided upon. The patient was admitted to the hospital for close monitoring of neurological signs and throughout the 12 days of in-hospital stay, there was a spontaneous remission of symptoms as well as a significant reduction in the size of the hematoma, confirmed by magnetic resonance imaging. The patient was discharged home assymptomatic.

Conclusions Although the recommended treatment for a subarachnoid hematoma is an emergent surgical decompression, there have been reports of small subarachnoid hematomas associated with mild pain complaints that are conservatively managed with satisfactory results.[2]

35 EPIDURAL ANESTHESIA: WHEN THE BENEFITS OUTWEIGH ITS RISKS IN CARDIOVASCULAR PATIENTS

J Bettencourt Abreu*, A Amorim, K Gama. *Hospital Central do Funchal, Funchal, Portugal*

10.1136/rapm-2021-ESRA.35

Background and Aims The patient with cardiac pathology is one of the greatest challenges in anesthesiology since they are often medicated with anticoagulants and anti-aggregants which leads to a higher risk of perioperative cardiovascular complications. In this case, we show the use of an epidural technique in order to maintain hemodynamic stability despite the patient's coagulation changes (INR>1.5).

Methods Data were collected from the patient's process.

Results A 59 years old man, diagnosed with a strangulated inguinal hernia, proposed for an emergent inguinal hernioplasty. He had arterial hypertension, ischemic dilated cardiomyopathy, heart failure treated with levosimendan, implantable defibrillator (ICD), severe pulmonary hypertension, history of stroke without sequelae and chronic kidney disease. Medicated with anti-aggregants and anticoagulants. Laboratory values: Hb 10,6g/dL; platelets 149×10^9/L and INR 1,54. The echocardiogram showed a 20% left ventricular ejection fraction, severe mitral regurgitation, and moderate tricuspid regurgitation. An epidural block with slow induction was performed (0,75% ropivacaine fractional bolus), under standard monitoring and invasive blood pressure. A magnet was used to protect the ICD and the immediate availability of vasopressor drugs was ensured. The procedure took place without major complications with hemodynamic stability until recovery. Analgesia was guaranteed with epidural morphine.

Conclusions This case shows the importance of neuraxial anesthesia in patients with cardiovascular comorbidities. The use of an epidural technique allows maintenance of hemodynamic stability in a patient that does not have a good physiologic condition despite coagulation changes. For this reason, in this case, the benefits of a neuraxial technique outweigh its risks compared with a general anesthesia technique.

36 ULTRASSOUND-GUIDED COSTOCLAVICULAR BLOCK: AN ALTERNATIVE APPROACH TO SHOULDER SURGERY – A CASE REPORT

[1]G Santos Sousa*, [2]C Almeida, [2]P Antunes, [2]J Almeida. *[1]Anesthesiology Resident from Centro Hospitalar Tondela-Viseu, Viseu, Portugal; [2]Graduated Assistant of Anesthesiology from Centro Hospitalar Tondela-Viseu, Viseu, Portugal*

10.1136/rapm-2021-ESRA.36

Background and Aims Analgesia after shoulder surgery remains a major challenge. Alternative phrenic sparing techniques for post-operative shoulder analgesia like the shoulder block (suprascapular and axillary nerve blocks) have been advocated. Nevertheless, as shoulder innervation is complex, shoulder block may provide an incomplete blockade and two punctures are needed, so other options are still been searched. Costoclavicular brachial plexus block (CCBPB) was presented as a valid option carrying only 2.5% of phrenic paralysis, against 39.8% with interscalene approach1.

We intend to increase awareness to CCBPB as a safe and effective phrenic sparing technique for shoulder surgery.

Methods Case report and literature review.

Results A 64-years-old patient, ASA III due Diabetes Mellitus, peripheral venous insufficiency, dyslipidemia, obesity and history of snoring, was admitted for shoulder surgery. An ultrasound guided CCBPB was performed instead of an interscalene or supraclavicular approach to minimize the risk of phrenic nerve hemiparesis. Ropivacaine 0.375% was administered. The patient reported generalized upper limb sensitive block, while maintaining motor capacity after 5 minutes. Then, general anesthesia was induced. Surgery was uneventful. Despite no conventional analgesia has been given before emergence, 0.4 mg of naloxone was needed to recover spontaneous ventilation. After emergence she denied pain, only referring sensitive and motor block of upper limb. Rescue analgesia was not needed.

Conclusions CCBPB mode of action relies on the local anesthetic (LA) retrograde dispersion within the costoclavicular

canal, with only one injection, which allows: blocking of the main nerves involved in shoulder innervation and lower risks of phrenic block and suprascapular nerve block sparing2.

37 REGIONAL ANAESTHESIA AND SEVERE HAEMOPHILIA. IS A CONTINUOUS FEMORAL NERVE BLOCK SAFE? A CASE REPORT

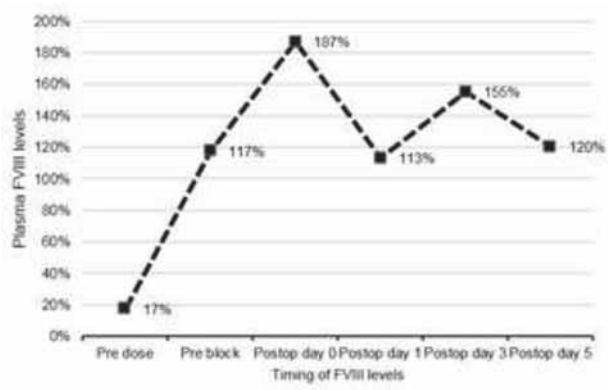
G Moreno Giménez*, A Font Gual, C Heredia Carqués, M Rodríguez Prieto, MA Gil de Bernabé Sala. *Hospital de la Santa Creu i Sant Pau, Barcelona, Spain*

10.1136/rapm-2021-ESRA.37

Background and Aims Peripheral nerve blocks may be used in haemophilia A patients with appropriate Factor VIII (FVIII) values. However, the use of perineural catheters has been poorly documented. We describe a continuous femoral nerve block (CFNB) in conjunction with a sciatic nerve block (SNB) to control perioperative pain in a severe haemophilia A patient undergoing total knee arthroplasty (TKA).

Methods We report a case of a 51-year-old man with severe haemophilia A scheduled for TKA. 15 minutes after administering 3000 IU of intravenous recombinant FVIII, a combination of ultrasound-guided SNB and CFNB was performed. The needle was inserted in-plane, from lateral to medial. An initial bolus of 15 mL 0.2% Ropivacaine was injected in each block, followed by an 8 mL/hour continuous femoral nerve perfusion. Afterwards, a total intravenous anaesthesia was required. 2000 IU of recombinant FVIII every 12 hours for the first 3 postoperative days and then every 24 hours were administered. Bemiparin thromboprophylaxis was initiated on the second postoperative day and the femoral catheter was removed on the third without incidents.

Results FVIII levels above 100% were maintained throughout admission. No complications from the regional blocks were reported. The score of pain was maintained less than 3 within 72 hours after surgery that facilitated early joint mobilization.



Abstract 37 Figure 1

Conclusions CFNB may be performed in haemophilia A patients. Nevertheless, it is important to carry out an individualized assessment of the risk-benefit of the technique, a multidisciplinary approach to guide FVIII replacement, and a close follow-up to identify possible bleeding or neurological complications.

Central nerve blocks

38 185 NEURAXIAL DRUG ADMINISTRATION ERRORS FROM 40 COUNTRIES – PRACTICAL ISSUES AND HUMAN FACTORS

[1]S Patel*, [2]R Paskaleva, [3]D Agrawal. *[1]Tawam Hospital, Al Ain, United Arab Emirates; [2]Airedale NHS Foundation Trust, Airedale, UK; [3]North Manchester General Hospital, Manchester, UK*

10.1136/rapm-2021-ESRA.38

Background and Aims We reviewed country-wise reporting of neuraxial route drug administration errors.

Abstract 38 Table 1 Neuraxial errors reporting countries.Number represents number of patients

DRUG/ GROPUP OF DRUGS *	No of errors	India	S Korea	Pakistan	Malaysia	USA	Canada	Mexico	Australia	UK	China	Taiwan	Japan	Singapore	Thailand	UAE	Ireland	France	Germany	Switzerland	Italy	Netherland	Belgium	Portugal	Spain	Turkey	Lebanon	Egypt	Tunisia	Morocco	Saudi Arabia	Brazil	Argentina	South Africa	Benin #	Ghana	UK unknown
TA	34	7				4	1			4	1	1									3						2	1		3				1	4	2	
KCl	28	8				1	1			1		2				1	1	4		3			1	3		1				1		1	1	1			1
CV drugs (10)	34	9			1	10			2	3					6				2			1			2	1			3				1			
Seven NMBDs	21	1	1			1				2			2		1					1	4	1			1	1	1			2							
MgSo4, TPN & other	13					5	1											1												2	1	1		2			
Seven antibiotics	10	1				7												1							1											
Three IV IA	9					3			3				1			1														1							
Oxytocin	7					1										6																					
Three Analgesics	6																		2	1					2							1					
Atropine/Neostigmine	6	2																								1 §								3			
Antiemetics	4					1				1				1																		1					
Thirteen Other	13			2		1		1	1	1					2		1		1			1		1		1											

SK-South Korea, SWI-Switzerland, NL-Netherland, TA-Tranexamic acid/KCl – potassium chloride, CV- cardiovascular NMBDs- neuromuscular blocking drugs, MgSo4- magnesium sulphate, TPN – total parental nutrition, IA – induction agents, § Atropine & Neostigmine given together in one patient, # One report for all eight errors

Methods Medline and Google scholar database were searched for neuraxial drug errors through February 2021 using terms including 'epidural drug error'. The search was also done using 'intrathecal' and 'neuraxial' words in place of epidural. Local anaesthetic (LA) and opioids errors were excluded. Medication errors were grouped, countries reporting recorded and industry issues and human factors were identified.

Results 185 neuraxial drug administration errors were reported from 40 countries involving different group of drugs (table 1). 47.5% errors were reported from 5 countries: USA (33), UK (15), India (17), Korea (12) and Iran (11). Other 5 countries reported $\geq$ 5 to 10 errors: Benin (8 in a single report), Germany (7), Turkey (7), Netherlands (6), Australia (5).

Abstract 38 Table 2 Some pharmaceutical and practice issues among countries reporting errors

Drug/Drug groups	Patients	Individual drug (number of patients)	Pharmaceutical company and practice related problems
Tranexamic acid[1]	34		Look alike ampoules from multiple manufacturers of Tranaexamic acid and LA were reported in India, Middle East and in African countries.
Cardiovascular drugs	34	Digoxin (9), Dobutamine (2), Dopamine (3), Ephedrine* (6), Epinephrine* (2), Labetalol (4), Metaraminol* (5), Mexiletine* (1), Norepinephrine[2] (1), Phenylephrine* (1)	Look alike ampoules/vials in several countries of LA and Digoxin, Dobutamine, Dopamine, Labetalol, Norepinephrine. In some cases, inadequate resident and anaesthesia assistant supervision in India and USA. Four errors of Metaraminol from UK NAP@ and NPSA@. Practice of keeping LA and ephedrine syringes in the same tray in Australia.
Potassium chloride	28		In Europe, confusing Kcl vial in purple and normal saline vial in blue labels from the same manufacturer. Nursing staff in wards and pain physicians in procedure room involved in many errors in Europe and India.
Neuromuscular blocking drugs	21	Atracrium (6), Cisatracrium* (1), Gallamine[3] (2), Pancuronium* (2), Rocuronium* (4), Vecuronium* (3), Suxamethonium* (3)	Different sizes (2,5,10,20 ml) of syringes are used to prepare NMBDs. All four patients in Greece received epidural saline with steroids (3) or saline only (1) to dilute NMBDs in epidural space.
Electrolytes/Glucose infusions and TPN	13	Glucose* (1), Glucose saline* (1), Hypertonic Saline* (2), Magnesium sulphate (7), Total parental nutrition* (2)	Bolus (from ampoules) and infusion bag errors of MgSO4 from various causes. Look-alike ampoules/vials of LA and Magnesium sulphate in Saudi arabia and south Africa.
Antibiotics*	10	Amoxicillin (1), Ampicillin (1), Aztreonam (1), Cefazolin (2), Clindamycin (1), Gentamicin (3), Piperacillin (1)	Some errors involved multiport epidural catheter and multiport other type of catheter used for epidural infusion in the USA.
IV induction agents	9	Methohexital* (1), Thiamylal* (1), Thiopentone (6), Propofol (1)	7 syringe swap errors from Australia, USA, UK and Japan. Practice of keeping LA syringes in the same tray.
Oxytocin*	7		4 errors were reported to Pharmaceutical company in the UK.
Analgesics (Nonopioids)	6	Metamizol (1), Neftopam[3] (1), Paracetamol* (4)	Four paracetamol infusion pump errors from Europe
Anticholinergic/Cholinergic	6	Atropine (4), Neostigmine[3] (1), Atropine + Nepstigmine* (1)	Look alike LA and Neostigmine ampoules by the same manufacturer in the India.
Antiemetics	4	Metoclopramide[3] (1), Ondansetron (3)	Ondansetron and Fentanyl both flip-top lids ampoules in the USA Ondansetron and Fentanyl look-alike ampoules in the Singapore.
Others	13	Acetylcysteine[3], Aminophylline[3], Chlorhexidine*, Ether*, Frusemide[3], Glutaraldehyde*, Heparin*, Insulin*, Midazolam*, Paraldehyde*, Protamine[3], Ranitidine containing phenol*	Look-alike LA and Acetylcysteine, Aminophylline and Frusemide. ampoules in South Korea, Pakistan and Rumania respectively. Over the counter purchase of LA medications in Pakistan by a patient. Colourless normal saline and Chorhexidine and Gultaraldehyde solutions in Australia and Turkey respectively.

$ - all via intrathecal route, * - all via epidural (thoracic, lumbar or caudal) route, LA- local anaesthetic, @ - NAP=National audit project & NPSA=National patient safety agency

Abstract 38 Table 3 Human factors (www.hfacs.com) identified and their corrections

	Collective human factors involved in countries	Prevention of errors
Organisational influences	Purchase of look-alike ampoules Storage of look-alike ampoules/vials together No neuraxial drug handling policy Lack of drug error reporting system Prolonged working hours Multiple patients under care Untrained nurses, anaesthesia assistants No dedicated epidural drug infusion administration sets Incorrect dispensing from pharmacy Recurrent errors (in the same hospital) Lack of technological resources (e.g. non-availability of barcode scanner, NRFit)	(A) Correction of latent deficiencies/failures at all four levels of human factors (B) Four neuraxial practice measures: - Careful reading of the label on any drug ampoule or syringe - Labelling all syringes - Checking labels with a second person or a device (e.g. barcode reader) - Use of non-Luer neuraxial devices (NRFit devices)
Supervisory factors	Inadequate supervision of assistants Unmonitored high-risk infusions for many hours First year resident handling spinal catheter Sub-standard neuraxial procedural practices (e.g. opening of local anaesthetic ampoule and then scrubbing for the procedure, intern handling local anaesthetic drug, different operators – for loading and administration of intrathecal medication) No handover (e.g. resident to resident)	
Preconditions for unsafe acts	Inattention Hurry Fatigue Left over medications on anaesthesia work station Location of high-risk syringes in one tray Unlabelled similar size syringes Fixing epidural catheter near IV port or central venous lines Multiport epidural catheter Use of three-way taps with epidural catheter Nearby location of infusion pumps	
Unsafe acts	Skill-based errors (all errors) Incorrect visual perception of ampoules, syringes, infusion sets, infusion pumps Bypassing available technology for safety (e.g. barcode reading) Policy violations	

Off 34 tranexamic acid errors (from 13 countries), 7 occurred in India. 8 European union countries reported 15 (out of 28) potassium chloride errors. Neuromuscular blocking drugs related events were widespread (21 errors from 13 countries). Cardiovascular drug incidents (34) were mainly reported from the USA (9) and UK (6).

Table 2 summarises some issues related to pharmaceutical industry and clinical practice.

Recurrent human factors identified are summarised in table 3.

Conclusions Manufacturing of look-alike of LA, fentanyl, normal saline and several high-risk ampoules (e.g. tranexamic acid, KCl, digoxin, NMBDs) or vials is one major uniform factor. Robust organisational, supervisory and local clinical practices are needed to correct latent human failures.Universal applications of four recommendations[1–4] (table 3) would prevent drug administration errors during neuraxial anaesthesia or analgesia.

39 EFFICACY AND SAFETY OF INTRATHECAL MORPHINE FOR ANALGESIA AFTER LOWER JOINT ARTHROPLASTY: A SYSTEMATIC REVIEW AND META-ANALYSIS WITH META-REGRESSION AND TRIAL SEQUENTIAL ANALYSIS

[1]E Gonvers*, [2]K El-Boghdadly, [3]S Grape, [1]E Albrecht. *[1]Lausanne University Hospital, Lausanne, Switzerland; [2]Guy's and St Thomas' NHS Foundation Trust, London, UK; [3]Hôpital du Valais, Sion, Switzerland*

10.1136/rapm-2021-ESRA.39

Background and Aims Widespread adoption of intrathecal morphine into clinical practice is hampered by concerns of its potential side-effects. We undertook a systematic review, meta-analysis and trial sequential analysis with the primary objective of determining the efficacy and safety of intrathecal morphine. Our secondary objective was to determine the dose associated with greatest efficacy and safety.

Methods We systematically searched the literature for any trials comparing intrathecal morphine with a control group in patients undergoing hip, knee arthroplasty under spinal anaesthesia. Our primary efficacy outcome was rest pain score (0–10) at 8–12h; our primary safety outcome was the rate of PONV within 24h.

Results Twenty-nine trials including 1814 patients were identified. Rest pain score at 8–12h was significantly reduced in the intrathecal morphine group with a mean difference (95%CI) of -1.7(-2.0,-1.3),I^2=71%,p<0.0001, without subgroup difference between doses (p=0.35). Intrathecal morphine increased postoperative nausea and vomiting with a risk ratio (95%CI) of 1.4(1.2,1.6),I^2=4%, p<0.0001. However, a subgroup analysis according to doses revealed that rates of PONV within 24h was similar between groups with doses of 100µg, while the risk significantly increased with doses above (p value for subgroup difference=0.03). The quality of evidence for our two primary outcomes was high and moderate-to-high for the secondary outcomes.

Conclusions There is high level evidence that intrathecal morphine provides effective analgesia after lower limb arthroplasty but at the expense of an increased profile of side-effects. However, a dose of 100µg represents a ceiling dose for analgesia and a threshold dose for increased rate of PONV.

40 DEVELOPMENT OF A REGIONAL ANAESTHESIA SERVICE FOR RIB FRACTURES: A QUALITY IMPROVEMENT PROJECT

A Ee*, T Rees. *Royal Gwent Hospital, Newport, UK*

10.1136/rapm-2021-ESRA.40

Background and Aims Trauma audit research network (TARN) data for 2018 indicated that 100 patients are admitted with chest wall injuries. Retrospective audit of referrals confirmed long length of stay (median 14 days), with 59% requiring level 2/3 care and 11% mortality risk.

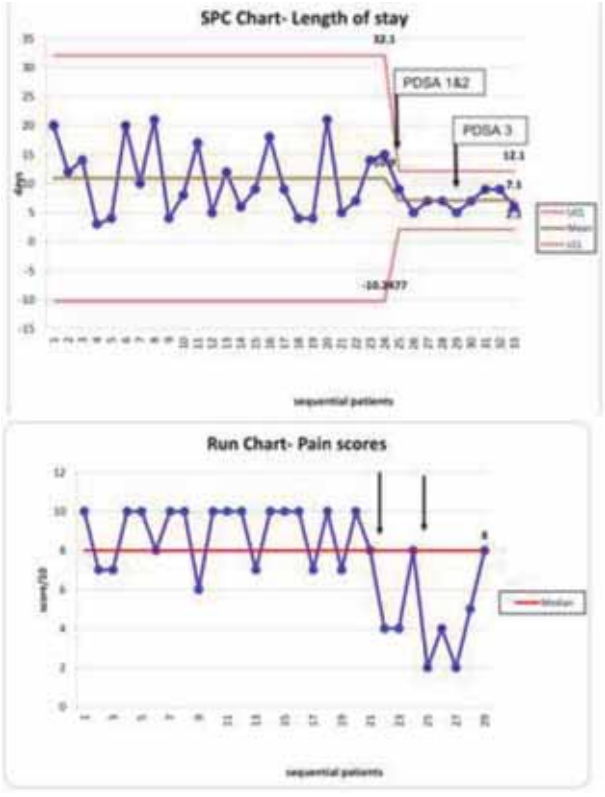
Regional anaesthesia was offered to less than 25% of patients despite 63% reporting severe pain. We decided to introduce an Erector Spinae plane (ESP) catheter service for these patients with aims of reducing length of stay and pain scores.

Methods We set up an email alert system, where TARN data collectors notified us when patients were admitted through the Emergency department with rib fractures. Using Whatsapp, we organised a group of regional anaesthetists who were willing to provide an ESP service.

Results Mean length of hospital stay was reduced from 10 to 7 days after introduction of the service with significant reduction in variability.

Mean pain scores improved from 8.9/10 to 5/10 with an average improvement of pain score of 2.78 points on a numerical scale out of 10. (n=9)

Conclusions This was an easy, cost-neutral intervention that has made a noticeable difference in a short time frame. The small reduction in pain scores may be explained by the presence of concurrent injuries. Ongoing improvements in training should improve reliability of catheter placement and reduce practitioner variation.



Abstract 40 Figure 1

41 NEURAXIAL CARDIOVASCULAR ACCIDENTAL DRUG ADMINISTRATION ERRORS REVIEW

[1]S Patel*, [2]F Dexter. [1]*Tawam Hospital, Al Ain, United Arab Emirates*; [2]*Craver College of Medicine, Iowa, USA*

10.1136/rapm-2021-ESRA.41

Background and Aims Neuraxial drug administration errors are catastrophic.[1,2,3] Inadvertent neuraxial administration of cardiovascular (CV) drugs has not been reviewed previously.

Methods Medline and Google Scholar were searched through December 2020 using terms such as 'epidural drug error', with 'spinal', 'intrathecal', or 'neuraxial'. Error reports analysed were limited to those of CV drugs administered via epidural (ED) or intrathecal (IT) route.

Results 28 case reports/case series describing administration of 10 drugs in 34 patients were identified. Digoxin (9), ephedrine (6), and metaraminol (5) were involved in 20 of the 34 patients (table 1).

Except dopamine (1 patient of 3), phenylephrine, and mexiletine (the patient received infusion after bolus) all administrations were in the form of bolus (table 1).

Abstract 41 Table 1 Drug, route, dose administered and clinical features and management

Drug	N, NR	Dose Administered	Clinical consequences and management	Comment
Digoxin	8 IT 1 LE	0.25-0.5 mg 0.25 mg	Prolonged duration of paraplegia, encephalopathy, seizures. Management for some cases included specific measures such as Digibind, haemodialysis, steroids, ICU care. The pregnant women (4 of 5) developed residual neurological problems following IT digoxin requiring rehabilitation. LE digoxin was associated with meningitis and status epilepticus.	Onset of paraplegia often delayed for more than an hour. Therapeutic serum digoxin levels reported in 2 patients. Radiological findings reported consistent with ischemia, demyelination or myelitis in the spinal cord and diffuse cortical injuries.
Dobutamine	1 TE 1 IT	25 mg 10 mg	Hypertensive crisis (208/120), tachycardia. Normal postoperative sensory and motor function, ECG, and serum troponin levels.	The TE was used after realization of the error.
Dopamine	1 TE 2 IT	5 µg/kg/min (for 20 mins) 80 mg both IT patients	Hypertensive crises (200/120) and supraventricular tachycardia following TE. Epidural dopamine also caused abdominal pain, nausea, and vomiting. IT caused moderate hypertension, and sensory block to T10.	Rapid offset of symptoms and signs following TE discontinuation.
Ephedrine	6 LE	15-50 mg	Dose-dependent mild to moderate tachycardia and mild to severe hypertension. Some patients developed occipital headache. Epidural normal saline given as a bolus for 'dilution'.	Among the 4 errors during labour analgesia, no adverse effects reported for baby. Epidural used for CS after the errors for 2 patients.
Epinephrine	1 CE 1 IT	300 µg 10 µg	CE- Immediate increased heat rate, BP, stroke volume, contractility and decreased SVR. IT – no effect	CE- Infant
Labetalol	1 LE 3 IT	15 mg 15-25mg	LE did not cause clinical effect. IT caused variable response: no effects, antihypertensive, or hypertensive.	One error via IT catheter. LE error during test dose.
Metaraminol	1 TE 4 LE	7 mg Unknown doses	Mild (following LE) to severe (TE) hypertension (232/113) ≤ 30 minutes after error.	In one case, TE bolus near end of procedure. Haemodynamic changes in recovery room.
Mexiletine	1 TE	Unknown. Infusion over several hours.	Hypotension for several hours.	On the ward, epidural infusion disconnected during cardiac arrest. Mexiletine bolus followed by infusion started via TE instead of via central line.
Norepinephrine	1 IT	4 mg	Caesarean section. Severe headache, chest pain, agitation, increased blood pressure.	Incorrect vial drawn up. GA started.
Phenylepherine	1 TE	16.2 mg (infusion over 12 hours)	Moderate hypertension (160/80). Epidural normal saline infusion used for 'dilution'.	Incorrect bag hung to pump.

N- number of cases, NR -Neuraxial route, IT- intrathecal, TE, LE, CE- Thoracic, Lumbar, caudal epidural, respectively.

Abstract 41 Table 2 Human factors (https://www.hfacs.com/hfacs-framework.html) contributing to the neuraxial cardiovascular drug

Organisational influences	Purchase of look-alike ampoules, syringes, and vials. Cardiovascular and local anaesthetic syringes in one anaesthesia tray. Cardiovascular medications and local anaesthetics stored together. Failure to make change after previous errors resulting in same hospital having >1 error and of same cause. Staff scheduling with resident on every other night 24 hour calls for several consecutive cycles; midwife looking after three patients during night; and anesthesiologist having worked 19 hours at time of error.
Supervisory factors	One resident involved in two errors. Nurse breaking and holding wrong ampoule for anaesthetist to withdraw, junior resident broke the ampoule and held for anaesthetist to withdraw, junior anaesthesia resident broke ampoule and left on anaesthesia workstation and then scrubbed for procedure and asked other personnel to assist. First year resident using spinal catheter. Untrained staff bypassed hospital policy for second nurse to confirm correct medication for ED infusion. Infusion of wrong high-risk cardiovascular drug via epidural catheter for many hours.
Preconditions for unsafe acts	High-risk medication vial which was bought for another patient left over on anaesthesia trolley. Fixing the epidural and IV lines nearby over the chest.
Unsafe acts	Skill based errors (all), incorrect visual perception, exceptional policy violation.

IT Digoxin caused long lasting paraplegia in 5 patients. IT or ED vasopressors or inotropes caused reversible haemodynamic changes of variable duration.

Primary causes included ampoule errors (mostly for digoxin and labetalol), syringe swaps (in cases of ephedrine, epinephrine and metaraminol) and ED-IV line confusion (for phenylephrine and mexiletine infusions). NRFit could have prevented 14 (of 34) errors.

Table 2 lists the human factor contributing to the errors.

Conclusions Bar coding of both ampoules and syringes would have prevented several errors. In the absence of barcode reader or human double checking, NRFit devices could have prevented 14 misconnection (syringe or IV infusion lines) mistakes. Correction of deficiencies (e.g., high risk CV drug ampoules and syringes location, substandard supervision of anaesthesia residents/assistants) identified using HFACS are also fundamental. Management following neuraxial CV drugs is supportive.

42 PREPARING INTRATHECAL OPIOID INJECTATE, A 'TIP' FOR SUCCESS

J Worthington*, A Allan, K Khanna. *Great Western Hospital, Swindon, UK*

10.1136/rapm-2021-ESRA.42

Background and Aims The technique of drawing up opioids for spinal anaesthesia can lead to error. We identified stages in the process which could be overlooked by the anaesthetist causing inadvertent overdosing or underdosing of opioids. This error is usually made by inclusion of residual fluid in the tip of the syringe, due to withdrawing the opioid in the 1 ml syringe (figure 1a) rather than injecting (figure 1b). The tip contains 0.05–0.07 mls, of greatest significance when dealing with small and concentrated amounts of opioid. We aimed to survey the department to identify the proportion of anaesthetists that were using a technique leading to inadvertent error.

Methods We identified fifty-seven anaesthetists in the department and surveyed their process of drawing up drugs for intrathecal injection. The main focus of the survey was the technique used to transfer the opioid into the spinal syringe injectate including the use of the filter needle.

Results Data was captured from 47/57 anaesthetists, the majority consultants. 40% of the department were administering a dose error of spinal fentanyl. 35% of the department were administering a dose error of spinal morphine and diamorphine. The filter needle was used inappropriately in 14% of cases.



Abstract 42 Figure 1

Conclusions Precision is essential in regional anaesthesia when using small and concentrated amounts of opioid in the injectate, therefore the inclusion of the amount in the tip can lead to significant dose error. We presented the results and re-educated the department in our clinical governance meeting.

43 GENERAL OR REGIONAL ANAESTHESIA FOR MICROVASCULAR FLAP SURGERY: COMPARISON OF SURGICAL COMPLICATION RATE AND DURATION OF HOSPITALIZATION

RP Ročāns*, B Mamaja, S Doniņa. *Riga Stradins University, Riga, Latvia*

10.1136/rapm-2021-ESRA.43

Background and Aims Microvascular flap surgery is an effective method for difficult reconstructions and major defects.[1] There is an ongoing debate about the preferred method of anaesthesia for flap success.[2] We aim to evaluate the differences in the rate of microvascular flap surgery complications and duration of hospitalization between patients receiving regional anaesthesia (RA) and general anaesthesia (GA).

Methods This retrospective cohort study includes 54 adult patients undergoing elective microvascular flap surgery. The study was approved by the Ethics Committee of Riga Stradins University. The method of anaesthesia was chosen according to individual surgical necessity. Patients were divided into two groups – RA group (N=25) and GA group (N=29). Postoperative outcome data on surgical flap complications, duration of intensive care stay, and total duration of hospitalization was obtained.

Results RA and GA groups had no statistically significant differences in the rate of flap failure, infection, hematoma, or any other type of flap complication. GA group had a mean intensive care stay duration of 2.33 days (CI95% 0.62–5.25). RA group had a significantly lower mean intensive care stay duration of 0.26 days (0.06–0.57; p=0.002). GA group had a mean hospitalization duration of 24.4 days (14.42–34.31). RA group had a comparatively lower mean hospitalization duration of 14.25 days (9.55–19.01; p=0.032).

Conclusions The rate of surgical complications in microvascular flap surgery is equal for both RA and GA. Patients who receive GA have a longer mean intensive care stay and duration of hospitalization. In contrast to previous assertions, a meticulously administered regional anaesthesia might be preferred when surgically feasible.

44 RETROLAMINAR PARAVERTEBRAL CATHETERS FOR RIB PLATING SURGERY – A CASE SERIES

EEL Ng*, SX Ho, CHJ Ong, J Tan, LL Lean, W-S Choo. *Ng Teng Fong General Hospital, Singapore, Singapore*

10.1136/rapm-2021-ESRA.44

Background and Aims The ultrasound-guided retrolaminar technique to paravertebral blockade (RLB) is safe, easy and minimally invasive for use in mastectomies1, analgesia for rib fractures2, and analgesia post thoracic surgery3 with reduced risks of pneumothorax and structural injury and reduced spread of injectate. Though literature described higher volume boluses followed by infusions, we present our experience with in-plane ultrasound-guided RLB catheter using moderate volume boluses twice daily (BD) for rib fixations.

Methods Five cases of ultrasound-guided retrolaminar paravertebral block catheter were observed between May 2019 and March 2020 in our institution who sustained multiple rib fractures and underwent surgical fixation. Details of the patients are presented in tables 1–2.

Results Patients' satisfaction is high – low pain scores shows that the degree of analgesia is more than adequate, with bolus

Abstract 44 Table 1 Patients characteristics

Patient	Age	Gender	Injuries	ASA	Catheter level	Depth to space	Remarks
1	57	Male	8,9th - 9th	2	T6	6 cm	
2	58	Male	8,9th - 9th	2	T6	5.5 cm	Single shot given pre-op, catheter inserted post-op
3	67	Male	8,9th - 9th	2	T7	5 cm	Inadvertent transection of catheter intra-op, new catheter inserted post-op
4	54	Male	5,7th to 9th	2	T7	5 cm	
5	70	Male	5,7th to 9th	2	T8	4 cm	Catheter migration and kinking, removed POD 1

Abstract 44 Table 2 Analgesia characteristics

Patient	LA Bolus	Day of catheter removal	Highest recorded pain score on movement	Opioid use (timing)	NSAIDs use (timing)	Others	Remarks
1	15 ml of 0.5% inj. ropivacaine BD	All removed on POD 2 except patient 5 (POD 1)	3/10	None	None	None	No complications for all patients
2			4/10	None	Arcoxia (POD 7)	Paracetamol	
3			5/10	None	Arcoxia (POD 7)	Paracetamol	
4			4/10	Oxycodone (POD 7)	Arcoxia (POD 7)	Paracetamol, Tramadol	
5			4/10	None	Ibuprofen (POD 1)	Paracetamol, Tramadol, Ibuprofen in view of nausea/vomiting	

duration exceeding the BD dosing. RLB confers a better safety profile (less invasive, lower risks of pneumothorax, bleeding or epidural spread) to classical blocks. Erector spinae blocks (ES) though effective4-5, have not been attempted for plating. Reasons for RLB catheter are: insertion point away from surgical site; ability for peri-op analgesia via a catheter; good mobility; minimal hypotension; minimal nursing care; surgical satisfaction and same benefits to ES catheters.Insertion of these catheters as part of a holistic analgesia plan, from pre-op to post-op, as well as comparing to ES blocks, should be considered.

Conclusions The RLB confers similar analgesic efficacy but also minimal interruption to surgery and reduced complications, thereby a viable option for rib fracture plating analgesia.

45 INTRAOPERATIVE EPIDURAL ANALGESIA PRACTICES AND THEIR OUTCOMES IN MAJOR ABDOMINAL SURGERIES AT A TERTIARY CARE HOSPITAL

A Gulamani*, A Rehman, M Nazir, Z Shabbir. *Aga Khan University Hospital, Karachi, Pakistan*

10.1136/rapm-2021-ESRA.45

Background and Aims There is considerable variation in practice among anesthetists at our center regarding intraoperative epidural analgesia. We intend to investigate association between site, concentrations, and dosing of local anesthetics (LA) used intraoperatively on blood pressures, motor block, pain scores and need for rescue analgesia.

Methods Ethical approval was taken from The Aga Khan University Ethics Review Committee(Ref#2020-3692-10675). 170 patients undergoing abdominal surgeries with epidurals as primary analgesic modality at a tertiary care center over twelve months were recruited.

Results Intraoperative hypotension was reported in 46.5%. Among factors evaluated for association with intraoperative hypotension, concentration of LA used was found to be statistically significant(p=0.02 and 0.04). Patients who received intraoperative epidural boluses were more commonly reported hypotensive on arrival in post anesthesia care unit(PACU) as compared to continuous infusion(17.8%vs4.8%, p=0.02). Motor block was observed in 41.5% patients given continuous infusion vs 17.4% given boluses(p=0.02). Bupivacaine, when used for intraoperative infusion caused more motor block (43.6%vs34.5%, p=0.04) and hypotension(6%vs0%, p=0.04) as compared to Ropivacaine. Patients given higher concentration of local anesthetic as intraoperative infusion(0.25% vs0.125% and 0.1%) had higher frequency of motor block (58.3%vs38.8% and 40%, p=0.05). Two-thirds of the patients had moderate to severe pain on arrival in PACU, and half of


آغا خان یونیورسٹی
THE AGA KHAN UNIVERSITY

Abstract 45 Figure 1

Abstract 45 Table 1 Intraoperative hypotension and associated factors. P value <0.05 was considered significant.

	Intraoperative Hypotension	
		P value
Frequency	79 (46.5%)	-
Epidural Site		
Thoracic N=110	50 (47.2%)	0.72
Lumbar N=60	29 (48.3%)	
LA used		
No loading N=8	4 (50%)	0.88
Bupivacaine N = 129	65 (50.4%)	
Ropivacaine N =33	15 (45.5%)	
Concentration of LA used for loading dose		
0.5% N=2	1 (50%)	0.02
0.25% N=101	49 (48.5%)	
0.125% N=50	21 (42%)	
0.1% N=9	1 (11%)	
Intraop epidural management		
Bolus dosing N= 23	11 (47.8%)	0.89
Continuous infusion N=147	68 (46.3%)	
Concentration of LA used for infusion		
0.25% N=12	10(83.3%)	0.04
0.125% N=113	48 (42.5%)	
0.1% N=20	8 (40%)	

Abstract 45 Table 2 Parameters after arrival in PACU and their association with intraoperative epidural practices. P value <0.05 was considered significant

	Hypotension	P value	Motor Block	P value	Pain score >4	P value	Need for rescue analgesia	P value
Frequency (N=170)	11 (6.5%)	-	35 (68.2%)		114 (67%)		84 (49.4%)	
Epidural Site								
Thoracic (N=110)	9 (8.5%)	0.22	36 (34%)	0.23	76 (69.1%)	0.44	51 (48.1%)	0.12
Lumbar (N=60)	2 (3.3%)		28 (46.7%)		38 (63.3%)		29 (48.3%)	
Intraop epidural dosing regime								
Bolus dosing (N=23)	4 (17.4%)	0.02	4 (17.4%)	0.02	16 (66.7%)	0.78	11 (47.8%)	0.877
Continuous infusion N=147	7 (4.8%)		61 (41.5%)		98 (66.7%)		73 (49.7%)	
LA used for infusion								
Bupivacaine N=117	7 (6%)	0.04	51 (43.6%)	0.04	77 (65.8%)	0.866	58 (49.6%)	0.99
Ropivacaine N=29	0 (0%)		10 (34.5%)		20 (69%)		14 (48.3%)	
Concentration of LA used for infusion								
0.25% N=12	1 (8.3%)	0.19	7 (58.3%)	0.05	8 (66.7%)	0.84	8 (66.7%)	0.472
0.125% N=113	6 (5.3%)		45 (38.8%)		76 (67.3%)		56 (49.6%)	
0.1% N=20	0 (0%)		8 (40%)		12 (60%)		8 (40%)	

patients required rescue analgesia. However, no association was found between pain scores and need for rescue analgesia with epidural site, dosing regime, LA and its concentration used for infusion.

Conclusions Intraoperative management of epidurals is an essential but overlooked component of perioperative pain management. Guidelines should be formulated for intraoperative epidural analgesic regimens to improve postoperative outcomes.

46 REGIONAL ANAESTHESIA WHERE YOU DON'T EXPECT: NEURAXIAL BLOCKADES FOR ENDOSCOPIC SUBMUCOSAL DISSECTION PROCEDURE (ESD)

[1]F Costa, [1]G Andrisani, [1]G Pascarella, [1]LM Remore*, [1]A Strumia, [1]F Gargano, [1]C Sebastiani, [1]S Mariapia, [2]R Del Buono, [1]FM Di Matteo, [1]FE Agrò. *[1]Università Campus Biomedico di Roma, Rome, Italy; [2]ASST Gaetano Pini, Milan, Italy*

10.1136/rapm-2021-ESRA.46

Background and Aims Endoscopic Submucosal Dissection (ESD) is an endoscopic procedure to remove gastrointestinal tumors [1]. It lasts 90 minutes or longer and general anaesthesia or deep sedation [2] are required to ensure comfort and immobility. Pain is evoked by intestinal insufflation and external compression manoeuvres. We evaluated the use of neuraxial blockades to perform colorectal ESD.

Methods With informed consent, we performed neuraxial blocks for five colorectal ESD. Spinal anaesthesia (SA) and combined spinal-epidural (CSE) anaesthesia at T11-T12 level with spinal bolus of 0,3% ropivacaine, 4 ml + fentanyl 20mcg. Epidural anaesthesia (EA) at T10-T11 level with bolus of 0,4% ropivacaine, 12 ml + fentanyl 50mcg. Data regarded: patient; procedure; anaesthetic technique; SpO2; NIBP; intraprocedural pain (NRS); additional sedation or analgesia; patient's and operator's satisfaction.

Results All patients were elder and had comorbidities.

Tumour site: 1 rectum; 2 descending colon; 2 ileocecal valve.

Procedure's duration: between 120 and 375 minutes.

Anaesthesia: 2 SA, 1 CSE; 2 EA.

SpO2: always stable between 97% and 100%.

NIBP: 2 episodes of mild hypotension were registered.

NRS: always 0; patients who received spinal anaesthesia complaint of abdominal pain after 200/240 minutes. They received additional IV fentanyl and deep propofol sedation.

Patients' and operators' degree of satisfaction: 4 or 5

Results are summarized in table 1.



Abstract 46 Figure 1

Abstract 46 Table 1

	PATIENT			TUMOR SITE	DURATION	ANESTHESIA	SpO2	NIBP	minutes after block						deep sedation	SFACTION (1-5)	
	AGE	GENDER	COMORBIDITIES		minutes		drops	drops	60	120	180	240	300	360		patient	operator
CASE 1	81	male	>3	descending	300	SPINAL	none	none	0	0	0	7	sed		after 240 min	4	4
CASE 2	73	male	3	rectum	375	SPINAL	none	10-20%	0	0	0	8	sed	sed	after 240 min	4	4
CASE 3	70	female	1	valve	265	EPIDURAL	none	>20%	0	0	0	0			none	5	4
CASE 4	66	male	2	valve	120	EPIDURAL	none	none	0	0					none	5	5
CASE 5	83	male	>3	descending	180	CSE	none	none	0	0	0				none	5	5

Conclusions Central neuraxial blocks could be alternative techniques for colorectal ESD procedures, especially for fragile patients [3]. Procedure duration could not be accurately predicted, thus continuous epidural or CSE, should be preferred. Research trials are needed to corroborate our thoughts.

47 INCIDENCE AND MANAGEMENT OF POST-DURAL PUNCTURE HEADACHE AND ACCIDENTAL DURAL PUNCTURE FROM AN ONCOLOGY HOSPITAL: A 5-YEAR RETROSPECTIVE ANALYSIS

S Dias, M Nunes Ferreira, J Oliveira*, S Serra, P Alves, M Gacio, L Miranda. *Instituto Português de Oncologia do Porto, Porto, Portugal*

10.1136/rapm-2021-ESRA.47

Background and Aims Accidental dural puncture (ADP) and post–dural puncture headache (PDPH) are epidural anaesthesia's complications. There's limited evidence in non–obstetric patients and no consensus management.

The aim of this study was to evaluate its incidence and approach in an institution where combined epidural-general anaesthesia is preferential.

Methods Retrospective analysis (SPSS V.26) was conducted of adult patients submitted to elective surgery with combined epidural-general anaesthesia and suffered ADP, april 2015–2020. Information about the patient's background, epidural procedure, PDPH management and clinical evolution was collected from clinical records.

Results 3237 patients have had a combined epidural-general anaesthesia, 31 suffered ADP (0,96%). 61,3% were female, 71% ASA II, mean age 59,61 years. 6 patients developed PDPH, 1 without previous ADP identification, resulting in an incidence of PDPH of 19,35%. This incidence was not statically different in patients in whom the catheter was resited (n=5) comparing to the ones that were not (n=1). All patients were treated conservatively, although not uniformly. The onset of headache was on average 48h (24–72h) postoperative and with an average duration of 48h (24–96h). 5 patients were submitted to prophylactic treatment for PDPH and only 1 developed PDPH; comparing to 5 in 26 that did not receive prophylactic treatment, although not statistically different. This study was approved by the Ethics Committee.

Conclusions The incidence of ADP and PDPH were lower than that reported in literature. Conservative treatment for PDPH was enough to manage this condition efficiently. The approach is not uniform, emphasizing the need of clinical protocol.

48 INTRAOPERATIVE INTRATHECAL MORPHINE FOR POSTOPERATIVE ANALGESIA IN OPEN ABDOMINAL HYSTERECTOMY FOR GYNECOLOGICAL MALIGNANCY

[1]D Costa, [2]I Rebêlo*, [2]F Resende, [2]A Saraiva. *[1]Hospital Dr. Nélio Mendonça, Funchal, Portugal; [2]Instituto Português de Oncologia de Lisboa Francisco Gentil, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.48

Background and Aims Open abdominal hysterectomy is one of the most performed oncological gynecological surgeries, with an expected moderate to high pain level.

The use of single shot intrathecal morphine (ITM) has an analgesic effect of up to 24h, with patients requiring fewer postoperative IV opioids.

The aim of this study is comparing the analgesic effects and adverse effects of ITM against IV morphine, in cancer patients submitted to open abdominal hysterectomy.

Methods Prospective observational study.

Data collection over a 1-year period.

Inclusion criteria comprised adults submitted to total or radical open abdominal hysterectomy, with total intravenous anaesthesia with intraoperative propofol and fentanyl. Patients with pre-induction ITM administration (100 to 300mcg) and postoperative analgesia with IV morphine patient controlled analgesia and paracetamol, were compared to a control group without spinal opioid.

Descriptive and comparative analysis for analgesic quality and adverse effects in the first 24 hour postoperative period was performed using SPSS software.

Results 36 patients were included in the ITM group and 44 in the control group. Comparative analysis found no significant association between ITM administration and lower static or dynamic pain scores. The ITM group had less PCA rescues ($p<0.001$) but a higher risk of postoperative vomiting (22% vs 2.2%, $p<0.01$).

Conclusions ITM administration resulted in significantly less PCA rescue, without perceived analgesic improvement compared with no ITM administration. Patients exhibited more side effects, such as nausea and vomit. Prescribing fixed antiemetics for the first 24 hours might be the best strategy to overcome these side effects.

49 COMPARISON OF ANTI-SHIVERING EFFECT OF INTRAVENOUS VERSUS INTRATHECAL TRAMADOL IN PATIENTS UNDERGOING LOWER LIMB SURGERY UNDER SPINAL ANAESTHESIA

EMohamed Abd El Azeem*, M Abdel-Ghaffar, SA Al-Touny. *Suez Canal University, Ismailia, Egypt*

10.1136/rapm-2021-ESRA.49

Background and Aims Shivering occurs in 40–60 percent of patients under spinal anaesthesia. (1)

Prophylaxis with intravenous tramadol produces a dose-dependent reduction in the incidence of shivering. (2) Tramadol is a common intrathecal adjuvant, safely used in a dose up to 20 mg. Few studies tested the anti-shivering efficacy of intrathecal tramadol. (3,4) However, no study compared the anti-shivering effect of intravenous versus intrathecal tramadol. Therefore, we conceptualized this trial to compare the anti-shivering effect of intravenous versus intrathecal tramadol.

Methods This study was a randomized, double-blinded clinical trial that included 86 ASA I & II patients divided into two equal groups. It included patients aged 18–65 years who undergone lower limb orthopedic surgeries; that lasted less than two hours under spinal anesthesia. Our institutional ethical committee approved the protocol and was registered at PACTR (trial ID: PACTR202007664590852). Patients were allocated randomly into control (IV) group and interventional (IT) group. The Control group received intrathecal 15 mg bupivacaine then IV tramadol 25 mg in 5 ml normal saline. The interventional group received 20 mg tramadol added to15 mg bupivacaine intrathecally then IV 5 ml normal saline.

The primary outcome was the incidence of intra-operative shivering which was assessed by Bedside Shivering Assessment Scale. [5]Patients who developed intraoperative shivering were given 25 mg IV tramadol.



Suez Canal University
Faculty of Medicine
Research Ethics Committee

Date: 10/5/2020

Dr: Eman Mohamed Abd El Azeem

Department: Anesthesia and Critical Care, Faculty of Medicine, Suez Canal University Hospital

Reference: Research 4062#

Thesis Title: ***Intrathecal Versus Intravenous Tramadol in Prevention of Post-Spinal Anaesthesia Shivering: Randomized Controlled Clinical Trial***

Dear Dr,

Thank you for your letter in (23/4/2020) to ask for the ethical clearance previously given for the above mentioned protocol.

We are pleased to confirm that the above mentioned protocol of thesis was for the partial fulfillment of Master degree in Anaesthesia and Critical Care for Eman Mohamed Abd El Azeem, under the supervision of Prof. Mohamed Emad El-Din Abdel-Ghaffar and Dr. Shimaa Ahmed Hamed El-Tonsy

The proposal of the above mentioned protocol was reviewed by the full board Committee at its meeting on (21/1/2020) and **the ethical clearance was given for that proposal.**

Yours sincerely,

Prof. Amani Waheed
Chair of Research Ethics Committee
Faculty of Medicine
Suez Canal University

11/5/2020

Mail address: Research Ethics Committee, Faculty of Medicine, Suez Canal University, Ring Road, Ismailia, Egypt. P.O. Box: 41522 E-mail: rec@med.suez.edu.eg
Phone: 064-3200789

Abstract 49 Figure 1

Abstract 49 Table 1 Patient characteristics of the two groups

Variables	Type of tramadol administration		p-value
	Intravenous tramadol (n=43)	Intrathecal tramadol (n=43)	
Age (years), mean ± SD	45.50 ± 11.53	48.07 ± 13.33	0.10[a]
Gender, n (%)			
Male	24 (56.5)	26 (60.4)	0.66[b]
Female	19 (43.5)	17 (39.6)	
Weight (Kg), mean ± SD	73.9 ± 12.3	79.3 ± 11.6	0.05[a]
Height (m), mean ± SD	168.1 ± 1.9	169.5 ± 1.07	0.06[a]
BMI (kg/m²), mean ± SD	29.37 ± 4.64	30.53 ± 5.37	0.26[a]
Incidence of shivering			
Absent N (%)	35 (81.4)	41 (95.4)	0.047**
present N (%)	8 (18.6)	2 (4.6)	

[a] p-values are based on Mann-Whitney U test. Statistical significance at P < 0.05
[b] p-values are based on Chi-square test. Statistical significance at P < 0.05
*Statistical significance at P < 0.05

Abstract 49 Table 2 Post-operative complications among the two groups

Variables	Type of tramadol administration		p-value
	Intravenous tramadol (n=43)	Intrathecal tramadol (n=43)	
Nausea			
Present	12 (27.9)	4 (9.3)	0.026[b]*
Absent	31 (72.1)	39 (90.7)	
Vomiting			
Present	4 (9.3)	2 (4.6)	0.39[b]
Absent	39 (90.7)	41 (95.4)	
Hypotension			
Present	2 (4.6)	3 (7)	0.21[b]
Absent	41 (95.4)	40 (93)	

[b] p-values are based on Chi-square test
* Statistical significance at P < 0.05

Results Shivering was observed in 8(18.6%) patients in intravenous group compared to 2(4.6%) patients in intrathecal group (P-value of 0.047).

Postoperative nausea occurred in 12(27.9%) patients in intravenous group versus 4(9.3%) patients in intrathecal group with a p-value of 0.026.

Conclusions Intra-thecal tramadol prevents post-spinal shivering without complications.

50 THE USE OF SHORT-ACTING SPINAL ANAESTHESIA TO IMPROVE RECOVERY IN COLORECTAL SURGERY

S Dean*, M Gorecha, M Pais, K Dasgupta, Z Aslam. *George Eliot Hospital NHS Trust, Nuneaton, UK*

10.1136/rapm-2021-ESRA.50

Background and Aims Colorectal surgery has evolved to laparoscopic procedures with long-acting spinal anaesthesia and intrathecal opiates over epidural anaesthesia [1]. This has become the standard for enhanced recovery programmes across the world with good post-op analgesia [2]. However, due to the longer duration of action of spinal bupivacaine, there are increased risks of hypotension, delayed mobilisation and urinary retention [3]. This case-series presents the use of a short-acting prilocaine spinal anaesthetic in combination with intrathecal opiates and abdominal wall blocks, which successfully provide sufficient analgesia whilst promoting enhanced recovery in laparoscopic colorectal surgery.

Methods Twenty patients undergoing laparoscopic colorectal surgery were included. These patients received 3 ml of intrathecal 2% hyperbaric prilocaine combined with 500micrograms of diamorphine combined with rectus sheath and transversus abdominis plane (TAP) blocks with 80 ml 0.125% levobupivacaine as part of the enhanced recovery protocol.

Results Intraoperatively, patients were observed to be more haemodynamically stable and post-operatively, all patients' blood-pressure readings had returned to pre-operative levels without the need for any vasopressor support. In the recovery area they were comfortable, with pain scores of 0, and were able to sit-up and ambulate faster without any vasovagal episodes.

Conclusions We have successfully shown that the action of prilocaine can be prolonged by the addition of multimodal analgesia including long-acting interfascial plane blocks. We suggest that it's use offers increased haemodynamic stability and earlier patient mobilisation post-operatively. This modified technique allows excellent long duration analgesia

without the side effects of a long-acting spinal block and makes it more favourable in modern enhanced recovery programmes.

51 HEMODYNAMIC STABILITY BETWEEN SPINAL AND GENERAL ANAESTHESIA IN PATIENT UNDERGOING PRIMARY TOTAL KNEE ARTHROPLASTY: A RETROSPECTIVE STUDY

[1]T Jeandin*, [1]E Albrecht, [2]J Wegrzyn, [1]M Cachemaille. *[1]Department of Anaesthesia, Lausanne University Hospital and University of Lausanne, Lausanne, Switzerland; [2]Department of Orthopaedics and Traumatology, Lausanne University Hospital and University of Lausanne, Lausanne, Switzerland*

10.1136/rapm-2021-ESRA.51

Background and Aims Total knee arthroplasty is a very common surgical procedure in daily practice and its number is constantly increasing. Some studies have reported that general anaesthesia was associated with greater hemodynamic instability, but this paradigm has since been disputed. The aim of this study is to evaluate intraoperative hemodynamic stability during total knee arthroplasty according to the type of anaesthesia. The hypothesis is that hemodynamic stability is better preserved during spinal anaesthesia (SA) compared to general anaesthesia (GA).

Methods Adults undergoing primary total knee arthroplasty were retrospectively selected over a period of 10 years. Primary outcome was the presence of a hemodynamic instability defined by a norepinephrine infusion started when the variation of patient's blood pressure exceeded 30% of its baseline value for more than 5 minutes. Secondary outcomes included mean intraoperative dose of ephedrine, mean blood loss, and mean volume of fluid administered. Demographic data and anaesthetic strategy were extracted. Patients receiving SA versus GA were compared for the different variables.

Results Demographic data are displayed in table 1. Patients under SA received less ephedrine ($p<0.0001$), less infusion of norepinephrine ($p<0.0001$) and less intraoperative fluids ($p<0.0001$) than patients under GA, while blood loss was similar between groups ($p=0.29$) (table 2).

Abstract 51 Table 1 Baseline characteristics of all patients according to the Anaesthetic Strategy. (Data presentation either by the absolute number and its percentage for categorical values (Pearson test) or by the mean and the 95% confidence interval for continuous values (Student test))

	General Anaesthesia (n=685, 41.0%)	Spinal Anaesthesia (n=984, 59.0%)	Total (n=1669, 100.0%)	p-value
Sex				
Female	446 (64.9)	555 (56.5)	1001 (60.0)	
Male	241 (35.1)	427 (43.5)	668 (40.0)	0.0006
Age [years]	69,	70,	69,	
	68–69	69–70	69–70	0.02
Height [cm]	165,	167,	166,	
	165–166	166–167	166–167	0.21
Weight [kg]	82,	83,	83,	
	81–83	82–84	82–83	0.32
BMI [kg/m²]	30,	30,	30,	
	30–30	29–30	30–30	0.68
ASA class				
I	28 (4.1)	52 (5.3)	80 (4.8)	
II	469 (68.3)	631 (64.3)	1100 (65.9)	
III	189 (27.5)	297 (30.2)	486 (29.1)	
IV	1 (0.2)	3 (0.2)	3 (0.2)	0.34
Nervous Block				
No	25 (3.6)	9 (0.9)	34 (2.0)	
Yes	660 (96.4)	975 (99.1)	1635 (98.0)	<0.0001
Surgical infiltration				
No	532 (77.7)	564 (57.3)	1096 (65.7)	
Yes	153 (22.3)	420 (42.7)	573 (34.3)	<0.0001

Abstract 51 Table 2 Intraoperative data according to the Anaesthetic Strategy. (Data presentation either by the absolute number and its percentage for categorical values) Pearson test) or by the mean and the 95% confidence interval for continuous values (Student test))

	General Anaesthesia (n=685, 41.0%)	Spinal Anaesthesia (n=984, 59.0%)	Total (n=1669, 100.0%)	p-value
Norepinephrine infusion				
No	615 (89.8)	947 (96.2)	1562 (93.6)	
Yes	70 (10.2)	37 (3.8)	107 (6.4)	<0.0001
Total Ephedrine dose [mg]	31,	19,	25,	
	30–33	18–20	24–26	<0.0001
Intraoperative blood loss [mL]	416,	402,	408,	
	397–436	386–419	395–421	0.29
Intraoperative fluid income [mL]	866,	734,	789,	
	842–891	715–753	773–804	<0.0001

Conclusions Patients under SA have a better intraoperative hemodynamic stability, as they required less vasopressors than patients under GA.

52 LOSS OF CONSCIOUSNESS WITHOUT HEMODYNAMIC AND RESPIRATORY DISTURBANCES FOLLOWING SPINAL ANESTHESIA FOR CESAREAN SECTION: A CASE REPORT

AAGPS Jaya*, AR Tantri, P Pryambodho. *Universitas Indonesia/Dr. Cipto Mangunkusumo Hospital, Department of Anesthesiology and Intensive Care, Faculty of Medicine, Jakarta Pusat, Indonesia*

10.1136/rapm-2021-ESRA.52

Background and Aims Cesarean section is commonly performed under spinal anesthesia, as it is simple, rapid, safe, effective, and maintains maternal awareness. Total spinal anesthesia is a known complication manifested by loss of consciousness, severe bradycardia, hypotension, and respiratory arrest. We describe a case of an unconscious event following spinal anesthesia in the presence of stable hemodynamic and respiratory function.

Methods 21-year-old parturient, 150 cm, 60 kg, 40–41 weeks of gestation, primigravida, and premature rupture of membrane, scheduled for cesarean section. The patient was assessed with physical status ASA 2 (pregnancy), without any other medical illness. Spinal anesthesia was performed uneventfully, using a 27G spinal needle, at L3/L4 interspinous space, paramedian approach, with the patient in the left lateral decubitus position. Bupivacaine 0.5% heavy 12.5 mg was administered after cerebrospinal fluid flow was confirmed.

Results When obstetrician would make an incision, approximately 5 minutes following spinal anesthesia, the patient was unresponsive, and her pupil dilated. Hemodynamic status was stable, and no respiratory depression was observed. There were no complaints before the loss of consciousness. Supportive management was done, and the patient regained consciousness one and a half-hour after spinal anesthesia. The rostral spread of inadvertent injection of local anesthetics into subdural space is speculated.

Conclusions Loss of consciousness following spinal anesthesia in non-sedated patients with stable hemodynamic and respiratory function is uncommon, but it should be considered, and resuscitation equipment must always be available. When recognized, supportive treatment, especially airway management, is needed until patient regains consciousness, in accordance with the local anesthetic duration of action.

53 PREDICTING EPIDURAL SPACE SPREAD USING ULTRASOUND COLOR DOPPLER IMAGING IN INTERLAMINAR EPIDURAL STEROID INJECTION: A PROSPECTIVE OBSERVATIONAL STUDY

YJ Kim*, H Kim, H-J Kim, WU Koh. *Asan Medical Center, Seoul, Korea, Republic of*

10.1136/rapm-2021-ESRA.53

Background and Aims While the use of fluoroscopy-guided transforaminal epidural steroid injection (TFESI) to help spread the injectate toward the ventral side has increased, this procedure entails a radiation risk. Recently, ultrasound has been widely applied in the medical field; among ultrasound methods, color Doppler is useful for predicting the direction of the injectate. This study describes a novel technique employing color Doppler to help predict epidural space spread in interlaminar epidural steroid injection (ILESI).

Methods This observational study prospectively enrolled 35 patients scheduled for lumbar epidural steroid injection (ESI). Ultrasound-guided epidural injection was conducted and real-time images using color Doppler were recorded during injections of 5 mL of 0.1% ropivacaine containing contrast dye with dexamethasone. Fluoroscopy-guided TFESI was performed if it was difficult to perform the procedure based on ultrasound images.

Results The analysis included 30 images from 30 patients. The observed sensitivity, specificity, positive predictive value, and negative predictive values of the ultrasound color Doppler were 100%, 89.5%, 84.6%, and 100%, respectively. The agreement with ultrasound color Doppler was 93.3%.

Conclusions The main advantage of ultrasound-guided ILESI is the lack of radiation exposure and contrast medium requirement. Color Doppler may be a reliable imaging modality to predict epidural space spread during ultrasound-guided ILESI. It is worth predicting the spread in the anterior epidural space (AES) by first attempting ultrasound-guided ESI. If the injectate has not spread to the AES, fluoroscopy-guided TFESI may be a good option after confirming the improvement of the patient's symptoms.



Abstract 53 Figure 1

54 LOW-DOSE, OPIOID-FREE SUBARACHNOID BLOCK AND US-GUIDED SUPRAINGUINAL FICB AS AN ANAESTHETIC/ ANALGESIC TECHNIQUE IN PATIENTS WITH ASYMPTOMATIC, MILD TO MODERATE AORTIC STENOSIS UNDERGOING HIP FRACTURE SURGERY

H Abrahams*, R Matos-Puig. *GJGM Regional Hospital, Stanger, South Africa*

10.1136/rapm-2021-ESRA.54

Background and Aims Aortic Stenosis (AS) is a relatively common valvular lesion in patients over 75.The significant risks associated with surgery may be mitigated by choice of anaesthetic technique and careful perioperative planning. Haemodynamic goals broadly aim to avoid hypotension and tachycardia and to preserve coronary perfusion pressure and systemic vascular resistance. Neuraxial blockade is traditionally taught to be a (relative) contraindication in this particular group of patients.

Aim: To assess perioperative pain scores and intraoperative hypotension after a technique comprising a low-dose, slow-titrated SAB and US-guided SIFI FICB in patients with mild-moderate disease as evidenced on TTE undergoing hip fracture surgery.

Methods IRB was obtained.

8 patients were enrolled prospectively over 6 months (Nov 2019 – April 2020)

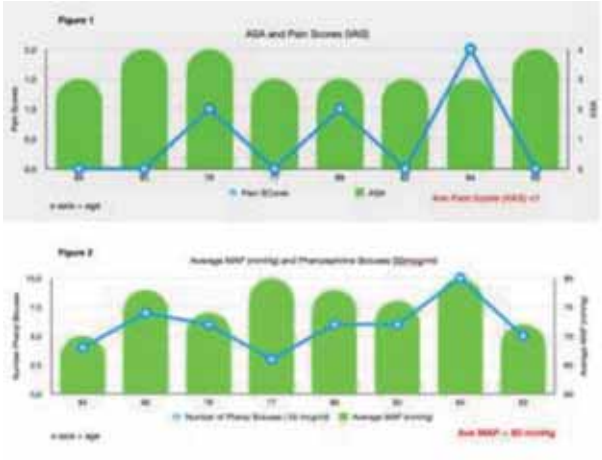
All patients had a preoperative TTE to categorise disease severity.

Invasive arterial monitoring was instituted preoperatively in all patients.

US-guided SIFI FICB followed by a SAB (25G pencil point needle) was performed.

(30 ml 0.25% isobaric Bupivicaine and 7.5 mg hyperbaric Bupivicaine x 1 min, respectively).

No opioids were used.



Abstract 54 Figure 1

Vasopressor boluses (Phenylephrine 50 mcg/ml) were administered if the MAP dropped by 10% of the initial value.

The number of bolused episodes was recorded.

All patients received an IV balanced crystalloid (10 ml/kg) at SAB insertion, followed by an infusion.

Pain scores (VAS) were documented perioperatively.

Results Conclusions

1. Slowly titrated, low–dose SAB in elderly patients with mild–moderate, asymptotic AS did not develop precipitous hypotension.
2. MAP was relatively easily maintained with boluses of Phenylephrine (50mcg/ml).
3. US–guided SIFI FICB is an effective analgesic adjunct.

55 CONTINUOUS SPINAL ANESTHESIA FOR OPEN CHOLECYSTECTOMY: CUSTOMIZED ANAESTHETIC MANAGEMENT IN A CHALLENGING PATIENT

C Lopes*, D Zuzarte, M Correia. *Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.55

Background and Aims Continuous spinal anesthesia (CSA) provides fast onset titratable neuroaxial block. In the context of upper abdominal surgery on patients with acute respiratory disease offers minimization of respiratory complications and ensures adequate anaesthetic conditions.

We aim to present a CSA for open cholecystectomy in a patient with multiple neurological deficits and acute pneumonia.

Methods 60 years-old woman, 40 kg, 152 cm. Past history of rickets having severe skeletal deformation; hypertension; status post cerebellar tumor resection with multiple sequelae: loss of visual and auditory acuity, dysphagia, dysphonia, respiratory insufficiency and ventriculoperitoneal shunt. Admitted for urgent open cholecystectomy having alongside acute pneumonia with pleural effusion. Laboratory tests and current medication posed no contraindication to spinal anesthesia.

Spinal catheter 20G was introduced through 18G tuohy needle at L3-L4 level. On supine position the adequate block level was achieved using bed tilting and sequential doses of hyperbaric bupivacaine (total of 10 mg) and sufentanil (total of 10 mcg). During the 1h procedure there was no need for sedation. The spinal catheter was removed on the operatory room (OR) after a morphine 100 mcg administration. Neither respiratory nor regional anesthesia complications were reported on the postoperative period.

Results Although a CSA in this patient was a challenge we considered that the benefits exceeded the risks and surpassed limitations of other techniques. The anaesthetic plan was sustained by careful communication with the patient and strict collaboration of the surgical team.

Conclusions CSA allowed a safe and effective management during the intraoperative period and optimized the postoperative recovery.

56 TEMPORARY MENINGEAL SYMPTOMS AFTER EPIDURAL BLOOD PATCH

E Oreshnikov*, S Oreshnikova, L Kashaeva. *Chuvash State University, Cheboksary, Russian Federation*

10.1136/rapm-2021-ESRA.56

Background and Aims Post-puncture headache – an unpleasant rare event. Associated with epidural and spinal anesthesia. With epidural anesthesia, its cause is an unintentional puncture of the inner leaf of the dura mater. With spinal, intrathecal puncture itself.

Methods 20 years of experience in post-puncture headache in a maternity hospital (~ 200 observations), associated with epidural analgesia in childbirth.

Results Almost 100% of observations – unintentional puncture of the inner leaf of the dura mater with an epidural needle. Manifests 6–18 hours after removal of the epidural catheter. In less than 50% of cases amenable to conservative treatment. Classical triad (bedrest, hydration, tylenol) – temporary unstable relief. Most have an epidural blood patch. In case of refusal, contraindications for filling, strict adherence to bed rest for 10–14 days. A single epidural blood patch with autoblood with a volume of 10–20 ml in almost 100% permanently relieves a headache. Repeated epidural autologous blood filling is required only in 1–2% of cases. In 1–2% of our cases of epidural blood patch, we observed short-term, up to 3–5 days, development of meningeal symptoms, in particular, pronounced occipital rigidity against the background of complete disappearance of positional headache. This occipital stiffness looks quite frightening, but usually practically does not bother patients and regresses spontaneously by 5 days after a blood patch.

Conclusions A possible explanation for the development of meningeal symptoms immediately after an epidural patch is the ingestion of a small amount of autologous blood into the subarachnoid space, followed by irritation of the dura mater.

57 CONTINUOUS SPINAL ANESTHESIA FOR KIDNEY TRANSPLANTATION IN SEVERE MITRAL REGURGITATION LUPIC PATIENT

[1]A Almeida Pires*, [1]M Jesus Correia, [2]J Sousa. *[1]Department of Anesthesiology, Centro Hospitalar de Lisboa Ocidental EPE, Lisboa, Portugal; [2]Department of Cardiology, Centro Hospitalar de Lisboa Ocidental EPE, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.57

Background and Aims Anesthesia for kidney transplant on a patient with severe mitral regurgitation is a true challenge since a judicious hemodynamic management is needed to avoid pulmonary edema and ensure optimized reperfusion of the transplanted organ. A 49-year-old Caucasian female with chronic severe mitral regurgitation was scheduled for urgent kidney transplant due to end-stage renal disease caused by lupus nephritis.

Methods We performed the first described continuous spinal anesthesia in a patient with chronic severe mitral regurgitation undergoing cadaver donor kidney transplant. Echocardiography and seriated blood gas analysis were monitored.

Results Cardiac output monitoring confirmed absence of impaired ventricular function or worsening of mitral regurgitation during the installation of subarachnoid block. We used a total of 10 mg bupivacaine and 10 mg sufentanyl and had no need of vasopressor use during block installation and all the intra-operative period. No sedation was administered.

Conclusions Continuous spinal anesthesia provides potential advantages over other forms of neuraxial anesthesia, since low doses of local anesthetic could be titrated during all the

surgical procedure with minimal hemodynamic impact, ensuring a reliable block with quick onset and low risk of local anesthetic toxicity. In the case allowed adequate hemodynamic management to avoid mitral regurgitation deterioration and optimize graft perfusion. Continuous spinal anesthesia was suitable for the surgical procedure and contributed to an individualized management essential to the outcome of the patient.

58 AGAINST ALL ODDS: EPIDURAL HAEMATOMA IN A MINOR HEPATIC METASTASECTOMY

S Pereira*, H Gouveia, S Nunes, M Luís. *Hospital Dr. Nélio Mendonça, Funchal, Portugal*

10.1136/rapm-2021-ESRA.58

Background and Aims Epidural analgesia (EA) in patients undergoing liver resection remains controversial because of the increased risk of epidural haematoma (EH), although extremely rare [1]. We report a case of EH in a patient submitted to a hepatic metastesectomy, after EA.

Methods A 71-year-old, diagnosed with metastatic cholangiocarcinoma and previously submitted to cephalic pancreatoduodenectomy, was admitted for elective metastasectomy (2×3 centimeters). Her history included hypertension on bisoprolol and chemotherapy two years previously. Preoperative assessment revealed minor changes, as described in table 1. The patient consented a combination of EA with general anaesthesia and a lower thoracic epidural catheter (T9-T10) was uneventfully placed.

Results A two-hour surgery was performed successfully, with insignificant blood loss. On postoperative day 2, the patient underwent emergent reintevertion due to severe hemoperitoneum but no vascular bleeding point was detected and therefore, coagulopathy was assumed. After transfusion of 3 units of fresh frozen plasma (FFP) and 1 platelet concentrate (PC), haemorrhage resolved and the epidural catheter was removed the next day, considering a 12 hour interval since the last administration of prophylactic enoxaparin. 18 hours later, the patient presented with severe lumbar and inferior limb pain and paraparesis. A CT scan revealed an EH from T8-T10, and emergent laminectomy was performed. 1 PC, 4 FFP and 1000U of prothrombin complex concentrate were administered, ROTEM guided. After several months of rehabilitation, the patient managed to walk unassisted.

Conclusions Despite following every recommendation for epidural catheter handling, masked coagulopathy can prevail and thus a high level of EH suspicion should always subsist.

Abstract 58 Table 1 Perioperative coagulation and liver function tests

Table 1

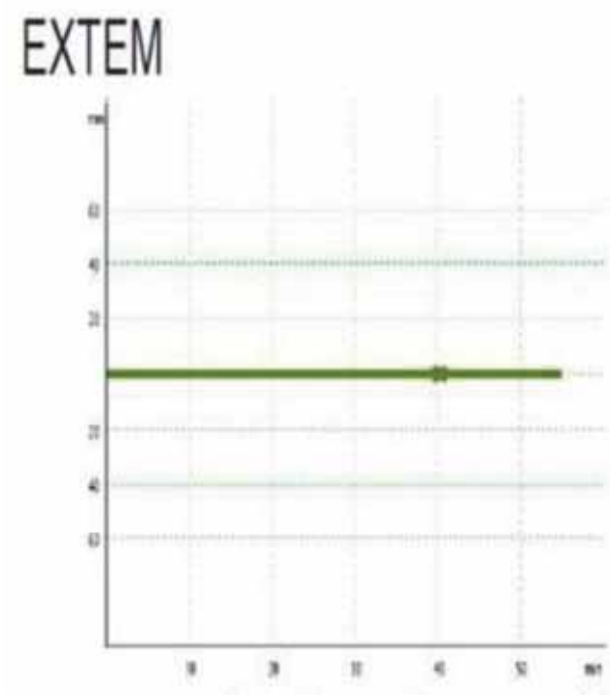
Perioperative coagulation and liver function tests

	Preoperative	1POD	2POD*	3POD
PT (s)	13.6	17.1	14.7	15.7
INR	1.16	1.47	1.26	1.35
Platelet ($\times 10^9$/l)	108	91	92	77
Albumin (g/l)	45.2	25.8	26	26.1
ALT (µ/l)	69.4	103	79	68.4
ALP (µ/l)	56.6	103.8	66.8	46.7
Bilirubin (mg/dl)	0.7	0.73	1.15	0.77

POD – postoperative day
*Day of catheter removal



Abstract 58 Figure 1 Thoracic and lumbar CT scan. A hyperintense lesion displacing the cord anteriorly at T8-T10



Abstract 58 Figure 2 ROTEM® Thromboelastometry showing no activation of dot formation in EXTEM

59 CONTINUOUS SPINAL ANESTHESIA – A NEWBORN TECHNIQUE FOR TIMES OF NEED?

S Carneiro Moreira, I Neri*, R Silva. *Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal*

10.1136/rapm-2021-ESRA.59

Background and Aims Described during World War II, continuous spinal anesthesia (CSA) enables continuous administration of intrathecal drugs, offering several anesthetic options versus single shot technique, although underutilised.

Here we present 4 cases of CSA performed for patients undergoing urgent upper abdominal and lower extremity orthopedic surgery during the COVID-19 pandemic. Our patients were ranked between 90–100 years old with ASA score IV, in which we highlight the presence of ischemic heart disease and chronic obstructive pulmonary disease.

Methods Invasive hemodynamic measurement was performed before CSA technique. Given the lack of microcatheter-over-the-needle kits in our center, we performed the technique using Perifix® Complete Set – B Braun, with full aseptic technique. The 18G Tuohy needle was introduced via a midline approach until CSF was encountered. The 20G catheter was then introduced 3cm into the subarachnoid space. In all situations we opted for the administration of sufentanil 0.0025 mg plus subsequent aliquots of hyperbaric bupivacaine 0.125%, guided by sensory assessment of block level.

Results All surgeries were successfully concluded with minimal haemodynamic variation and avoidance of mechanical invasive ventilation. Patients were admitted in the PACU, where spinal catheters were removed, and continued their recovery at the speciality yard. No complications were observed, particularly post-dural puncture headache, neurologic or infectious events.

Conclusions CSA is a useful anesthetic technique with a low failure rate. Its best role is likely to be in high-risk surgical patients, as it can provide excellent blockade conditions, with small doses of LA and little haemodynamic variation frequently seen with single shot techniques.

60 PRILOCAINE AND CHLOROPROCAINE SPINAL ANAESTHESIA IN FRACTURED NECK OF FEMUR SURGERY

[1]J Finnity*, [1]M Gorecha, [2]R Erskine. *[1]George Eliot Hospital, Nuneaton, UK; [2]University Hospitals of Derby and Burton, Derby, UK*

10.1136/rapm-2021-ESRA.60

Background and Aims Spinal anaesthesia using bupivacaine with opioids is commonly used in fractured neck of femur surgery(1,2). However this often results in a prolonged sympathetic block in the elderly causing significant hypotension which may require vasopressor support. Newer local anaesthetic agents such as prilocaine and chloroprocaine are already successfully used in elective orthopaedics and offer better cardiovascular stability with faster recovery(3,4). We decided to assess the suitability of these newer agents in neck of femur surgery and review its outcomes.

Methods 200 patients having fractured neck of femur surgery were given spinal anaesthesia using either 2% prilocaine or 1% 2-chloroprocaine for Hemiarthoplasty or Dynamic hip screw respectively. An additional femoral/lat. cutaneous nerve/fascial iliaca block was performed at the start to allow patient positioning and provide an adjunct to increase the surgical operating time along with propofol sedation.

Results All patients had their surgery successfully without any conversions to general anaesthesia. We observed better cardiovascular stability intraoperatively and in recovery the blood pressure recording had returned to preoperative levels without any vasopressor support allowing faster recovery and discharge to the ward.

Conclusions We have shown that shorter acting spinal anesthetics can be used in neck of femur surgery successfully when combined with nerve blocks. But more importantly these agents offer significant advantages over bupivacaine by providing better heamodynamic stability and faster recovery whilst also avoiding hypotension once the patient has left the recovery area. More research is desperately needed to identify if these agents could improve mortality and if they should be adopted into international guidelines.

61 VASOVAGAL SYNCOPE RELATED TO PAIN PROCEDURES IN A PAIN CLINIC AT A TERTIARY LEBANESE HOSPITAL BETWEEN 2016 AND 2019

[1]S Chamandi*, [2]S Kamar, [2]S Hallit. *[1]CHUNDS, Byblos, Lebanon; [2]Holy Spirit University of Kaslik, Jounieh, Lebanon*

10.1136/rapm-2021-ESRA.61

Background and Aims A vasovagal reaction is a common cardiovascular complication that can occur during an interventional procedure. Our study focuses on evaluating the factors associated with vasovagal syncope (VVS) when having a pain procedure at the pain clinic as well as showing variation in vital signs associated with fainting across different periods of the procedure(before, during and after).

Methods A retrospective case control study was conducted in a university hospital in Lebanon (CHU-NDS) on adult Lebanese patients with data taken from the archives covering a 4 year period (2016–2019). It included 188 patients: 94 cases representing all the ones who had endured a VVS or


Ethics Committee

To: Mrs Sarah KAMAR

Date: 10/12/2020

Study Title: "vasovagal syncope related to pain procedures in a pain clinic at a tertiary lebanese hospital between 2016 and 2019".

Dear Mrs Sarah KAMAR,

CHU-Notre Dame des Secours Institutional Review Board, which operates according to ICH-GCP guidelines, has reviewed and approved the study titled " vasovagal syncope related to pain procedures in a pain clinic at a tertiary lebanese hospital between 2016 and 2019 " in her meeting held on December 10, 2020.

The list of members of the Ethics Committee that were present in the meeting is attached as next letter. The Principal Investigator is not a member of this committee.

Best regards,

Name & prenom: Father Dr Joseph KHOURY, Ethics Committee Chairperson.

Signature:

Date: 10/12/2020

COMITE D'ETHIQUE

Abstract 61 Figure 1

presyncope related to a pain procedure during this timeframe and 94 controls with matching demographic features.
Results The multivariable analysis showed that a higher systolic blood pressure per-procedure was significantly associated with lower odds of having vasovagal syncope.

An adequate dose of a vasopressor like ephedrine can be used to prevent a vasovagal event from happening.

In our study the blood pressure component was more significant than the heart rate component which stayed in the normal range limit in the three different periods of the procedure.

Cases having a pain procedure for the first time represent 59.6% of the occurrence of VVS.
Conclusions Enduring an interventional procedure combines both physiological and psychological challenges. Our study suggests taking preventive measures for patients with first time infiltration status especially if appearing in an anxious state.

62 POSTOPERATIVE NEUROLOGIC LESIONS: WHO'S THE ONE TO BLAME?

[1]A Vasconcelos Pereira, [1]R Rodrigues Oliveira*, [2]R Santa Bárbara, [1]BAguiar Tavares da Silva. *[1]Hospital Vila Franca de Xira, Vila Franca de Xira, Portugal; [2]Centro Hospitalar do Oeste, EPE, Hospital de Torres Vedras, Torres Vedras, Portugal*

10.1136/rapm-2021-ESRA.62

Background and Aims Etiologic evaluation of postoperative neurologic lesions after regional techniques can be challenging. We present a case of a neurologic lesion after a gynecologic procedure under combined epidural and general anesthesia.
Methods Forty-one-year-old female, ASA I, scheduled for abdominal hysterectomy. Epidural catheter was placed before surgery at L3-L4: linear and atraumatic technique, without pain/paresthesia and a negative 0.375% ropivacaine test dose. The surgery lasted 2h in supine position. Gosset retractors were used.

In postoperative care unit, a 0.2% ropivacaine bolus (10 ml) was performed and 0.16% ropivacaine epidural perfusion (5.2 ml/h) was connected. Motor block at discharge: Bromage II.
Results Twenty-four-hours after surgery epidural perfusion was stopped due to proximal right inferior limb paresthesia and hemiparesis. These complaints persisted and a formal neurological evaluation was performed, documenting decrease segmental strength and allodynia at L3-L4 distribution and hypoesthesia at L5 dermatome.

Radiologic evaluation (head/lumbar spine CT and MRI) excluded acute complications. Electromyography revealed decreased motor response on right femoral nerve territory: absent motor activity on vastus-medialis and rectus-femoris muscles; mild signs of active denervation.

Physical rehabilitation resulted in progressive improvement of motor deficit. Two months after, hypoesthesia of L2-L4 territory persisted.
Conclusions Radiculopathy is a complication of 2.19/10000 epidurals. It can be a consequence of mechanical lesions or neurotoxicity. With a linear epidural technique and normal imaging, the first seems unlikely, but neurotoxicity cannot be excluded. On the other hand, the use of static retractors can cause mechanical or ischemic femoral nerve lesions. Regardless of the etiology, early recognition and implementation of motor rehabilitation programs are crucial.

63 COMBINED THORACIC SPINAL EPIDURAL ANESTHESIA FOR LAPAROSCOPIC SLEEVE GASTRECTOMY; ONE HUNDRED CASES EXPERIENCE

[1]W Sultan*, [2]MD Sarhan. *[1]Menoufia University, Faculty of Medicine, Shebeen Elkoom, Egypt; [2]Cairo University, Kasr Alainy Medical School, Cairo, Egypt*

10.1136/rapm-2021-ESRA.63

Background and Aims Obesity is a growingly impacting human health. Laparoscopic sleeve gasterectomy is one of successful management procedures for morbid obesity. However, general anesthesia (GA) used in this major surgery has its documented drawbacks in such patients with high risk. Combined thoracic spinal epidural anesthesia (CTSEA), a modern regional anesthesia procedure, has the advantages of both spinal and epidural anesthesia, with the avoidance of their shortcomings. Aim of the study:This study is a case experience to assess the feasibility of CTSEA as an anesthesia option for LSG.
Methods 100 patients recruited for LSG as amanagement procedure of morbid obesity were performed under CTSEA. Perioperative events, functional parameters and patients satisfaction scores were recorded
Results Our study showed successful use of CTSEA in 91% of the patients, one patient (1%) was converted to GA due to severe pain and anxiety. Few adverse events occurred, and they were managed accordingly. Satisfaction score revealed that 94% of the patients were satisfied.
Conclusions CTSEA was successful anesthetic alternative procedure for LSG surgery.

64 PNEUMOCEPHALUS A RARE COMPLICATION AFTER COMBINED SPINAL EPIDURAL ANAESTHESIA

A Garg*. *Dr BSA Hospital, Delhi, India*

10.1136/rapm-2021-ESRA.64

Background and Aims Aim – Discuss a case report of pneumocephalus which is a rare complication after combined spinal epidural anaesthesia (CSE). Background – A 21 years old female P2L2 presented with complaint of abdominal pain. NCCT Abdomen suggested that intrauterine copper containing device (CuT) is in pelvic cavity not in uterine cavity. She was diagnosed with misplaced CuT and planned for laparotomy under CSE anaesthesia.
Methods We retrospectively reviewed a case of a 21 years old female P2L2 with misplaced CuT and planned for laparotomy under CSE anaesthesia. Intraoperatively she was prepared for CSE in sitting position in L3-L4 space. Epidural space was identified with loss of resistance to air in syringe method. On puncture of dura with spinal needle patient started complaining of a sudden severe headache and vomiting. Procedure was abandoned and deferred for post evaluation.
Results Post operatively in CT head subdural air collection was seen in bilateral frontal right more than left with extension into falx, multiple air pockets in left side of cerebellar left temporal and bilateral occipital and parietal region suggestive of pneumocephalus.
Conclusions Pneumocephalus is a rare complication after CSE. The possible entry of air in subarachnoid space by displacement of epidural needle from epidural space to subarachnoid space could be while checking loss of resistance through air in syringe method or when spinal needle was inserted through epidural needle or when the stylet had been withdrawn from

spinal needle. The appearance of neurologic symptoms like sudden headache in patients undergoing epidural or spinal anaesthesia suggests the possibility of pneumocephalus.

65 TAYLOR´S APPROACH TO SUBARACHNOID BLOCK IN AN ELDERLY PATIENT: A SOLUTION AFTER FAILED CONVENTIONAL APPROACH

D Gonçalves, D Roriz*, F Teixeira, JM Cardoso, AP Pereira, C Sampaio. *Centro Hospitalar Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.65

Background and Aims The execution of spinal anesthesia in elderly patients can be difficult due to several anatomical degenerative alterations.

Taylor's approach for neuraxial anesthesia is a safe, yet rarely used, alternative with a high success rate and might be useful specially in elderly.

Methods A 92-year-old female patient, ASA III, was scheduled for an urgent dynamic hip screw after left trochanteric fracture. After obtaining informed consent, an ultrasound-guided fascia Iliaca block was performed with 30 ml of 0,25% Levobupivacaine.

Subarachnoid block, using 27G and 25G Quincke® needle, with the median and paramedian approach was attempted unsuccessfully by two anesthetists at the level of L2-L3, L3-L4 and L4-L5 as the needle hit bone in all directions.

We decided one last attempt using Taylor's approach and the spinal needle was inserted in a cephalo-medial direction, 1 cm medial and 1 cm caudally to the Posterior Superior Iliac Spine, the L5-S1 space was targeted and cerebrospinal fluid was obtained.

Results A satisfactory spinal block was achieved, which allowed surgery to proceed without complications. Patient´s hemodynamics were stable throughout the entire procedure and no adverse events were registered in the intraoperative nor postoperative period.

Conclusions The L5-S1 intervertebral space is usually the biggest one and targeting it (Taylor's approach) might be useful in patients with degenerative changes as it may present an easier way to reach the subarachnoid space.

66 SPINAL ANESTHESIA IN LAPAROSCOPIC CHOLECYSTECTOMY IN A PATIENT WITH CONGESTIVE HEART FAILURE WITH REDUCED EJECTION FRACTION

N Jargalsaikhan*, B Shiiter, U Ganbaatar. *The Third State Central Hospital, Ulaanbaatar, Mongolia*

10.1136/rapm-2021-ESRA.66

Background and Aims Laparoscopic cholecystectomy (LC) is relatively common procedure which is generally performed under general anesthesia. However in some specific cases, regional anesthesia can be considered as a good choice for patients who are poor candidates for general anesthesia due to comorbidities. In this case we present laparoscopic cholecystectomy under spinal anesthesia successfully performed in patient with anesthetic problems include HFrEF and COPD

Methods A 68-year old, ASA III male patient underwent laparoscopic cholecystectomy. He had been diagnosed COPD, and heart failure with ACC/AHA stage III, NYHA score IIIa. He is former smoker and overweighed. He had coronary revascularization 10 years ago. In echocardiography septal hypokinesia, left ventricle dilation with 3,8*1,6 cm thrombus in anterior wall of left ventricle. EF was 33%. On ECG heart rate was 78 bpm with Q wave and negative T wave on V3-V6 leads. Cardiology consultation reported a postoperative risk of 7% based on modified Goldman cardiac risk criteria.



Abstract 66 Figure 1

Results Upon arrival at the operating room routine monitoring was established. Patient sat upright position and 27G spinal needle was used to enter the subarachnoid space at the T10-T11 intervertebral space under complete aseptic technique. Hyperbaric bupivacaine 0.5% 2 ml, 0.005% 0.4 ml was injected so that a sensory loss up to T3 dermatome was achieved. LC was smooth and uneventful

Conclusions Patients with very low EF% are considered to be high risk for general anesthesia due to irregular heartbeat. Spinal anesthesia can be safe anesthetic method to be used in patient with advanced cardiopulmonary disease by experienced and qualified anesthesiology team.

67 SUBARACNOID BLOCK WITH LUMBAR ULTRASOUND IN GERIATRIC PATIENTS: PRELIMINARY STUDY RESULTS

AS Sahin*, S Özkan, A Temizyürek. *SBU Kanuni Sultan Suleyman Education and Training Hospital, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.67

Background and Aims We aimed to evaluate the benefit of lumbar ultrasonography in predicting the needle depth before the block and determining the most appropriate entry point in geriatric patients.

Methods Twenty geriatric patients who were to undergoTUR-P/M operation with subarachnoid block were received to study after hospital ethics committee. Lumbar ultrasonography was performed to determine the L3-L5 interspinous space by same anesthesiologist in sitting position. The distances between skin-subdural distance were measured in both sagittal and transverse planes. The distance reached by needle after procedure and the duration of procedure were measured.

Results The mean age of the patients was 69.4, height 166.1 cm, and weight 73.9 kg. Thirteen were men and seven were women. Twelve patients with ASA-II, 8 patients with ASA-III. The probe was used as transverse in half of the patients and sagittal in half. The procedure time was 3.3, the distance measured by USG was 5.09cm, and the applied needle distance was 5.66cm. The results were considered to be correlated between the distance measured by USG and the distance measured with the needle. There was no difference between

the groups between transverse and sagittal use in terms of procedure time, distance measured by USG and applied needle. It was found that the distance measured by USG was approximately 1 cm lower than the needle measurement applied.

Conclusions We think that in the determination of the intervertebral space before subarachnoid block, in geriatric patients with concomitant disease, ultrasound localization is easy and reliable and will increase patient comfort.

68 1% CHLOROPROCAINE SPINAL ANESTHESIA FOR SHORT DURATION SURGICAL PROCEDURES

A Strumia*, F Costa, R Cataldo, F Gargano, LM Remore, C Pantanelli, FE Agrò. *Campus Bio Medico University of Rome, Rome, Italy*

10.1136/rapm-2021-ESRA.68

Background and Aims While permitting complete surgical anesthesia, subarachnoid blocks for ambulatory surgery are underused because of risk for urinary retention and delayed recovery of motor functions [1]. 1% Chloroprocaine is a fast onset and offset drug, which allows rapid recovery [2].

We report our experience with different short-duration surgical procedures.

Methods With the patients' consent, 60 short procedures were carried out under spinal anesthesia with 1% chloroprocaine, with a 27 pencil-point needle; different injection levels and dosages were used achieving different results.

Data regarded: type of procedures and duration; heart rate, blood pressure; pain; block level and Bromage score trends; complications.

Results Procedures: urologic n. 15; hysteroscopy n. 8; foot n. 11; hernia n. 12; knee arthroscopy and stem cell treatment n.7; pilonidal cyst n. 2; liposuction n.5.

Durations ranged between 15 and 80 minutes. Higher dosages (40–50 mg) lead to a decrease in blood pressure and heart rate when the injection level was L1-L2 or higher. IV Atropine avoids or restores physiologic heart rate. With lithotomy position, hypotension occurred less frequently. No patient experienced pain, with one exception of a hysteroscopy which received 30 mg at L2-L3 interspace. No complications were recorded. Levels and Bromage trends are displayed in table 1.

Conclusions Spinal anesthesia with 1% chloroprocaine is a valid technique for short surgeries. From our experience, we may assume that 35–40 mg administered between T12 and L2 provide a reliable block up to T9-T10 lasting 40 minutes and regressing within 90 minutes, without significant hemodynamic changes. Research trials are needed to confirm our data.

69 AORTIC STENOSIS: IS REGIONAL ANAESTHESIA A STILL CONTROVERSIAL OPTION?

[1]LA Montenegro Ledo, [1]TR Alves Martins*, [1]ARSantos Almeida Silva, [1]V Breia Pereira, [1]EC Pereira, [2]HMCunha Gomes Santos. *[1]Hospital Garcia de Orta, Almada, Portugal*; *[2]Hospital CUF Tejo, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.69

Background and Aims Aortic stenosis (AS) requires tight haemodynamic control during surgery. Sudden decreased in systemic vascular resistances could be fatal, therefore, neuraxial anaesthesia (NA) is traditionally contraindicated. However, evidence about this subject is sparse and the alternative of general anaesthesia (GA) may pose some troubles, especially in elderly patients with comorbidities.

Methods Female, 89-years, ASA IV, with hypertension, atrial fibrillation, severe AS and COPD, was admitted for hip fracture repair. We decided to perform a continuous spinal anaesthesia (CSA). Under standard ASA and invasive blood pressure monitoring, a 18G Tuohy needle was inserted, at L3-L4, into subarachnoid space and through it a 20G catheter was introduced 3cm into the space. After aspiration of cerebrospinal fluid, 5 mg of bupivacaine was administered in two divided doses with a 10-minute interval.

Results An adequate anaesthesia level at T10 was guaranteed throughout intraoperative. Hemodynamic parameters remained stable, with median arterial pressure superior to 80% of baseline, without vasopressor use. No additional bupivacaine was needed. Spinal catheter was removed before discharge of recovery and no post-dural puncture headache was detected.

Conclusions NA in severe AS is traditionally contraindicated due to sympatholytic effect that potentially lead to a diminished cardiac output. In our case, GA poses a great risk of morbimortality, due to patient age and comorbidities. By incremental minimal doses, CSA achieves a meticulous level and duration of block without excessive sympathectomy, while avoiding adverse effects of GA.

NA is no longer contraindicated in patients with AS, and CSA may even become the gold- standard for patients with multiple comorbidities.

70 ABDOMINAL SURGERY IN HIGH-RISK CARDIOVASCULAR PATIENT – ANESTHETIC OPTION

F Teixeira*, C Peixoto de Sousa, D Gonçalves, AP Pereira, S Caramelo. *Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.70

Background and Aims Continuous spinal (CSA) comparing to spinal anesthesia offers advantages in patients with multiple comorbilities. Fractionation of doses allows to obtain a satisfactory sensory and motor block with lower total doses of local anesthetic and less hemodynamic collapse.

Methods 89-year-old female, ASA IV admitted for emergency hernioplasty due to strangulated umbilical hernia. She had Hypertension, Diabetes Mellitus, obesity, OSAS, stage IV CKD and heart failure.

She was polypneic, tachycardic and hypotensive. The airway assessment was poorly done due to the patient's lack of collaboration.

Given the severity of the patient's clinical situation, the surgical proposal, as well as the absence of criteria for admission to the ICU, we opted for CSA.

Caregiver's consent to anesthesia was obtained.

A Tuhoy 18G needle was used in the L3-L4 space and the catheter was inserted 4cm into the subarachnoid space. 2.5 mg of 0.5% hyperbaric bupivacaine were administered through catheter, followed by 1 mL of saline. 5' and 10' after the first administration, 1.25 mg + 1.25 mg bupivacaine were administered, respectively. A satisfactory block at T7-T8 level was obtained. The surgery lasted 2.5 hours. At the end of the first and second hour after surgical incision, reinforcement was needed with 2.5 mg of 0.5% bupivacaine.

Results The patient remained hemodynamically stable and conscious. She was discharged from the hospital with no record of complications.
Conclusions The number of high-risk frail patients is increasing. CSA allows the anesthetist to better manage these patients due to the fractionation of doses and greater control over the hemodynamic repercussions.

Chronic pain management

71 REPETITIVE SHPENOPALATINE GANGLION BLOCK USING THE TX360 NASAL APPLICATOR FOR THE TREATMENT OF TRIGEMINAL NEURALGIA: A PILOT STUDY

[1]A Tsaroucha*, [1]C Orfanou, [2]N Fyrfiris, [1]A Melemeni, [1]I Siafaka, [1]K Theodoraki. *[1]Aretaieio Hospital, National and Kapodistrian University of Athens, Athens, Greece; [2]General Oncology – Anticancer Hospital of Athens 'Agios Savvas', Department of Anesthesiology, Athens, Greece*

10.1136/rapm-2021-ESRA.71

Background and Aims Sphenopalatine ganglion (SPG) is situated in the posterior nasal cavity and belongs to the cranial part of the autonomic nervous system. Trigeminal neuralgia (TGN) is currently considered as an indication for SPG block, especially in medication-resistant cases. The aim of this study was to assess the effectiveness of the SPG block for the treatment of trigeminal neuralgia, using a noninvasive transnasal approach, by delivering local anesthetic with the alternative device Tx360 nasal applicator.
Methods Four patients (three women, aged 67, 56 and 75 and a man, aged 58) presented with either classical or atypical, V2 (maxillary branch) or V3 (mandibular branch) TGN, partly or completely drug-resistant. Pain severity during paroxysmal attacks was recorded using the visual analogue scale and it scored between 8 and 9 for all patients. The SPG block was achieved using the Tx360 nasal applicator in order to deliver 0.3 ml of xylocaine 2%, once a week, for 6 to 8 weeks. Participants in this study received up to 8 SPG blocks.
Results All patients reported significant pain relief and were completely symptom-free after the 2nd or 3rd application. This favorable outcome lasted for up to 3 months for each case. No significant adverse events were noted.
Conclusions Data extracted from this pilot study suggest that repetitive SPG block with the Tx360 nasal applicator may constitute an easy, rapid, safe and efficient treatment of trigeminal neuralgia. Further relative double-blind, randomized studies are required in order to draw solid conclusions.

72 IMPROVEMENT OF HEALTH-RELATED QUALITY OF LIFE AND FUNCTIONAL DISABILITY IN PATIENTS WITH FBSS PAIN AND IMPLANTED WITH A RECHARGEABLE SPINAL CORD STIMULATION SYSTEM

[1]R Buschman*, [2]A Calodney, [3]J Hatheway, [4]S Eldabe, [5]L Cantin, [6]E Buchser, [7]N Grunow, [8]R Slangen. *[1]Medtronic Trading NL B.V., Eindhoven, Netherlands; [2]Precision Spine and Care, Tyler, USA; [3]Northwest Pain Care, Spokane, USA; [4]The James Cook University Hospital, Middlesbrough, UK; [5]Hôpital Enfant-Jésus, Québec, Canada; [6]Hôpital de Morges, Morges, Switzerland; [7]Clinical Biostatistics, Medtronic, plc, Minneapolis, USA; [8]Post Approval Clinical Surveillance, Medtronic, Maastricht, Netherlands*

10.1136/rapm-2021-ESRA.72

Background and Aims The Product Surveillance Registry (PSR, Medtronic) is a prospective, long-term, multicentre registry to monitor the performance and safety of Medtronic Spinal Cord Stimulation (SCS) systems. We present an exploration of the effect of SCS with 2 rechargeable systems (RestoreSensor and Intellis) in patients with Back Pain of Failed Back Surgery Syndrome (BP-FBSS) on Health-Related Quality of Life (HR-QoL), and functional disability (Oswestry Disability Index, ODI).
Methods Patients with a diagnosis of BP-FBSS, a general pain score $\geq$5, and an initial implant were included. EQ-5D and ODI scores were summarized at baseline, 6-months, and for the change from baseline to 6-months (paired t-tests evaluated within-group change).
Results EQ-5D UK scores showed statistically significant and clinically relevant improvements for both RestoreSensor and Intellis from baseline to 6 months; 0.47±0.21 to 0.57±0.28 (n=78; P=0.001), and 0.45±0.25 to 0.60±0.26 (n=82; P<0.0001), respectively.

ODI scores reduced from 51.1±13.3 to 45.1±16.4 (n=76; P=0.001) and 50.9±12.6 to 39.3±16.6 (n=85; P<0.0001), for RestoreSensor and Intellis, respectively.
Conclusions To assess clinical relevance, research suggest a minimum clinically important difference (MCID) of 0.081 in EQ-5D in a subgroup of patients with back pain and 9.2 in ODI in patients with FBSS. Our analysis shows statistically significant and clinically relevant improvements in health-related quality of life, and functional disability from baseline to 6-months in patients diagnosed with BP-FBSS and implanted with a rechargeable SCS-system.

73 THE ROLE OF ULTRASOUND GUIDED PULSED RADIOFREQUENCY (PRF) FOR THE TREATMENT OF RHIZARTHROSIS: A CASE REPORT

[1]P Fusco, [2]W Ciaschi, [3]F Angelucci*, [3]M Di Carlo, [3]S Tullj, [3]M Celniku, [3]F Marinangeli. *[1]1Department of Anesthesia and Intensive Care, San Salvatore Academic Hospital, L'Aquila, Italy; [2]Department of Anesthesia and Intensive Care, F. Spaziani Academic Hospital, Frosinone, Italy; [3]University of L'Aquila, Department of Life, Health and Environmental Sciences, L'Aquila, Italy*

10.1136/rapm-2021-ESRA.73

Background and Aims Rhizarthrosis is a disabling condition of the hand that affects 30% of postmenopausal women[1]. It commonly treated with physiokinesitherapy, non-steroidal anti-inflammatory drugs, intra-articular corticosteroid injections[2] and trapeziectomy.

Intra-articular PRF produces an electric field that disrupts smaller pain-carrying fibers of the synovial lining and reduces the levels of cytokines in the joint microenvironment[3].
Methods This report describes one case in which the ultrasound guided pulsed radiofrequency of the radial nerve offered a safe treatment for the management of chronic rhizarthrosis pain. The case was a 74-years-old man with a 12 month history of severe pain at the thumb basal joint. At his first visit, the VAS measured 8/10. The patient was sitting on the operating table with the trapezium metacarpal joint up. After preparation of the radial region, the sterile linear high frequency probe was longitudinally placed on the joint

(figure 1). Then, a 22 G 50 mm radiofrequency needle was introduced near the superficial radial. nerve (figure 2). Subsequently a thermocouple connected to a radiofrequency generator was inserted to reproduce the patient's paresthesia



Abstract 73 Figure 1



Abstract 73 Figure 2

via sensitive stimulation (50 HZ), 0.3–0.4 mA. The pulsed radiofrequency treatment was performed with 1200 pulses at 42°C. At the end the patient reported Vas 0.

Results The result obtained confirms that the application of PRF on the trapezium-metacarpal joint can effectively reduce pain and paresthesia.

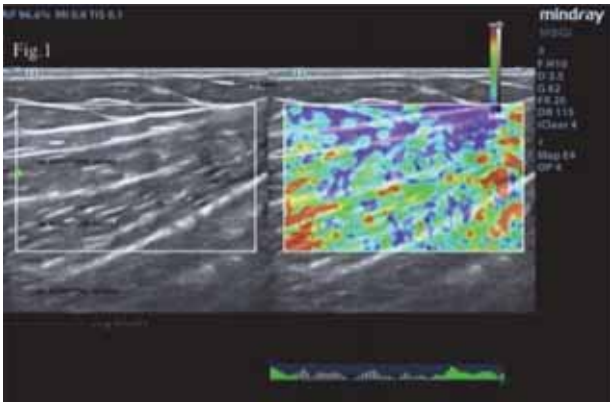
Conclusions However, further studies would be needed to assess whether the proposed technique could be considered a legitimate therapeutic tool for pain control as a valid alternative to traditionally applied treatments.

74 CAN THE ULTRASOUND-GUIDED DRY-NEEDLING ASSOCIATED WITH ELASTOSONOGRAPHIC EVALUATION IMPROVE THE TREATMENT OF THE MYOFASCIAL TRIGGER POINTS?

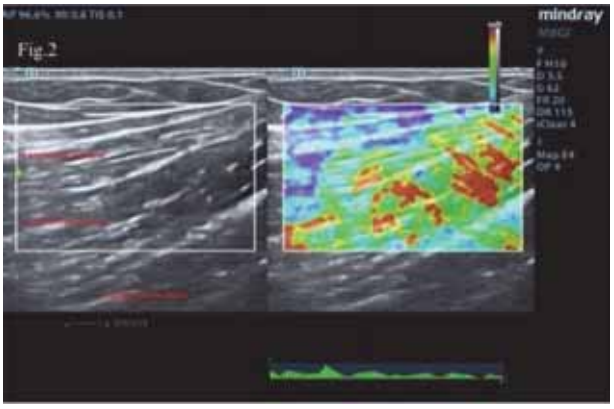
[1]P Fusco, [2]M Celniku*, [3]W Ciaschi, [2]F Angelucci, [2]F Marinangeli. [1]*San Salvatore Academic Hospital, Department of Anesthesia and Intensive Care, L'Aquila, Italy*; [2]*University of L'Aquila, Department of Life, Health and Environmental Sciences, L'Aquila, Italy*; [3]*F. Spaziani Academic Hospital, Department of Anesthesia and Intensive Care, Frosinone, Italy*

10.1136/rapm-2021-ESRA.74

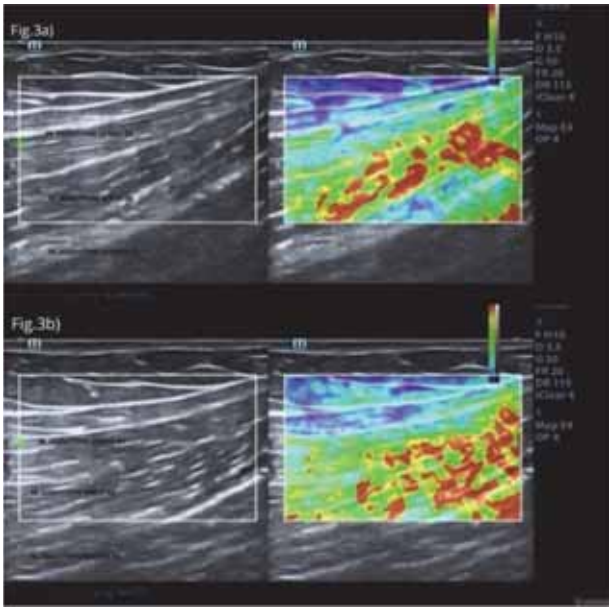
Background and Aims Muscular injuries are very common in sport practioners. The diagnosis is based generally in clinical examination. (1) Ultrasonography and elastosonography could provide a more accurate diagnosis of musculoskeletal pain. (1,2) The dry-needling tecnique has been showed to be an effective therapy for myofascial trigger points.(3)



Abstract 74 Figure 1



Abstract 74 Figure 2



Abstract 74 Figure 3

Methods We report the case of a 28 years-old cyclist with pain in the left inguinal region and medial region of the left thigh (vas score 2 at rest), which was accentuated by external rotation movements and lateral knives (vas score 6). The clinical examination showed left adductor muscles swelling and stiffness with deep palpation pain. With the patient in the supine position and 30° external rotation of the lower limb, the ultrasonography associated with elastosonography showed signs of left adductor muscle contracture (blue cromatic areas). Figure 1

Results Ultrasound-guided dry-needling was performed with a sterile seirina j-type acupuncture needle, size n° 8 causing evocation of twiches of the left adductor muscles. At the end of therapy, the elastosonography re-evaluation showed signs of revascularization and major elasticity of the treated area (red cromatic areas) figure 2, there was no muscle swelling and stiffness, VAS score 0.

During the 25th-day follow-up, the patient refered muscle fatigue at the end of training, VAS score 1–2. A second dry-needling procedure was repeated, the patient reported VAS score 0 and the elastosonography showed signs of revascularization and major elasticity. Figure 3

Conclusions Our clinical and elastosonographic results, confirm that dry-needling may be an effective therapeutical option for musculoskeletal pain caused by myofascial trigger points.

75 CLINICAL COURSE OF PATIENTS WITH LUMBAGO

[1]L Molla*, [2]K Preza. [1]*Pharmacy Gledis, Tirana, Albania*; [2]*Continental Hospital, Tirana, Albania*

10.1136/rapm-2021-ESRA.75

Background and Aims The aim of this study was to assess the clinical course of patients with lumbago through 12 weeks and to identify the prognostic factors for non-recovery in the short term.

Methods A total of 74 patients with acute lumbago (<3 weeks) were followed up at University Hospital Centre in Tirana, Albania during the year 2019. Baseline assessments including demographic variables, clinical characteristics of pain, lost work time and results of clinical examination were noted. Pain intensity and disability, were assessed according to visual analogue scale and Roland Morris Disability Questionnaire (RMDQ), respectively. Patients were assessed for pain intensity and disability at baseline, and at 1, 2, 4, 8 and 12 weeks of follow-up. Recovery was considered if patients scored <4 on the RMDQ and pain had resolved. The study was approved by National Medical Ethics Committee of Albania.

Results At 2 weeks, 52 (58%) of the patients had recovered and only eight (9%) developed chronic LBP. Severe disability was noted among male patients (79%) and married patients (82%). Mean pain intensity and mean disability scores dropped 94% and 95.2%, respectively, of initial levels during the 12 weeks. Fifty eight percent of employed patients reported lost time from work.

Conclusions Patients with disability generally recover in the first weeks. Pain usually is the major complaint of patients with problems of the back and should be given particular consideration in baseline assessments of patients with acute lumbago.

76 CANCER-RELATED NEUROPATHIC PAIN (CRNP): GIVING EUROPEAN PATIENTS A VOICE

[1]D Dupoiron*, [2]S Brill, [3]C Eeltink, [4]B Barragán, [5]D Bell, [6]G Petersen, [7]S Schofield, [8]M Rakusa, [9]D Ryan. [1]*Institut de Cancérologie de l'ouest, Département Anesthésie – Douleur, Angers Cedex 02, France*; [2]*European Pain Federation EFIC, Brussels, Belgium*; [3]*Amsterdam UMC, Location VUmc, Department of Hematology, Amsterdam, Netherlands*; [4]*Grupo Español de Pacientes con Cáncer (GEPAC), Madrid, Spain*; [5]*Macmillan Cancer Support, London, UK*; [6]*Grünenthal GmbH, Aachen, Germany*; [7]*Grünenthal Ltd, Stokenchurch, UK*; [8]*University Medical Centre Maribor, Department of Neurology, Maribor, Slovenia*; [9]*Pain Alliance Europe, Brussels, Belgium*

10.1136/rapm-2021-ESRA.76

Background and Aims Neuropathic pain is a common long-term consequence of cancer and its treatments. A European survey has been conducted to collect insights about the diagnosis and management of CRNP and the impact on patient´s lives.

Methods From February to June 2021, an online survey was conducted in 13 European countries. Adult (18+) patients consenting to participate, diagnosed with cancer and experiencing neuropathic pain according to DN4 criteria and finishing the survey were included in the analyses. Survey questions were prepared together with patient representatives, clinical experts and nurses. Patients were recruited via consumer and patient online market research panels and via patient associations.

Results 549 respondents with CRNP completed the survey, thereof 62% females vs 38% males and 63% below the age of 56 years. 39% of patients had breast cancer and the remaining a variety of other cancer types. 32% had not received a formal CRNP diagnosis, although 89% met 4 or more DN4 criteria. 32% of respondents reported severe pain on a daily basis. 61% responded that CRNP negatively impacts their day-to-day activities and 30% had to retire or stop working because of their CRNP. Provision of better treatments to help manage CRNP are key for 76% of patients.

Conclusions The results of this survey demonstrate that CRNP has a significant impact on the patients´ daily lives. Actions need to be taken to better educate healthcare professionals about the diagnosis and treatment of CRNP and to support healthcare professional-patient communication to achieve better outcomes.

77 SERRATUS ANTERIOR PLANE BLOCK (SAPB) FOR THE TREATMENT OF RESISTANT HERPES ZOSTER THORACIC PAIN AND NEURALGIA: DEAFFERENTATION AS AN OPTIMAL CHANCE FOR PAIN RELIEF

[1]M Mazzocchi*, [2]B Mascia, [2]F Riccardi, [2]D Passador, [2]M Ferrari, [2]G Ragni, [2]F Mojoli. [1]*Galeazzi Orthopaedic Institute, I.R.C.C.S. (Scientific Institute for Research, Hospitalization and Health Care), Milan, Italy*; [2]*Foundation Polyclinic San Matteo, I.R.C.C.S. (Scientific Institute for Research, Hospitalization and Health Care), Pavia, Italy*

10.1136/rapm-2021-ESRA.77

Background and Aims Herpes Zoster reactivation causes inflammatory and hemorrhagic reaction in the posterior roots of spinal nerves and sensitive ganglia. Postherpetic neuralgia (PHN)[1] is a neuropathic pain that occurs in 25% of patients older than 50[2,3]. Pharmacological therapy is often uneffective; intrathecal steroid injections and nerve blocks may be tried[4].

Serratus anterior plane block (SAPB)[5] could provide effective analgesia.

Methods We treated 2 female patients with PHN, unresponsive to medical therapies, 56 and 74 yo; pain was localized in the antero-lateral area of thorax, limiting free movements of ipsilateral arm. Pain was strong (NRS score 8 and 10), stabbing and burning, exacerbating in absence of stimuli and without relief during the night.

We performed an ultrasound-guided SAPB with 0.25%-levobupivacaine 30 ml and dexamethasone 8 mg at 5th intercostal space.

Results Both patients had immediate pain relief: NRS was 2–3 after 10 minutes, 0–1 after 2 hours. Benefit was substantially maintained over time: at 48 hours, resumption of pain was mild (NRS 2) in the first patient, moderate (NRS 4–5) in the second; in this patient we decided to perform another injection. NRS finally decreased to 2–3 and there was no need for further injections. At two months there was absence of pain for both.

Conclusions Long-lasting SAPB with local anesthetic and steroids could be a safe and effective way to treat resistant PHN, and it should be performed as soon as possible to avoid incipit of chronic pain and improve patient quality of life and outcome. Further studies are necessary to confirm our preliminary data.

78 COMPLEX REGIONAL PAIN SYNDROME FOLLOWING POST-HERPETIC NEURALGIA

[1]A Vasconcelos Pereira, [1]R Rodrigues Oliveira*, [2]R Almeida, [2]J Durán, [2]A Reis. *[1]Hospital Vila Franca de Xira, Vila Franca de Xira, Portugal; [2]Centro Multidisciplinar de Dor Beatriz Craveiro Lopes – Hospital Garcia de Orta, Almada, Portugal*

10.1136/rapm-2021-ESRA.78

Background and Aims Complex regional pain syndrome (CRPS) is a rare condition with not fully understood pathophysiology. Most cases are triggered by trauma or nerve lesion and are characterized by abnormal sensory, motor, and/or trophic findings. We present a case of CRPS following post-herpetic neuralgia, aiming to spread awareness about this poorly understood and underdiagnosed condition.

Methods A 76-year-old male with known history of hypertension and dyslipidemia was referred to the pain clinic due to uncontrolled pain in his left hand. Three months earlier, he was diagnosed with herpes zoster infection with post-herpetic neuralgia corresponding to the C6-C7 dermatome.

He complained of neuropathic pain with mechanic allodynia and hyperalgesia of the left hand, mainly in D1-D2 fingers, along with a decreased range of motion, temperature asymmetry, hypersensitivity, and diffuse edema, with significant limitation on daily activities.

Scaphotrapezoid osteoarthrosis and D1-3 edema were shown in radiography and ultrasound, respectively. Blood evaluation was unremarkable. The patient was diagnosed with CRPS by fulfilling all IASP Clinical Budapest Criteria.

Results He started multimodal therapy with gabapentin 300 mg, progressively titrated to 300 mg t.i.d., amitriptyline, and physiotherapy. Two months later, he reported significant functional improvement with decreasing edema and mild pain only.

Conclusions Varicella-zoster virus (VZV) is a known precipitating factor in CRPS. However, it is still unknown whether the disease occurs as a continuum of post-herpetic neuralgia or as a consequence of VZV neurotropism. Pharmacotherapy with gabapentinoids and tricyclic antidepressants have an important role in symptom control, but an early diagnosis and prompt physical rehabilitation are the cornerstones for successful outcomes.

79 THORACIC PARAVERTEBRAL BLOCK FOR CHRONIC PAIN CAUSED BY THORACIC PARAVERTEBRAL MASS IN LEUKEMIA PATIENT

A Ghidan*, H Abu Khudair, E Farhoud. *King Hussein Cancer Center, Amman, Jordan*

10.1136/rapm-2021-ESRA.79

Background and Aims Thoracic paravertebral is now an established regional anesthetic technique for unilateral surgical procedures or painful conditions. It has fewer complications when performed correctly.

Chronic pain is a significant concern in a cancer patient. Morphine has been used as a first-line analgesic strategy for severe pain. The effect of morphine on tumour growth is still contradictory, as both growth-promoting and growth-inhibiting effects have been observed. Accumulating evidence suggests that morphine can affect the proliferation and migration of tumour cells as well as angiogenesis (1)

Methods We report here the use of Ultrasound-guided right side thoracic paravertebral block at the level of T2 and T9 for severe back pain, right side chest wall and right side abdominal wall pain of T2 and T9 dermatomes in 56 years old male patient, known case of acute myeloid leukemia (AML-M2) found to have right side thoracic paravertebral masses at levels of T2 and T9.

The 19-gage Tuohy needle inserted USG In-plane, after penetration of internal intercostal membrane 0.25% bupivacaine 20 ml with dexamethasone 4 mg was injected after negative aspiration of blood or air. Total amount: 40 ml of 0.25% Marcaine (20 ml each injection) with Dexamethasone total of 8 mg.

Results During the block procedure, no difficulty of breath or desaturation occurred and no hemodynamic change occurred.

In the PACU, the patient was comfortable and free of pain then discharged home. He remains pain-free for 2 days.

Conclusions Thoracic paravertebral block is an alternative of morphine for chronic pain caused by thoracic paravertebral mass.

80 METHADONE IN PAIN MANAGEMENT

H Senderovich*. *Baycrest, University of Toronto, Toronto, Canada*

10.1136/rapm-2021-ESRA.80

Background and Aims Adequate analgesia can be challenging, as pharmacological options are not necessarily effective for all types of pain and have various side effects. Methadone is increasingly being considered in the management of both cancer- and non-cancer-related pain.

Objective: To summarize the evidence on the effectiveness of methadone and review the side effects and cost of this drug.

Methods PubMed, Medline, Embase, and Google Scholar databases were searched to identify Randomized Controlled Trials (RCTs) assessing methadone and a comparison drug.

Results A total of 40 RCTs were included. The majority compared methadone to morphine or fentanyl. Methadone was effective in certain orthopedic, spinal, and cardiac surgeries. It was superior to fentanyl in the management of head-and-neck cancer pain. There was variability in the limited data on the management of neuropathic pain. Side effects experienced with methadone use were similar to a comparison drug.

The effectiveness of methadone in the management of post-surgical and cancer pain was dependent on the procedure and cancer type, respectively. Methadone may be useful as an adjunctive analgesic, to lower the dose of another drug

Conclusions Methadone may be a valuable in the management of post-surgical, cancer, or nociceptive pain, and in patients with renal impairment. Prescribers should consult a specialist prior to starting or discontinuing methadone.

Future Research: Reported outcomes for measuring analgesia must be standardized. Patients should be stratified by procedure and cancer type in future RCTs.

81 ULTRASOUND GUIDED PULSED RADIOFREQUENCY (PRF) FOR THE TREATMENT OF POSTHERPETIC NEURALGIA: A CASE REPORT

[1]P Fusco, [2]W Ciaschi, [3]F Angelucci*, [3]F Marinangeli. *[1]Department of Anesthesia and Intensive Care, San Salvatore Academic Hospital, L'Aquila, Italy; [2]Department of Anesthesia and Intensive Care, F. Spaziani Academic Hospital, Frosinone, Italy; [3]University of L'Aquila, Department of Life, Health and Environmental Sciences, L'Aquila, Italy*

10.1136/rapm-2021-ESRA.81

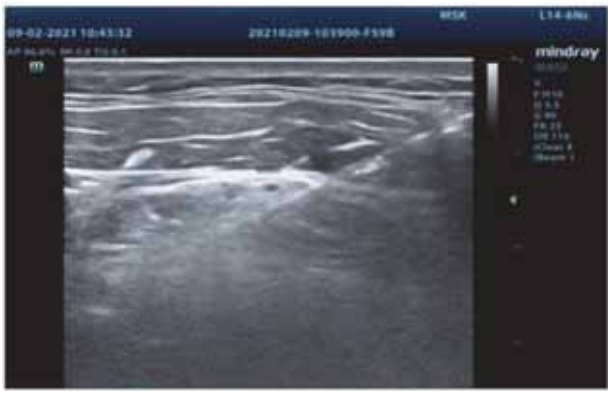
Background and Aims Post-herpetic neuralgia is a persistent pain condition that occurs after an acute vesicular rash of herpes zoster heals[1].The intense and disabling pain affect the patient's quality of life, his quality of sleep and his ability to perform daily activities.

This report describes a treatment case of postherpetic neuralgia with ultrasound-guided PRF.

Methods The case was a 56-year-old woman with a two-month history of continuous pain and burning in the anterior and left thoracic region, left arm. At her first visit, the VAS was 10/10.The patient was in lateral decubitus position on the operating table with slight hyperextension of the neck (figure 1). After preparation of the neck region, a sterile linear probe was placed transversely on the medial edge of the sternocleidomastoid muscle. In this position the body and the transverse process of C6 were identified. The probe was slid caudally to identify the transverse process of C7. Under



Abstract 81 Figure 1



Abstract 81 Figure 2

constant ultrasound guidance and fluoroscopy, a 22 G 100 mm radiofrequency needle was introduced and advanced until it reached the anterior margin of the lungus colli muscle (figure 2). Subsequently, a thermocouple connected to a radiofrequency generator was inserted to reproduce the patient's paresthesia via sensitive stimulation (50 HZ), 0.7–0.9 mV. The pulsed radiofrequency treatment was performed with 1200 pulses at 42°C.

Results At the end of the procedure the patient reported Vas 0.

Conclusions However, further studies would be needed to assess whether the proposed technique could be considered a valid therapeutic tool for pain control.

82 PULSED-RADIOFREQUENCY (PRF) THERAPY IN THE MANAGEMENT OF CHRONIC NEUROPHATIC PAIN DUE TO A NEUROMA FORMATION IN A NEPHROSTOMY SCAR: A CASE REPORT

D Williams*, B Bonet. *Mid Cheshire Hospital NHS Foundation Trust, Crewe, UK*

10.1136/rapm-2021-ESRA.82

Background and Aims A neuroma is a mass of nerve tissue that forms at a site of injury. They can be exquisitely tender when pressure is applied, leading to a loss of function by reducing both movement and contact with the affected area. Pulsed radiofrequency (PRF) is a novel technique that is safe and effective in the management of chronic pain syndromes. However, its effectiveness in treating conditions such as painful neuromas has not been fully elicited. We present a case of a gentleman treated with PRF for a neuroma that alleviated his symptoms of significant neuropathic scar pain.

Methods We assessed this gentleman's pain by assessing his Visual Analogue Scale (VAS), reviewed previous management strategies, current medication and impact of the condition on his life. A single session of ultrasound guided PRF was then delivered to the neuroma.

Results A 66-year old gentleman presented with an 8-year history of persistent neuropathic pain in his right loin associated with a nephrectomy scar despite analgesic medication (oral and transdermal) and trigger point injections. Pain was 7/10 on the VAS scale with significant impact on the patient's psychological wellbeing. After PRF, his pain score improved

ceased analgesic medication and remained pain free at 18-month follow-up.

Conclusions Neuropathic pain is a difficult condition to manage due to the biopsychosocial factors involved whereby diverse strategies may have to be utilized. PRF has been shown to be successful in the treatment of a painful neuroma following scar formation and so offers an alternative, medication-free approach to treating this condition.

Miscellaneous

83 ULTRASOUND-GUIDED NERVE BLOCK WITH TELEMEDICINE

S Oku*, Y Mizuno, T Goto. *Yokohama City University, Yokohama, Japan*

10.1136/rapm-2021-ESRA.83

Background and Aims New skills and knowledges for various ultrasound guided nerve blocks (UGNB) have been developed. Instructions from experienced expert may be essential for the education, however, these chances are limited partly because of availability of the expert instructor.

In this study, we developed telemedicine system for UGNB instruction and investigated whether the system could be useful practically for remote UGNB in 5 patients.

Methods At a practitioner site, video conference device (SONY) with ultrasound machine (Edge, Sonosite) and field camera was set in Sado General Hospital. At an instructor site, the device with annotation tablet and monitors of the ultrasound and the field was set in Yokohama City University Hospital 300 km away (figure 1). Ethics Committee approval and informed consent by the patients were obtained.

Results Two lateral transversus abdominis plane blocks, two rectus sheath blocks and a pectoral nerves II block were performed in 5 patients underwent open inguinal hernia repair, open umbilical hernia repair and mastectomy, respectively. At instructor site, instructor added annotation on ultrasound video, and field camera monitor displayed practitioner's handling of the probe and patient position. (figure 2)These simultaneous monitorings of ultrasound and field allowed instructor to provide prompt supports and ensure procedural safety by double check. These UGNB procedures were performed in 5–10 minutes without any clinical and mechanical problem.



Abstract 83 Figure 2

Conclusions We developed telemedicine system for remote instruction of UGNB. This system could be used practically in clinical cases and might be useful to improve safety.

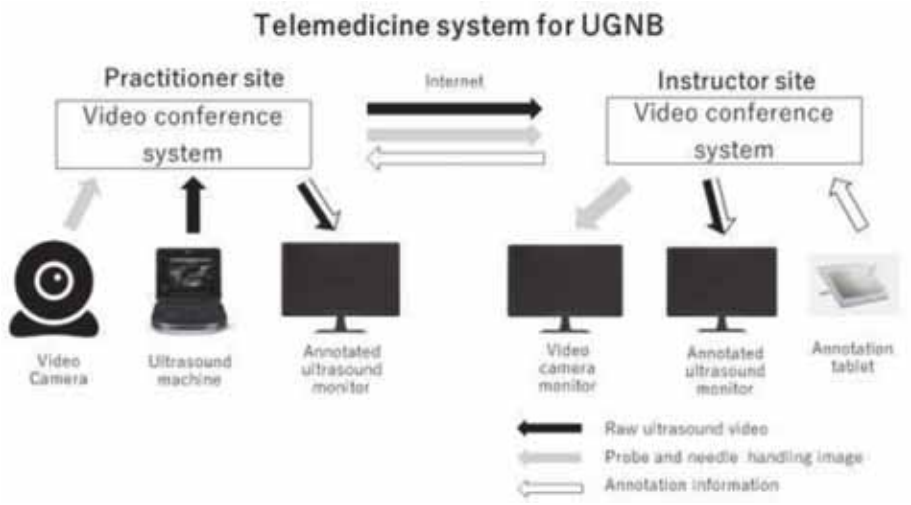
84 THORACIC INJURY PATHWAY TO OPTIMISE PAIN & PHYSIOTHERAPY

S Mohamedally*, B Fox. *Queen Elizabeth Hospital Kings Lynn, King's Lynn, UK*

10.1136/rapm-2021-ESRA.84

Background and Aims

- Evaluate the referral of rib fracture patients to anaesthetics/acute pain team/physiotherapy & Critical Care Outreach Team (CCOT)



Abstract 83 Figure 1

- Pain management and use of regional techniques for these patients
- Offered PCA within first 24 hours
- Early physiotherapy – as soon as pain is controlled
- Early regional analgesia
- CCOT referral if mortality risk is high or NEWS >7

Methods

- Retrospective audit over the year 2019 at the QEHKL
- 80 patients coded as having a primary diagnosis of rib fractures – given Pressley Risk & Easter severity score.
- 29 patients scored moderate/moderate and above, 25 patients' paper notes were available – first 72 hours of admission was audited

Results

- Not achieving standard of care at 3 days
- Specialty input:
- Within 72 hours 80% had anaesthetics + physio reviews
- 5 patients weren't reviewed by any external teams
- All high risk of mortality patients are not getting a CCOT referral
- Pain management:
- 40% received PCA within 24 hours
- At 72 hours 64% of patients had a regional technique/PCA
- Regional techniques used were serratus anterior/erector spinae or thoracic epidural catheters. They were left in for an average of 4.4 days.

Conclusions

- Presented audit at information governance and teaching sessions for medical/surgical and A+E juniors
- Guideline revised with focus on regional anaesthesia
- TIPTOP Implementation:
- 1) Refer high risk thoracic injury patients to anaesthetic/acute pain team.
- 2) Book patient onto emergency theatre booking system
- 3) TIPTOP proforma to be completed by acute pain team/ anaesthetist to ensure follow up & standardised care
- Re–audit in 6 months time

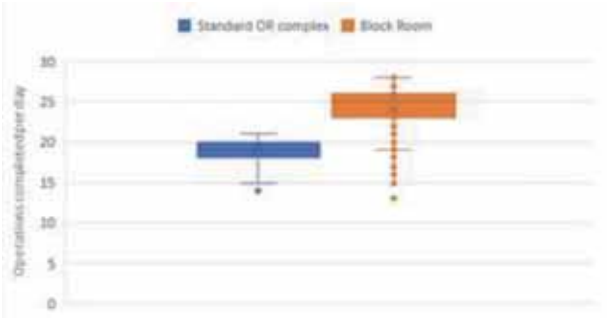
85 HOW SHOULD WE ORGANISE *OUR* BLOCK ROOM? USE OF SIMULATION MODELLING TO ASSESS THE EFFECTS OF IMPLEMENTING A BLOCK ROOM

[1]J Wu*, [2]A MacGregor. [1]*Norfolk and Norwich University Hospital, Norwich, UK*; [2]*University of East Anglia, Norwich, UK*

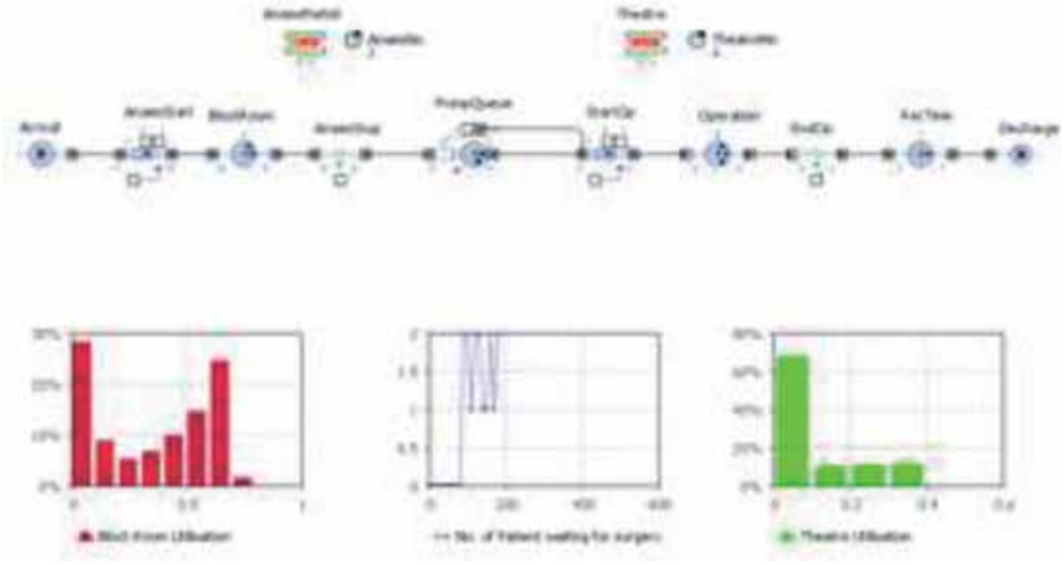
10.1136/rapm-2021-ESRA.85

Background and Aims Two models (example in figure 1) were created in AnyLogic 7 (The AnyLogic Company, 2015). One model simulates a standard operating room complex with three operating theatres, whilst the other model simulates a block room configuration with one block room supplying three operating theatres. The block room model was then used to assess changes in staffing. Each model was run 1000 times, to simulate 1000 work days.

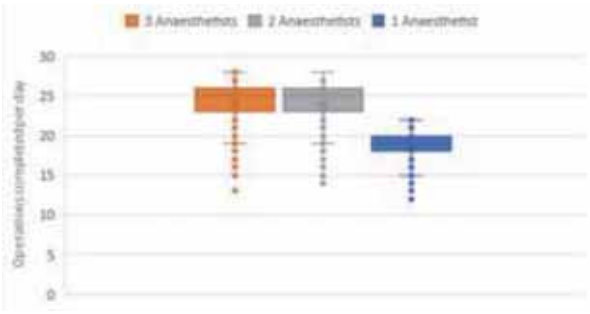
Methods Two models (example in figure 1) were created in AnyLogic 7 (The AnyLogic Company, 2015). One model simulates a standard operating room complex with three operating theatres, whilst the other model simulates a block room configuration with one block room supplying three operating theatres. The block room model was then used to assess changes in staffing. Each model was run 1000 times, to simulate 1000 work days.



Abstract 85 Figure 2 Standard vs block room



Abstract 85 Figure 1 Example of block room model



Abstract 85 Figure 3 Block room staffing effects

Results The number of completed operations were compared (figure 2) The standard configuration completed 19 operations over three operating theatres (SD 0.99), in comparison the addition of a block room increased this to 23.8 (SD 2.66). The modelling of staffing effects (figure 3) showed that throughput could be sustained despite a reduction in anaesthetic staff.

Conclusions We used simulation modelling to test the possible benefits of implementing a block room, as well as the likely impact of changes to staffing on its patient throughput. This offers useful insights into the planning and organisation of a new pathway before committing to the cost and disruption associated with service reconfiguration.

86 SERRATUS ANTERIOR PLANE BLOCK (SAPB) IN SEVERE CHEST TRAUMA WITH MULTIPLE RIB FRACTURES (MRF): OPTIMAL COMBINATION BETWEEN ANALGESIA AND IMPROVED LUNG FUNCTION?

[1]M Mazzocchi*, [2]B Mascia, [2]S Bonaiti, [2]A Pellegrini, [2]A Colombo, [2]A Stella, [3]F Torresani, [2]G Bruschi, [2]F Mojoli. *[1]Galeazzi Orthopaedic Institute, I.R.C.C.S. (Scientific Institute for Research, Hospitalization and Health Care), Milan, Italy; [2]Foundation Polyclinic San Matteo, I.R.C.C.S. (Scientific Institute for Research, Hospitalization and Health Care), Pavia, Italy; [3]Sant'Anna Hospital, Como, Italy*

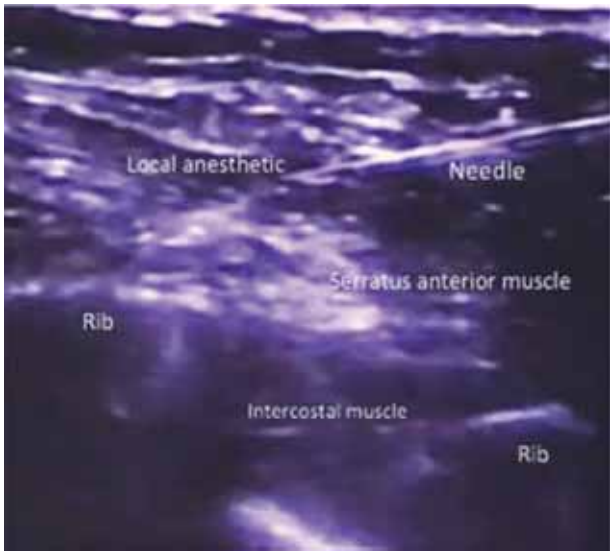
10.1136/rapm-2021-ESRA.86

Background and Aims 10% of polytraumatized patients have multiple rib fractures. Associated severe pain can lead to hypoventilation and respiratory complications in 31% of cases[1]. 'Opioid-sparing analgesia' as epidural and multimodal analgesia are recommended[2]. We hypotize that SAPB[3,4] can provide effective, safe and long-lasting analgesia (thanks to dexamethasone added to local anaesthetic) and reduce respiratory complications, enhancing recovery of a better mechanical lung function.

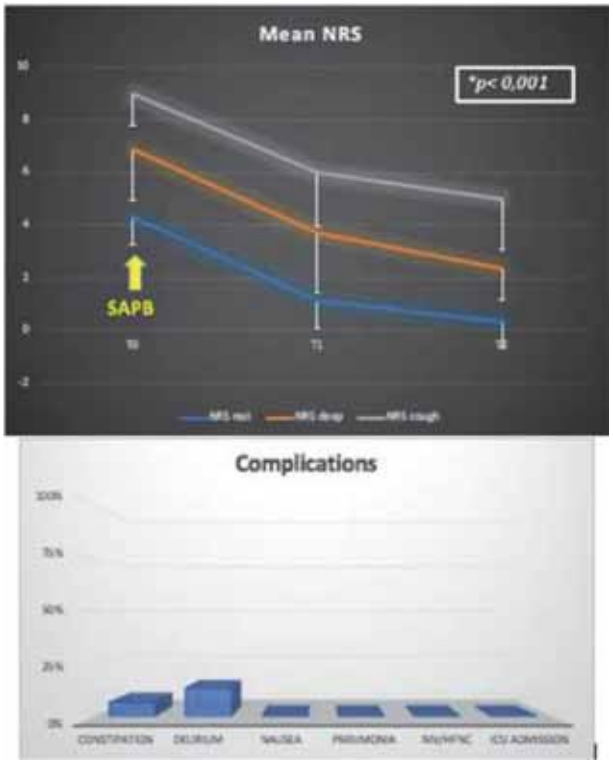
Methods 15 patients(age 64±15) hospitalized for polytrauma with MRF(8±4) and severe pain(NRS> 4), impairing maximal inspiration and coughing, were treated with multimodal analgesia + SAPB(ethical committee approval obtained). We injected levobupivacaine 0.25% 30 ml and dexamethasone (8 mg) within the myofascial plane of serratus anterior. We registered respiratory rate(RR), heart rate(HR) and NRS at rest (NRSrest), during maximal inspiration(NRSdeep) and coughing (NRScough) before SAPB(T0), after 15 minutes(T1) and after 4 hours(T2). At T0 and T2, lung ultrasound(LUS) and diaphragmatic ultrasound(DUS) were performed. Incidence of opioid-related side effects and respiratory complications were recorded.

Results We observed a significant reduction in NRSrest, NRSdeep, NRScough, HR and RR at both T1 and T2 in all patients. LUS revealed a significant improvement in lung aeration, DUS showed a significant increase in diaphragm excursion. Duration of analgesia was greater than 30 hours in most patients, greater than 48 hours in almost 50%. No patient asked for rescue-analgesia. No patient had respiratory complications.

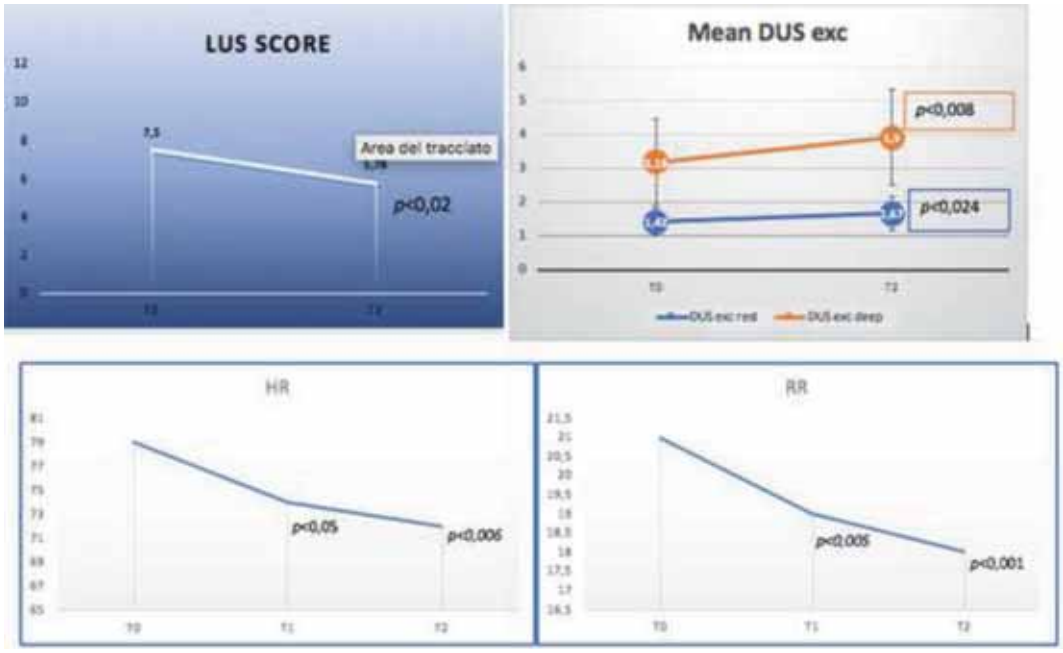
Conclusions Both clinical and instrumental data suggest that SAPB is safe and provides effective opioid-sparing analgesia. Pain reduction allows improvement in pulmonary aeration and diaphragmatic function, suggesting a possible role in prevention of pulmonary complications.



Abstract 86 Figure 1



Abstract 86 Figure 2



Abstract 86 Figure 3

87 THE ERECTOR SPINAE PLANE BLOCK (ESPB) IN INTERMITTENT DOSES FOR VIDEO ASSISTED THORACOSCOPIC SURGERY (VATS)

F Longo*, E Tomaselli, M Martuscelli, A Riccetti. *Campus Bio-Medico University Hospital, Rome, Italy*

10.1136/rapm-2021-ESRA.87

Background and Aims VATS has become the first treatment for patients undergoing lobectomy. Recent reports showed that ESPB improved postoperative analgesia after VATS.

ESPB is a technique introduced by Forero et al. Local anesthetic is injected between the erector spinae muscle and transverse process. Recent studies regarding the use of boluses for an ESPB catheter suggested that some patients do better with mandatory boluses than continuous infusions.

We report the use of the ESPB in intermittent boluses in a 69yrs man, with important comorbidities that underwent upper right pulmonary VATS lobectomy.

Methods After induction of general anesthesia, the patient was placed in lateral position and a linear-array transducer was placed in longitudinal orientation. After local anesthesia, an ESPB at T5 level is performed using an 18G Thuoy needle. After a bolus of 20 ml of ropivacaine 0.5%, a perineural catheter was placed, 6 cm beyond the needle tip (figure 1). After the surgery, a bolus of ropivacaine 0,2% (10 ml) was administered and subsequently boluses of 20 ml of ropivacaine 0,2% were administered every 8 hours up to 48 hours after surgery.

Results NRS pain score decreased immediately after every bolus. The patient performed successful respiratory rehabilitation. The length of hospital stay was reduced, and the patient reported comfort and satisfaction.

Conclusions The ESPB in intermittent boluses had no side effects and allowed a reduction in the consumption of opioids and therefore of post-operative nausea and vomiting. It could be an alternative to epidural anesthesia or Serratus Anterior Plane Block.

88 COVID AND THE BRI: A HIP FRACTURE STORY

[1,2]E Hennebry*, [1,2]E Court, [1]A Bartlett, [1]S Dennis. *[1]University Hospitals Bristol, Bristol, UK; [2]University of Bristol, Bristol, UK*

10.1136/rapm-2021-ESRA.88

Background and Aims The COVID-19 pandemic has had huge implications on healthcare; we aimed to quantify the impact hip fracture provision at the Bristol Royal Infirmary.

Methods We undertook an interrupted time series analysis across four months, representing pre-COVID-19, the first wave, the second wave, and now. We compared the following factors: number of #NOF cases, delays to theatre, delays due to lack of theatre capacity, and length of stay. We also looked at interruptions to patient care, including ward changes and the closure of Weston General.

Results With patients in lockdown, number of #NOF were expected to reduce; there was no evidence for this.

During the first wave, the average length of stay was 11.1 days, compared to 26.0 days pre-COVID-19 (p-value 0.0016). Now, though lengths of stay are gradually increasing, they are still significantly shorter than pre-COVID-19, with an average of 17.1 days (p-value 0.04). The number of patient delays did not significantly change.

Additionally, Weston General closing increased both case numbers and delays to theatre, with cases rising from 14 to 26 (+85.7%) and delays to theatre from 5 to 17 (+240%).

Conclusions Patient stays are still shorter than pre-pandemic; whether this is a valuable lasting change will be evident in the coming months. Weston General becoming COVID-only put strains on the capacity of the BRI, demonstrated by the increased caseload and resulting theatre delays.

Several patients were significantly delayed without a medical reason: some for up to a week, despite being listed repeatedly. Prioritisation of theatre lists needs to be reviewed.

89 PROXIMAL FEMUR FRACTURE ANESTHESIA THECHNIQUE – DOES IT REALLY MATTER?

[1]R Carvalho*, [1]M Carvalho, [1]A Palha Ribeiro, [2]L Vasconcelos. [1]*Centro Hospitalar Universitario do Porto, Porto, Portugal*; [2]*Centro Hospitalar Baixo Vouga, Aveiro, Portugal*

10.1136/rapm-2021-ESRA.89

Background and Aims Hip fracture (HF) is common in emergency departments admission Mortality can reach 32% one year after surgery and delirium may affect 41% post-operative. Search for improved benefits from spinal (SP) or general anesthesia have shown inconsistent results. We aim to test if peripheral nerve blocks (PNB) with general inhalational anesthesia (GA), avoiding muscle relaxants and reducing opioids usage, may improve survival and delirium after HF repair when compared to spinal.

Methods Hospital Ethics approval and patient informed consent were obtained. HF patients were randomized to Femoral and Lateral Cutaneous nerve block (PNB) with GA versus SP, for surgical repair (Hip prothesis, dynamic screw or femoral nail). Clinical data was collected throughout peri-operative period. CAM test was used to asses delirium and one year follow-up to assess survival. Descriptive statistics was used to characterize the sample and parametric and non-parametric tests were used to assess differences between groups.

Results Groups demographics are in table 1. All ASA 4 patients were on the GA/PNB group, but the Man-Whitney test shows no difference in ASA distribution overall. Overall, 37% of patients had delirium up to 3 days after surgery and one year mortality was 19.3%.Table 2 shows the differences between PNB/GA and SP groups.

Conclusions Overall survival and delirium rates are within the literature range. Although a trend to higher 1year mortality can be seen in the BNP/AG group, we did not find statistical differences in outcomes using peripheral nerve block/general inhalational anesthesia vs spinal. A larger study is needed to confirm these findings



centro hospitalar do Porto

Exmo. Sr.
Dr. Raúl Carvalho
Serviço de Anestesiologia

ASSUNTO: Trabalho Académico – Doutoramento – **"Contribution of anesthesia technique for post-operative mortality reduction after proximal femur fractures surgical treatment" - N/ REF.ª 2014.226(165-DEFI/193-CES)**

O Conselho de Administração do CHP **autoriza** a realização do estudo de investigação acima mencionado nesta Instituição, nos Serviços de Anestesiologia, Ortopedia e Bloco Operatório, sendo o Investigador Principal, o Dr. Raúl Carvalho.
O estudo de investigação foi previamente analisado pelo Gabinete Coordenador da Investigação, pela Comissão de Ética para a Saúde, e pela Direção do Departamento de Ensino, Formação e Investigação do CHP, bem como pela Direção Clínica, tendo obtido Parecer Favorável.

Cumprimentos,

CONSELHO DE ADMINISTRAÇÃO

* Em todas as eventuais comunicações posteriores sobre este estudo é indispensável indicar a nossa ref.ª.

Abstract 89 Figure 1

Abstract 89 Table 1 Group characteristics

	Gender (M/F)	ASA (IV)*	Age (Y)†	Weight (Kg)†	T_Surgery (h)†‡
GA/PNB n=28 (49.1%)	6/23	1-4 (4)	80,8	61,2	44,5
SPINAL n= 29 (50,1%)	2/26	2-3 (0)	83,8	58,7	30,8
p§	0,144	0,942	0,210	0,368	0,044**

* ASA range (= ASA IV patients)
† Mean values
‡ Time to surgery (hour)
§ Statistically significant if p<0.05
** t-test

Abstract 89 Table 2 Results

	Hipotension n (%)*	T_hipotension (min)†	3D_delirium n (%)‡	1Y mortality n(%)§
GA/PNB n=28	16 (55,2%)	9,5	11 (39,3%)	7 (24,1%)
SPINAL n=29	5 (17,9%)	15	9 (36,0%)	3 (10,7%)
p**	0,004**	0,243	0,805	0,170

* Patients with sistolic blood pressure <90mmHg
† Duration of hipotension
‡ Patients with positive CAM delirium screening up to 3 days post surgery
§ Number (%) deaths at 1 year post surgery
** Statistically significant if p<0.05
** Chi-Square

90 PREEMPTIVE MULTIMODAL ANALGESIA FOR POSTOPERATIVE PAIN MANAGEMENT: A RANDOMIZED CONTROLLED TRIAL- CASE STUDY

A Saad*. *Mansoura University, Mansoura, Egypt*

10.1136/rapm-2021-ESRA.90

Background and Aims PREEMPTIVE analgesia is an antinociceptive treatment that prevents establishment of altered processing of afferent input, which amplifies postoperative pain. The concept of preemptive analgesia was formulated by Crile 1 at the beginning of the previous century on the basis of clinical observations.

Purpose: To assess the eficacy of a novel preemptive multimodal analgesic regimen for reducing postoperative pain and complications.

Methods To give Pregabalin (Lyrica) 75 mg 2 hrs or more before surgery then 75 mg QHS for 3days postoperative, to be reassessed by APS team if extension needed. No valium with lyrica. To add Celecoxib (if not contraindicated) 200–400 mg tablet 1 hour before surgery then 200 mg BID for 3 days only. Ranitidine 150 mg BID could be added. Surgical site-specific regional analgesia whenever possible. PCA morphine can be used if indicated and as a backup plan for breakthrough pain. Then post.op, Pregabalin, Celecoxib, Solpadeine 2 tablets Q6hrs or TID.

Results 30 patients came calm pre-op., smooth for GA, RA blocks, other 10 patients little anxious. All patients examined second day; 30 patients had smooth sleep, no pain after regional blocks, needed PCA morphine 1–5 mg (10 patients). Other 10 patients continued only on oral tablets.

Abstract 90 Table 1

Demographic	Preemptive multimodal analgesia group ($n = 40$)	Control group ($n = 40$)	P value
Age	67.9 ± 7.6	66.3 ± 10.0	0.417*
BMD	−1.9 ± 1.3	−2.5 ± 0.9	0.107*
Intraoperative blood loss	383.0 ± 89.4	400.3 ± 84.9	0.379*
Postoperative Hemovac drain output	276.5 ± 111.1	289.3 ± 149.1	0.335*
Nonunion (cases)	3	4	0.692*

Abstract 90 Table 2

Post-op day	Preemptive multimodal analgesia group ($n = 40$)	Control group ($n = 40$)	P value*
Recovery room	5.90 ± 1.10	7.12 ± 1.13	0.000
After 8 h	5.47 ± 1.17	6.75 ± 1.12	0.000
Day 1	4.25 ± 0.89	5.52 ± 1.06	0.000
Day 2	3.62 ± 0.92	5.12 ± 1.13	0.000
Day 4	3.10 ± 0.92	4.52 ± 0.96	0.000
Day 7	2.22 ± 0.69	3.65 ± 1.29	0.000

Conclusions **The new preemptive multimodal analgesic combination is safe and effective postoperative.

**may reduce severity of adverse effects of the opioid.

** Regular review, follow up of patients postoperative by APS team for 4 days is mandatory.

91 HAS COVID CHANGED THE PERCEPTION ABOUT REGIONAL ANAESTHESIA? – A SURVEY AMONG PATIENTS, ANAESTHETISTS AND SURGEONS- A SINGLE CENTRE SPECIALIST ORTHOPAEDIC HOSPITAL STUDY

S Dsouza*, M Paz Sebastian, A Sell, S Shanmuganathan, J McGrath. *Royal National Orthopaedic Hospital, London, UK*

10.1136/rapm-2021-ESRA.91

Background and Aims The COVID-19 pandemic brought an increase in the use of regional anaesthesia (RA) in an effort to avoid aerosol generating procedures. We conducted a survey among patients, anaesthetists and orthopaedic surgeons to find their views about RA during and after the pandemic and whether the pandemic has changed their perception about RA.

Methods A 7 question survey (figure 1) regarding preferences of anaesthetic technique and satisfaction was filled by patients who had surgery under RA during the pandemic, anaesthetists and surgeons in a single specialist Orthopaedic centre.

Results We got responses from 147 patients,25 surgeons and 32 anaesthetists. Overall, the RA preference among patients increased from 43.53% to 85%, among surgeons from 28% to 56% and from 75% to 78.12% among anaesthetists (figure 2,3). RA acceptance increased by 24% among patients with previous surgical experience under RA, and 52% among patients with no prior experience. The highest increase was seen after blocks followed by spinal ± blocks. The main reasons for RA scepticism among patients were anxiety about being awake and feeling pain, tendency to leave it to the patient decision and unpredictable success of RA among surgeons and anaesthetists.



Abstract 91 Figure 1



Abstract 91 Figure 2 Overall changes in patient responses before and after having a RA during the pandemic



Abstract 91 Figure 3 Overall change before and after the first wave among patients, surgeons and anaesthetists

Conclusions Previous exposure to RA techniques increases the acceptance by patients and surgeons in the future. Anxiety about being awake/feeling pain among patients can be mitigated by reassurance and counselling during the preoperative visit. A focus on upskilling non-RA anaesthetists on high valuable Plan A blocks should be encouraged[1] These points should be utilised to increase RA use after the pandemic as well.

92 PATIENT WITH LOWE SYNDROME AND FANCONI TUBULOPATHY UNDERGOING SURGERY FOR SCOLIOSIS: ANAESTHETIC IMPLICATIONS AND FOCUS ON A SAFE PERIOPERATIVE MANAGEMENT OF A PLATELET DYSFUNCTION

[1]M Chami*, [2]N Parisi. [1]*Université Catholique de Louvain/Cliniques Universitaires Saint Luc, Brussels, Belgium*; [2]*Cliniques Saint Pierre Ottignies, Ottignies, Belgium*

10.1136/rapm-2021-ESRA.92

Background and Aims Lowe syndrome or oculocerebrorenal syndrome is a rare X-linked multisystem disorder. It is characterised by bilateral cataract, severe hypotonia, mental retardation, stereotypic behaviour, as well as seizure disorders.

Patients also develop a proximal tubulopathy (Fanconi syndrome) which leads to proteinuria and renal tubular acidosis. Some patients may have an associated platelet dysfunction.

Only a few articles about Lowe Syndrome and anaesthesia exist in medical literature and only one case report regarding the perioperative anaesthetic management for a posterior spinal fusion surgery.

One of our aims was to describe the different challenges we had to overcome, and another was to include the patient in an ERAS (Enhanced Recovery After Surgery) program despite his pathology.

Methods We included the patient in our local fast-track scoliosis anaesthesia protocol. The latter includes an opioid-free total intravenous anaesthesia, with Dexmedetomidine, Propofol and Lidocaïne. It also includes a spinal anaesthesia with low dose intrathecal morphine.



Abstract 92 Figure 1 Preoperative and Postoperative

Abstract 92 Table 1

	Normal values	09:02	14:12	16.39	23:35
Haemoglobin	12-16 g/dL	8.2	7.5	7.6	7.6
pH	7.35-7.45	7.44	7.41	7.41	7.43
Bicarbonate	22-28 mmol/L	23	30	30	30
Lactacte	0.5-1.6 mmol/L	1.0	1.3	1.4	1.5
Potassium	3.5-5.5 mmol/L	3.1	3.4	3.4	3.9

The patient's platelet function showed a reduced aggregation by 40–60% that we managed by administration of tranexamic acid, Desmopressin, and an intraoperative blood salvage machine. We also required a pool of platelets and two units of fresh frozen plasma during the surgery.

Results We managed to overcome the haemostatic and metabolic challenges, and managed to extubate the patient at the end of the surgery after analysing and verifying his biological, neurological, and respiratory statuses.

Conclusions We report a successful anaesthetic perioperative management of a 21 years old patient with Lowe syndrome scheduled for posterior spinal fusion for the treatment of scoliosis.

93 INSTRUMENTED LUMBAR SPINE SURGERY UNDER SPINAL ANESTHESIA AND ERECTOR SPINAE BLOCK IN A STAGE IV LUNG CANCER PATIENT – A CASE-REPORT

AP Martins Pereira*, FJ Moutinho Teixeira, JC Patrício Sampaio, M de Sá Rodrigues Moura Vieira. *Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.93

Background and Aims Severe pulmonary conditions in patients undergoing surgery place them at greater risk of adverse outcomes and alternatives to general anaesthesia may be encouraged. Prone spinal surgery is customarily performed under GA. We describe the use of regional anaesthesia techniques to successfully circumvent post-operative pulmonary events in a patient with advanced disseminated lung cancer.
Methods A 63-year-old man, ASA IV, with debilitating stage IV lung cancer with pleural and mediastinic involvement, pulmonary artery invasion and adrenal, cerebellum and lumbar vertebrae metastatic disease, presents with severe disabling pain, in need for spinal surgery due to vertebral pathological fracture. After obtaining patient's consent, an ultrasound-guided bilateral erector spinae block at L2 level (with ropivacaine and dexamethasone) and a spinal blockade (with hyperbaric bupivacaine and sufentanil) were performed. IV infusions of low-dose propofol, ketamine and lidocaine were maintained during surgery.
Results Patient underwent uneventful L2 vertebroplasty and L1-L3 spinal fusion instrumentation. Quality and extension of the block were adequate and allowed surgery. Patient was comfortable during and after the procedure and safely discharged from anesthesia care. Injury-related pain got manageable, and patient was satisfied with the approach. No postoperative complications were observed.
Conclusions In addition to several other reasons like decreased blood loss, less postoperative nausea and vomiting and better pain control comparing with GA[1], regional anaesthetic strategies appear to be useful alternatives for spinal surgery – including instrumented procedures – in patients with important pulmonary comorbidities, namely late stage lung cancer, who are at substantial risk for postoperative complications, avoiding further respiratory compromise in these frail patients.

94 ULTRASOUND-GUIDED BOTOX INJECTIONS FOR ABDOMINAL MUSCULATURE RELAXATION TO FACILITATE LARGE VENTRAL HERNIA CLOSURE

M Billstrand*, C Arndt. *University of New Mexico, Albuquerque, USA*

10.1136/rapm-2021-ESRA.94

Background and Aims We present a case of regional anesthesiologists using ultrasound-guidance to strategically place Botox injections into the abdominal musculature to facilitate closure of a large ventral hernia. A male patient with complex abdominal surgical history that had previously failed abdominal wall reconstruction was scheduled for a reattempt at ventral wall closure and the surgeon consulted anesthesiology for Botox injections.
Methods Three weeks before the surgery, the patient presented to anesthesiology. His abdominal girth was measured at the umbilicus while relaxing(88.5cm) and while contracting(97cm) his musculature. Measurement of his defect across the umbilicus by palpation was 16cm. After monitors, IV placement and sedation the patient received Botox injections. Under ultrasound-guidance we identified three muscle layers; external oblique, internal oblique and transverse abdominis. We choose three sites per side for injection; a superior, middle and inferior site. Using a 22g Pajunk needle we placed 8 ml of Botox 2U/ml per muscle layer for a total of 300 units of Botox. The patient tolerated the procedure well.



Abstract 94 Figure 1

Results At the time of surgery, the patient's abdominal girth at the umbilicus with relaxation was(91cm) and contraction (105cm). Palpation of the hernia was measured at the umbilicus at 19cm. Demonstrating relaxation of abdominal musculature. The patient proceeded to surgery with successful closure.
Conclusions As the technological advances in ultrasound have advanced so has ultrasound-guided regional anesthesia and the role of the regional anesthesiologist. We bring forward this case report as an example of regional anesthesiologists' expertise being utilized outside the traditional setting to facilitate better outcomes for surgical patients.

95 MOVING THE NEEDLE IN U.K. ANAESTHESIA TRAINING: THE INITIATIVE TO PROMOTE UNIVERSAL COMPETENCE IN REGIONAL ANAESTHESIA

L Suntharanathan*, A Loughnan, D Tong, A Devlin. *King's College Hospital, London, UK*

10.1136/rapm-2021-ESRA.95

Background and Aims Historically regional anaesthesia has been an optional unit of UK higher anaesthesia training. However, 2019 U.K. day surgery guidelines recommend all anaesthetists should be familiar with regional techniques[1] and a recent *Anaesthesia* editorial proposed a list of 'Plan A' regional blocks, that all anaesthetists should be competent in[2].

These publications demonstrate the necessity for regional anaesthesia to develop from a subspecialist skill to an essential one. To reflect this, the incoming 2021 UK anaesthesia curriculum requires trainees to independently perform ultrasound-guided regional anaesthesia to receive a certificate of completion of training[3].

We aimed to investigate the current level of training in ultrasound-guided regional techniques amongst higher trainees in our institution in line with the expectations of these publications.
Methods A survey of regional anaesthesia training and ability to perform ultrasound-guided regional techniques was

performed amongst higher trainees at our tertiary–centre teaching hospital.

Results 100% response rate was obtained from 23 trainees. 43% and 60% felt confident in performing a brachial plexus block and lower limb block, respectively. 30% felt confident performing regional anaesthesia for awake surgery whilst 17% reported sufficient opportunities in general training to develop competence in both upper and lower limb regional techniques.

Conclusions Despite applications of regional anaesthesia becoming more prevalent, it currently remains a subspecialist skill. The mandate for regional anaesthesia proficiency in the new UK curriculum aims to address this disparity and improve equity of patient care. Our findings suggest there will need to be significant promotion of regional anaesthesia within training to enable universal competence.

96 FEASIBILITY OF PRE-ANESTHETIC TELEMEDICINE CONSULTATION IN ELECTIVE ORTHOPEDIC SURGERY: EXPERIENCE DURING THE COVID-19 PANDEMIC

[1]F Le Sache*, [2]C Naudin, [2]M Merzoug, [1]M Bucciero, [1]D Barouk, [1]S Bloc. *[1]Clinique Drouot Sport, Paris, France; [2]Clinical Research Department, Neuilly-sur-Seine, France*

10.1136/rapm-2021-ESRA.96

Background and Aims Telemedicine is becoming more and more used for medical consultation. During the post-COVID-19 period this mode was supported by the French Society of Anesthesia to reduce the risk of viral transmission (1,2). The aim of this study was to determine the rate of successful telemedicine preoperative anesthesia consultation.

Methods This observational, single-center, prospective study, included 267 patients scheduled for elective orthopedic surgery. They were invited to choose either virtual (TeleMed-C) or face-to-face (Face-Face-C) anesthetic preoperative consultation. Every TeleMed-C was carried out through a dedicated website. The Patient Environment Quality Index (PEQI) during TeleMed-C was assessed. Patient satisfaction and opinion about TeleMed-C were assessed using a 5-point Likert scale. The use of a third-party facilitator was noted.

Results The success of TeleMed-C without cancellation or postponement of surgery was 89.5%. A third-party facilitator was present in 46% of the patients over 65 yr. TeleMed-C happened in an adapted environment (98%) which led to a high level of patient satisfaction (97%) and a very high opinion (93%).

Conclusions TeleMed-C is a preoperative anesthetic consultation method which could be widely highly selected by the patients, without increasing the risks of postponed or cancelled surgery. It should be considered as a valid procedure, and not only as an alternative to Face-Face-C.

Abstract 96 Table 1

Characteristics of TeleMed-C	
Duration (min) (n=231)	15 [12-17]
Punctuality (n=234)	215 (92)
Conversion to Face-Face-Cs	0 (0)
Patient Environment Quality Index (n=232)	
PEQI = 1: Very suitable	213 (92)
PEQI = 2: Suitable	14 (6)
PEQI = 3: Poorly adapted	5 (2)
PEQI = 4: Unsuitable	0 (0)
Third-party facilitator (n=232)	33 (14)
18-39 yr (n= 92)	8 (9)
40-65 yr (n= 110)	6 (5)
>65 yr (n= 30)	14 (46)
TeleMed-C satisfaction scale (n = 121)	
1- Very Satisfied	112 (93)
2- Satisfied	5 (4)
3- Neutral	3 (2)
4- Dissatisfied	0 (0)
5- Very dissatisfied	1 (1)
Opinion scale about benefits of TeleMed-C (n = 121)	
1- Strongly agree	107 (88)
2- Agree	6 (5)
3- Neither agree nor Disagree	6 (5)
4- Disagree	0 (0)
5- Strongly disagree	2 (2)

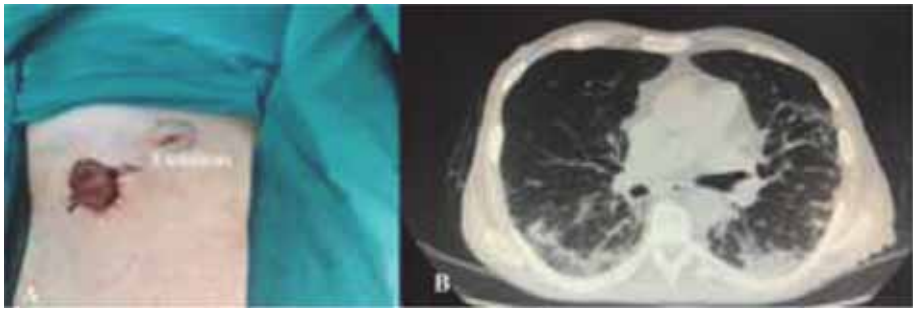
Values are given as Median [interquartile range] or n (%).

97 ABDOMINAL WALL BLOCKS FOR EMERGENCY ILEOSTOMY OPERATION IN A PATIENT WITH COVID-19 PNEUMONIA

BB Güven, T Erturk, T Güner*, A Ersoy. *Sultan Abdulhamidhan Sample and Training Hospital, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.97

Background and Aims The anesthesia method to be administered during emergency surgical procedures for COVID-19 pneumonia patients carries great importance for both patient and surgical team. Regional blocks are generally used to ensure postoperative analgesia after abdominal surgery with general anesthesia. In this case, involving a patient receiving anticoagulant treatment due to COVID-19 pneumonia with planned emergency operation, the aim was to present the anesthesia management with rectus sheath(RS) and transversus



Abstract 97 Figure 1



Abstract 97 Figure 2

abdominis plane(TAP) block combination for the ileostomy operation.

Methods A 70-year-old male patient treated with lymphoma diagnosis for 1 year with known hypertension was admitted to a tertiary referral hospital with respiratory symptoms. Abdominal computed tomography identified a suspicious mass in the terminal ileum which probably caused the ileus tableau and emergency ileostomy operation was planned (figure 1).

A lateral TAP block was performed with 25 mL of 0.25% bupivacaine and an RS block with 15 mL of 1% lidocaine (figure 2). During the operation, which lasted 65 minutes, there was no hemodynamic instability, complications, or any other negative events.

Results Due to the administered blocks, the patient was not given general anesthesia. Hence, transmission was reduced by minimizing aerosol formation in terms of protecting health personnel and worsening of the patient's pneumonia was prevented.

Conclusions The case is discussed in terms of regional anesthesia techniques offering a good alternative in appropriate cases for both employee and patient safety in the present day, when the whole world is affected by the COVID-19 pandemic.

98 DOCUMENTATION OF CONSENT AND RISK FOR ANAESTHETIC PROCEDURES: A SINGLE-SITE AUDIT IN COMPARISON WITH NATIONAL GUIDELINES

A Butler*, A Qureshi, V Venkatesh. *University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK*

10.1136/rapm-2021-ESRA.98

Background and Aims Obtaining consent for anaesthetic procedures and accurately documenting those discussions is vital for ensuring anaesthesia is delivered safely, legally and in a patient-centred manner. This single-centre audit aims to assess documentation of consent for anaesthesia and compliance with the Association of Anaesthetists of Great Britain & Ireland (AAGBI) 2017 guidelines[1].

Methods Anaesthetic charts of patients undergoing elective procedures were audited over a 7-day period at a single site. Data on consent and documentation were collected based on AAGBI guidance. Ethical approval was not deemed necessary by the local audit team.

Results 104 patients were included, 102 undergoing general anaesthesia (GA) and 10 neuraxial blocks. 103 (99%) patients underwent pre-operative assessment and 96 (92%) received written information. There was documented explanation of and patient agreement to the procedure in 104 (100%) patients. Benefits were discussed in 1 (1%), alternative therapies in 2 (2%) and patient questions in 0 (0%) patients. Data on anaesthetic risks are included in tables 1 and 2.

Conclusions Documentation of anaesthetic consent was variable. This may be explained by the anaesthetic chart: sections

Abstract 98 Tables 1

Total GA n=102	N (%)
Pain	98 (96%)
Sore throat	95 (93%)
N&V	92 (90%)
Dental damage	66 (65%)
Blood Transfusion	14 (14%)
Anaphylaxis	11 (11%)
AAGA	10 (10%)
Nerve damage	9 (9%)
Cardio-respiratory complications	7 (7%)
Death	1 (1%)
Cognitive dysfunction	0 (0%)

Abstract 98 Tables 2

Total Neuraxial Block n=10	N (%)
Pain	10 (100%)
N&V	10 (100%)
Nerve damage	9 (90%)
PDPH	7 (70%)
Infection	4 (40%)
Bleeding	2 (20%)
Paralysis	1 (10%)
Dizziness	0 (0%)
Itching	0 (0%)

of the consent process and risks that had allocated tick-boxes were consistently documented, those without tick-boxes were infrequently documented. Time-pressures on the consent process may also explain these findings. Effectively designed anaesthetic charts provide prompts to aid discussion and facilitate documentation. Following these findings, we aim to re-design the trust anaesthetic chart to better facilitate the consent process, improve the patient journey and protect clinicians. Re-auditing following this will aim to demonstrate quality improvement.

Obstetric

99 PROGRAMMED INTERMITTENT EPIDURAL BOLUSES (PIEB) FOR LABOR PAIN RELIEF

[1]E Upryamova*, [2]E Shifman, [2]A Ovezov. *[1]Moscow Regional Scientific Research Institute of Obstetrics and Gynecology, Moscow, Russian Federation; [2]Moscow Regional Research and Clinical Institute (MONIKI), Moscow, Russian Federation*

10.1136/rapm-2021-ESRA.99

Background and Aims Epidural analgesia is the gold standard for the pain relief of labor.

The aim of this study was to compare the analgesic efficacy of PIEB technique and traditional techniques of epidural analgesia for labor pain relief.

Methods We studied 145 subjects. Term women with spontaneous labor and cervical dilation > 1–2cm were eligible to participate in the study. All parturients divided into 5 groups:

1. manual boluses (levobupivacaine 0.25%–10.0 ml);
2. PCEA (levobupivacaine 0.125% – 10.0 ml every 30');
3. CEI (0.125% – 10.0 ml/hour) + PCEA (levobupivacaine 0.125% – 10.0 ml every 30');
4. loading dose of levobupivacaine 0.125% – 10.0 ml, then CEI (0.0625% – 15 ml/hour) + PCEA (0.0625% – 10.0 ml every 20');
5. loading dose of levobupivacaine 0.125% – 10.0 ml, then PIEB (0.0625% – 9.0 ml every 45 ') + PCEA (0.0625% – 10.0 ml every 10').

The effectiveness of labor analgesia was evaluated using VAS.

Results The analysis of the obtained data showed that the combined regimes of epidural analgesia (PCEA + CEI, PCEA + PIEB) provide a more consistent and effective analgesia of the first stage of labor than bolus techniques. However, the greatest average decrease in pain intensity in both I ($p < 0.00002$) and II ($p < 0.0004$) stages of was achieved in group 5 (PIEB) both in absolute and relative units.

Conclusions The PIEB technique with PCEA showed the greatest efficacy of pain relief during first and second stages of labor.

100 IMPACT OF PREOPERATIVE ORAL REHYDRATION ON THE INCIDENCE OF POST-SPINAL HYPOTENSION FOR SCHEDULED CESAREAN SECTION

R Butori*, N Lenoir, M Lalmand, D Schmartz, P Van der Linden. *CHU Brugmann, Brussels, Belgium*

10.1136/rapm-2021-ESRA.100

Background and Aims Low blood pressure is one of the most common complications following spinal anesthesia for elective cesarean section (C-section). Fasting has been considered by some authors as a contributing factor[1]. Our study tested the hypothesis that oral rehydration, 2 hours before a C-section, would reduce the incidence of hypotension and the use of vasopressor agents.

Methods Twenty-six patients, admitted for a C-section, after a simple uncomplicated pregnancy, were included in this prospective randomized study. Patients have been fasted since midnight the day before the operation. In the first group, the fast is maintained until the intervention (control group); in the 2nd group, patients received 400 ml of a preoperative rehydration solution, 2 hours before anesthesia (rehydration group). Any decrease in systolic blood pressure (SBP) of more than 20% from the patient's baseline SBP or the use of a 3 mcg bolus of norepinephrine was considered as a hypotensive episode. Primary endpoint of the study was defined as the incidence of at least one hypotensive episode occurring between the spinal anesthesia and cord clamping.

Results The two groups of patients were comparable (table 1). The incidence of hypotensive episodes, their number and the amount of norepinephrine used were not different between the groups. Maternal satisfaction was comparable.

Conclusions Under the conditions of our study, preoperative rehydration does not reduce the incidence of hypotensive episodes during spinal anesthesia for C-section. These results are to be confirmed after inclusion of the total number of patients expected (50 per group)

Abstract 100 Table 1

	Control group N = 13	Rehydratation group N = 13	p value
Age (Y)	30 ± 5	33 ± 6	0.083
BMI (kg.m^{-2})	27 ± 4	26 ± 6	0.625
Gestational age (weeks)	38 [36-39]	38 [38-39]	0.682
Hypotension (N)	11 (85)	10 (77)	0.619
Hypotensions (nb)	2 [2-6]	4 [1-9]	0.393
Noradrenaline (mcg)	18 [6-26]	24 [3-45]	0.644
Maternal satisfaction	5,0 [5,0 - 5,0]	5,0 [4,0 - 5,0]	0.585

Continuous data with normal distribution : Mean ± SD ; Student t test
Continuous data with non normal distribution : Median [IQ] ; Mann-Whitney U test

101 PROGRAMMED INTERMITTENT EPIDURAL BOLUSES (PIEB) FOR LABOR ANALGESIA: THE EFFECTS ON MATERNAL MOTOR FUNCTION

[1]E Upryamova*, [2]E Shifman, [2]A Ovezov. *[1]Moscow Regional Scientific Research Institute of Obstetrics and Gynecology, Moscow, Russian Federation; [2]Moscow Regional Research and Clinical Institute (MONIKI), Moscow, Russian Federation*

10.1136/rapm-2021-ESRA.101

Background and Aims The PIEB technique is a promising approach that demonstrates certain advantages over traditional techniques epidural analgesia. We compared the incidence of motor block (MB) in women who received PIEB or traditional techniques for maintenance of labor analgesia.
Methods We studied 145 subjects. Term women with spontaneous labor and cervical dilation > 1–2cm were eligible to participate in the study. All parturients divided into 5 groups:

1. manual boluses (levobupivacaine 0.25%–10.0 ml);
2. PCEA (levobupivacaine 0.125% – 10.0 ml every 30');
3. CEI (0.125% – 10.0 ml/hour) + PCEA (levobupivacaine 0.125% – 10.0 ml every 30');
4. CEI (0.0625% – 15 ml/hour) + PCEA (0.0625% – 10.0 ml every 20');
5. PIEB (0.0625% – 9.0 ml every 45 ') + PCEA (0.0625% – 10.0 ml every 10').

The level of the motor block evaluated by the classic Bromage scale (0-1-2-3).
Results MB was reported in 80% in the 1 group by the 120th minute after analgesia, 78% and 52% in the 2 and 3 groups by the by 150 ' ($p < 0.001$); In group 4, the MB frequency is 6% after 15' the start and was increasing to 40% at full cervical dilation ($p < 0.001$). In group 5, the relative MB frequency did not exceed 10% by 120' and was 0% at full cervical dilation ($p < 0.00001$).
Conclusions The PIEB technique showed the greatest effectiveness for labor pain relief with a minimum frequency of MB development.

102 OBSTETRIC HIGH BMI NEURAXIAL SURVEY

Y Mustafa*, E Hindle. *Birmingham Women's Hospital, Birmingham, UK*

10.1136/rapm-2021-ESRA.102

Background and Aims Ultrasound-guided central neuraxial blockade (CNB) has been shown to reduce the number of insertion attempts in high BMI parturients.[1] The objective of this project was to gather data on our CNB practice for BMI >40 parturients at a busy UK obstetric unit.
Methods An online data collection form was used to identify the type of CNB undertaken, BMI, use of pre-procedural ultrasound, number of intervertebral spaces used, number of skin punctures made, number of re-angulations, use of a second operator, success rate and time taken for spinals.
Results Over a period of 7 weeks, 31 CNBs were performed in parturients with BMI>40. 23 CNBs were undertaken without the use of pre-procedural ultrasound, whereas 8 used ultrasound beforehand. In the ultrasound group, a median of 1 intervertebral space was used, 1 skin puncture was made, 1 re-angulation occurred, a second operator was never needed, all CNBs were ultimately successful and the mean time for spinals was 2.13 minutes. This compares to the non-ultrasound group, where a median of 1 intervertebral space was used, 2 skin punctures were made, 3 re-angulations occurred, a second operator was used twice, two CNBs (both epidurals) were ultimately unsuccessful and the mean time for spinals was 5.67 minutes.
Conclusions The use of pre-procedural ultrasound in BMI >40 parturients results in quantitatively more successful CNBs. The time taken for spinals, in particular, reduced by more than half (with a mean time-saving of over 2.5 minutes per spinal) which could make a significant difference to clinical outcome in emergency caesarean sections.

103 ANALGESIC EFFECT OF ERECTOR SPINAE PLANE BLOCK AFTER CAESAREAN SECTION: A RANDOMIZED CONTROLLED TRIAL

[1]A Dostbil*, [1]I Ince, [2]E Yamak Altınpulluk, [3]MF Perez, [1]U Peksoz, [4]G Cimilli, [5]K Kasali, [1]C Atalay, [1]O Ozmen, [4]T Sahin, [4]EP Yılmaz. *[1]Ataturk University School of Medicine, Department of Anesthesiology and Reanimation, Erzurum, Turkey; [2]Istanbul University-Cerrahpasa, Cerrahpasa Medical Faculty, Department of Anaesthesiology and Reanimation, Istanbul, Turkey; [3]Hospital Universitario de Móstoles,Department of Anesthesia, Madrid, Spain; [4]Ataturk University School of Medicine, Department of Obstetrics and Gynecology, Erzurum, Turkey; [5]Ataturk University School of Medicine, Department of Biostatistics, Erzurum, Turkey*

10.1136/rapm-2021-ESRA.103

Background and Aims We hypothesized that bilateral erector spinae plane block applied from the transverse process of T9 who underwent elective cesarean section could provide effective postoperative analgesia.
Methods Fifty parturients who were in 38–42 gestational weeks who were scheduled to undergo elective cesarean section under spinal anesthesia were included in the study. Group I (n=25) was categorized as the group in which spinal anesthesia alone (SA) was performed,Group II (n=25) was categorized as the group in which SA+ESP block was performed.All patients were given a solution containing 7 mg isobaric bupivacaine+15µg fentanyl intrathecally through spinal anesthesia.The SA+ESP group,the bilateral ESPB was performed at the level T9 with 20 ml 0.25% bupivacaine+2 mg dexamethasone immediately after the operation.Total fentanyl consumption in 24 hrs,visual analogue scale (VAS)score for pain,time to the first analgesic request were evaluated postoperatively.
Results The total fentanyl consumption in 24 hours was statistically significantly lower in the SA+ESP group than the SA group (279±242.99µg vs. 423.08±212.55µg, respectively, p= 0.003). The first analgesic requirement time was statistically significantly shorter in the SA group than the SA+ESP group (150.20±51.83min vs.197.60±84.49min, respectively, p= 0.022). Postoperative VAS scores at 4th, 8th, and 12th h at rest were statistically significantly lower in group SA+ESP than group SA (p=0.004,p=0.046, p=0.044, respectively).VAS scores during the postoperative 4th,8th, and 12th h cough was statistically significantly lower in group SA+ESP than group SA (p=0.002, p=0.008, p=0.028, respectively).
Conclusions Ultrasound-guided bilateral ESP provided adequate postoperative analgesia and significantly decreased postoperative fentanyl consumption in patients having Caesarean section. Also, it has a longer analgesia time than the control group, and it has been shown to delay the first analgesic requirement.

104 THE STUDY OF THE SENSOR BLOCK DURING LABOR ANALGESIA: PROGRAMMED INTERMITTENT EPIDURAL BOLUSES (PIEB) VERSUS CONTINUOUS EPIDURAL INFUSION (CEI)

[1]E Upryamova*, [2]E Shifman, [2]A Ovezov. *[1]Moscow Regional Scientific Research Institute of Obstetrics and Gynecology, Moscow, Russian Federation; [2]Moscow Regional Research and Clinical Institute (MONIKI), Moscow, Russian Federation*

10.1136/rapm-2021-ESRA.104

Background and Aims Randomized trials show that the use of the PIEB reduce the frequency of the motor block, fewer manual boluses and provides greater maternal satisfaction compared to CEI.

The aim of study was to compare the dynamics of the sensory block of PIEB+PCEA to CEI+PCEA for maintenance labor analgesia.

Methods We studied 70 subjects. The level of the sensor block evaluated the «pin-prick» test. All parturients divided into 2 groups:

4 – loading dose of levobupivacaine 0.125% – 10.0 ml, then CEI (0.0625% – 15 ml/hour) + PCEA (0.0625% – 10.0 ml every 20');

5 – loading dose of levobupivacaine 0.125% – 10.0 ml, then PIEB (0.0625% – 9.0 ml every 45 ') + PCEA (0.0625% – 10.0 ml every 10').

Results The results indicate that in the PIEB group, the level of sensory block in patients was higher after 15 minutes the start of analgesia and remained so until the end of the observation period (median PIEB Th5 versus Th8 in the CEI group, (p <0,0004). When cervical dilation full (II stage), the intervals and distributions of the sensor block level in the CEI and PIEB groups completely diverge (p <0.00001). The median and peak frequency of the sensor block level in the CEI group are at Th9, while the same statistics in the PIEB group are Th6.

Conclusions PIEB + PCEA technique maintained a consistently high level of sensor block throughout the study compared to PCEA + CEI, which ensured effective analgesia in the first and second stages of labor.

105 QUESTIONNAIRE SURVEY OF SATISFACTION WITH LABOUR NEURAXIAL ANALGESIA

S Carvalho, A Carrão, I Ferraz*, C Castanheira, M Ghira. *Hospital Beatriz Ângelo, Loures, Portugal*

10.1136/rapm-2021-ESRA.105

Background and Aims Neuraxial analgesia for labour has become common practice in developed countries. The aim of this study was to evaluate the degree of satisfaction with neuraxial analgesia during labour in our institution which is requested by more than 80% of women.

Methods We conducted a retrospective questionnaire survey to women up to 3 days after delivery, between July and September 2020. The primary outcome was the degree of satisfaction (using a numeric rating scale from 0 to 10). Secondary outcomes were pain relief (using a numeric rating scale from 0 to 10), side effects and reasons not to use neuraxial analgesia. Statistical analysis was performed using SPSS® software (version 22).

Results A total of 232 women answered the questionnaire, of which 47.4% had a combined spinal-epidural technique, 44.4% epidural, 0.4% spinal and 7.8% did not have neuraxial analgesia. The median degree of satisfaction was 10 [9;10]. Pain after the technique reduced from a median of 9 [7;10] to 0 [0;2]. Side effects and other complaints are shown in figure 1. Main reasons not to use neuraxial analgesia were neuraxial analgesia not being offered due to complete dilation on admission (66.7%), tolerance to labour pain (16.7%) and previous unsatisfactory labour neuraxial analgesia (5.6%). About



HOSPITAL BEATRIZ ÂNGELO

Exma. Senhora

Dra. Sofia Almeida Carvalho

Médica interna de Formação Específica no Serviço de Anestesiologia do Hospital Beatriz Ângelo

Loures, 26 de fevereiro de 2021

N/Ref.ª 3568/2021_MJHE-mail/NO

Estudo HBA n.º 0550

Correio eletrónico e PMP

Assunto: Inquérito de satisfação da analgesia epidural de trabalho de parto

Exma. Senhora Dr.ª Sofia Almeida Carvalho,

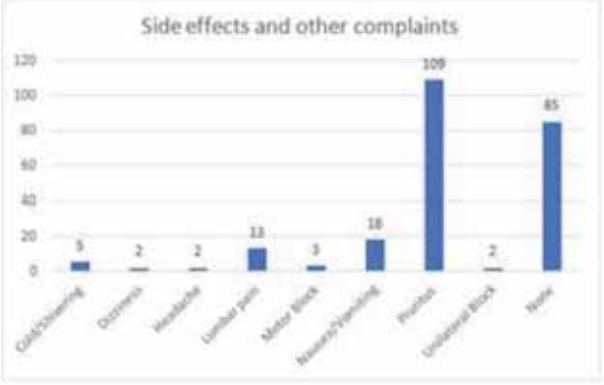
No seguimento da submissão a este Hospital do estudo melhor identificado em epígrafe, no qual V. Exa participa na qualidade de Investigador Principal, temos o prazer de informar que a Comissão de Ética para a Saúde (CES) do HBA considera asseguradas as questões éticas relacionadas com a realização do estudo, pelo que deliberou a sua aprovação em reunião extraordinária do dia 26 de fevereiro do corrente ano.

Com os nossos melhores cumprimentos,

A Presidente da Comissão de Ética para a Saúde do HBA

Maria João Heitor

Abstract 105 Figure 1



Abstract 105 Figure 2

2.3% would not request neuraxial analgesia in a next pregnancy.

Conclusions In our sample, there was a high adherence to neuraxial analgesia (92.2%), with an even distribution between epidural and combined spinal-epidural techniques. Even with minor side effects, mainly pruritus, most women were satisfied and 97.7% would request neuraxial analgesia again.

106 TIME TO EXPAND THE DIAGNOSTIC AND INTERVENTIONAL USES OF ULTRASOUND IN OBSTETRIC ANAESTHESIA – INTRODUCING A HOLISTIC COURSE AT A LONDON TERTIARY OBSTETRIC HOSPITAL

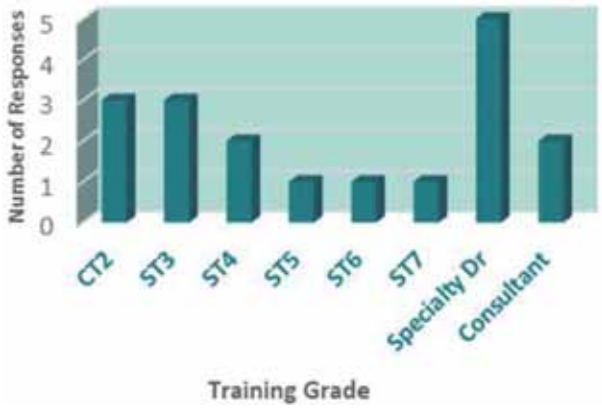
Y Mandour*, M Khaku, H Caulfield, J Dick. *University College London Hospitals NHS Foundation Trust, London, UK*

10.1136/rapm-2021-ESRA.106

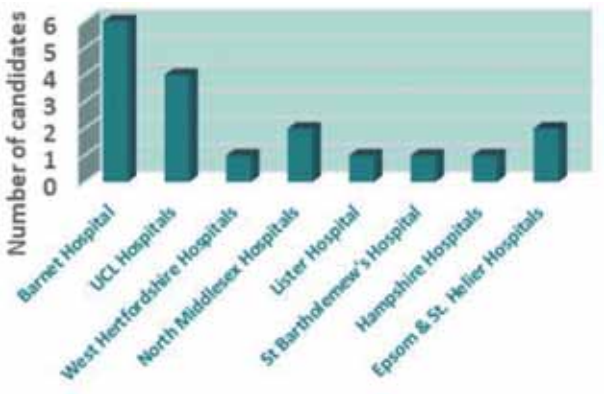
Background and Aims Ultrasound use is expanding our anaesthetic practice in obstetrics for both diagnostic and interventional purposes. These include scans for central neuraxial blockade, truncal blockade and finally focussed point-of-care ultrasound scans (POCUS). We aimed to design and deliver a practical course to enhance knowledge and skills in these areas.

Abstract 106 Table 1 Course contents

Lectures	Workshops
US guided Central Neuraxial blockade	
Truncal blocks – US guided TAP & QL blocks	
POCUS - Cardiac	
POCUS - Airway & lungs	
Focussed Assessment with sonography for trauma (FAST) scanning	
Anticoagulants in regional anaesthesia	
Updates/ Complications of regional anaesthesia	



Abstract 106 Figure 1 Training grades of course candidates



Abstract 106 Figure 2 Hospitals of course candidates

Methods Our course consisted of a series of lectures and corresponding small-group workshops which covered the topics in table 1.

The course included candidates of all training grades in the UK (figure 1).

Candidates represented eight large NHS Trusts in South East England (figure 2).

Results We achieved a 100% response rate to our post-course evaluation survey (18/18). All attendees gave global positive feedback about our multi-dimensional educational tool for the use of this technology in obstetric anaesthesia. The majority of candidates expressed more interest in workshops and hands-on training.

Conclusions Ultrasound technology is enriching obstetric anaesthesia with diagnostic and interventional techniques which are invaluable for parturients with multiple comorbidities or trauma victims. National anaesthetic training programme in the UK training modules for obstetric anaesthesia should strive to recognise the use of ultrasound as an integral part of this complex subspecialty.

107 COMPARING ULTRASOUND TO BODY MASS INDEX FOR MEASUREMENT OF DURAL DEPTH

T Al-Ani*. *Glasgow Royal Infirmary, Glasgow, UK*

10.1136/rapm-2021-ESRA.107

Background and Aims Measuring the distance from the skin to posterior dura (SPD) before lumbar epidural placement may prevent accidental dural puncture.[1] This study compares the accuracy of measurement of SPD using ultrasound versus body mass index (BMI) in obstetric patients.

Methods An anonymous retrospective data of pre-procedural ultrasound and intraprocedural Tuohy needle measurements of SPD were collected from anaesthetic charts of thirty parturient with varying gestational stages, maternal age and ethnicity, all had received lumbar epidurals for labour analgesia using 18G Tuohy needle and loss of resistance to saline. Then, using the documented patient's BMI the SPD was calculated using the general regression equation ($Y = 2.52 + 0.11$ BMI).[2] The accuracy of measurement of SPD for the two groups: Ultrasound SPD versus BMI SPD compared to the Touhy needle SPD was analysed using Wilcoxon signed-rank test. Ethics approval is not required as per NHS Greater Glasgow and Clyde policy.

Results Ultrasound measurement of SPD was equal to Touhy needle in 23/30 (76.7%), while overestimated in 1/30 (3.3%) by 0.2 cm and underestimated in 6/30 (20%) by a mean of 0.5 cm. BMI measurement of SPD was equal to Touhy needle in 0/30 (0%), while overestimated in 25/30 (83.3%) by a mean of 1.14 cm and underestimated in 5/30 (16.7%) by a mean of 0.29 cm. Ultrasound was more accurate than BMI in the measurement of SPD based on Wilcoxon signed-rank test (non-parametric) with a p-value <0.00001.
Conclusions Compared to BMI, ultrasound offers more accurate measurement of SPD.

108 POST-CESAREAN SECTION ANALGESIA WITH QUADRATUS LUMBORUM BLOCK 5 IN A PUERPERAL WOMAN: A CASE REPORT

L Vieira, B Alves*, CR Almeida. *Centro Hospitalar Tondela Viseu, Viseu, Portugal*

10.1136/rapm-2021-ESRA.108

Background and Aims A 42-year-old pregnant woman refused neuroaxial anaesthesia for a scheduled cesarean section (c-section), therefore a balanced general anaesthesia was performed. The c-section was uneventful. Before extubation, in a supine position, an ultrasound guided lumbar bilateral quadratus lumborum block (QLB) 5 was performed with a single shot dose of 20 ml, per side, of ropivacaine 0,5%. During the first 24 hours post-operative, the patient remained comfortable, with paracetamol 1g every 8 hours, intravenously, without other analgesic medication.
Methods Different variations of QLB have been performed for analgesia after c-section, but Transmuscular QLB (T-QLB) is frequently chosen, due to long lasting duration and to better visceral analgesia, but the patient must be positioned in both lateral position alternately. [1]
Results Recently *Almeida et al*,[2] described the QLB5 and the LAlat Block, the latter not for abdominal pain, using the same sonoanatomy of the T-QLB, but maintaining the supine position. The anesthetic is injected from anterior/lateral to posterior/medial direction between the psoas major muscle (PMM) and the quadratus lumborum muscle (QLM) (figure 1). The insertion point at QLB5 is anterior to the probe. This approach (QLB5) provides similar dispersion as the T-QLB; the gravid uterus or other abdominal structure are easily avoided as with the T-QLB; this happens because QLM functions as a safe path for the needle.
Conclusions The QLB5 is safe and allows prolonged abdominal (somatic and visceral) analgesia for post-c-section.



Abstract 108 Figure 1 Ultrasound image showing performance of a modified anterior QLB, a novel QLB 5. ESM, Erector spinae muscle; LA, Local anaesthetic.

109 AN AUDIT OF RESPONSE TIMES TO EPIDURAL REQUESTS ON A BUSY UK LABOUR WARD

T Moody*, A Qureshi, M Nejdlova. *University Hospital Birmingham, Birmingham, UK*

10.1136/rapm-2021-ESRA.109

Background and Aims Epidural analgesia is the gold standard for labour analgesia. Recently the availability and timing of an epidural has been topical in the UK news [3,4,5]. The time from an anaesthetist being informed of epidural request to attendance should be less than 30 minutes; or 60 in exceptional circumstances. This single centre audit aims to assess anaesthetic attendance times according to the standards set by the OAA and AAGBI [1,2].
Methods We looked at all epidural requests over 3 months at a busy UK maternity unit. With each epidural, the time of request, the time of anaesthetist being informed and the time of attendance of anaesthetist were noted. Reasons for delays, including delays between the request and informing the anaesthetist were recorded.
Results 31 from 50 epidural requests had the anaesthetist attend within 30 minutes of being informed. The anaesthetist attended 37 times within 60 minutes of being informed.

The most common reasons for delay were unavailability of the anaesthetist, the anaesthetist not being informed, CTG concerns and awaiting blood results.
Conclusions Out of hours, one resident anaesthetist was on call with a non-resident consultant. If a case was on-going in theatre, this potentially delayed discussion for epidural. It highlights the need for additional resident labour ward anaesthetists at busy units in line with GPAS guidelines [1]. In our unit we rolled out an educational program aimed at educating

Abstract 109 Table 1

Epidural time data	Total patients = 50
Anaesthetist attending within 30 minutes of being informed	31/50
Anaesthetist attending within 60 minutes of being informed	37/50
Anaesthetist attending within 30 minutes of initial request	27/50
Reason for delay documented in patient notes	35/50

Abstract 109 Table 2

Documented reasons for delay	Total documented reasons for delay = 35
Anaesthetist unavailable	10
Anaesthetist not informed	7
CTG concerns	5
Blood results unavailable	5
Lack of trained midwife	3
Delivery is likely imminent	2
Patient awaiting obstetric review	1
Equipment issues	1
Awaiting uterotonics to start	1

the multidisciplinary team on epidural provision and developed posters for the unit on the need to respond to epidural requests within 30 minutes.

110 EARLY ONSET OF POST-DURAL PUNCTURE HEADACHE (PDPH) AND MENINGEAL SIGNS FOLLOWING URGENT CAESARIAN SECTION. A CASE REPORT

E Nikouli, G Karras*, B Kiamiloglou. *'Sismanogleion' General Hospital of Komotini, Komotini, Greece*

10.1136/rapm-2021-ESRA.110

Background and Aims 19-year-old parturient, ASA II, presented for the first time in the Ob/Gyn ER, reporting intense uterine contractions, multiparous (2 previous caesarian sections), 3 days of nausea and vomit, without fever, heavy smoker, and recent food uptake.
Methods Following the first ER screening the parturient underwent spinal anaesthesia (sitting position, 25G Quincke non-traumatic needle, first try, 12 mg chirocaine and 0.0 mg fentanyl). Intraprocedural vomiting, lowered BP, and dizziness were observed. The caesarian section was performed uneventfully.
Results 14h after the woman's re-admission, worsening headache even in prone position, nausea, tinnitus and photophobia were reported. Meningeal signs followed 24h p/o. Lab tests were repeated. Blood culture, cerebral CT scan, pupilloscopy and antibiotic prophylaxis were prescribed because meningitis was suspected. There was no suspicion of an early onset of PDPH despite CT-confirmed signs of intracranial hypotension. The woman was transferred to the nearest university hospital. Neurologists diagnosed iatrogenic PDPH due to intense intracranial hypotension confirmed by cerebral CT and MRI and by excluding bacterial infection (negative blood cultures, CSF testing), and treated the patient accordingly. The continuous supine position of the woman – incompatible with a rapidly worsening PDPH – and our belief in adequate anaesthetic technique, lead us to perform PCR on the remaining blood samples for viral infection markers and they came back positive with EBV infection.
Conclusions Neurologists' early conclusion of iatrogenic PDPH, CT images and early onset of symptoms, were in contrast with the adequate anaesthetic technique. That covered the true cause of the patient's worsening situation: meningeal irritation due to EBV infection.

111 SPECIFIC FEATURES OF SPINAL ANESTHESIA DURING CESAREAN SECTION WITH SEVERE CORONAVIRUS PNEUMONIA

E Oreshnikov*, S Oreshnikova, E Vasiljeva, L Kashaeva, T Denisova. *Chuvash State University, Cheboksary, Russian Federation*

10.1136/rapm-2021-ESRA.111

Background and Aims Spinal anesthesia (SA) is the main type of anesthesia for cesarean section (SC). Severe coronavirus pneumonia, which complicates the course of pregnancy, requires some adjuncts to provide SA.
Methods The safe conduct of SA was ensured by the temporary discontinuation of the use of heparin or low molecular weight heparins in the perioperative period. SA was performed exclusively in the sitting position, then the patient was transferred to the horizontal position with the head end elevated by 30-45-60 degrees (depending on the needs). Respiratory support was used at all stages of preparation, performance, and administration of anesthesia: insufflation of humidified oxygen, high-flow oxygenation (HFO) through nasal cannula or face mask, and noninvasive mechanical lung ventilation through the face mask. Maintenance of normotension was provided by intravenous boluses of 50 μg phenylephrine.
Results The above-described features of SA were used by us during CS in 30 women in labor with severe coronavirus pneumonia. Compliance with the characteristics of SA caused by coronavirus pneumonia was expressed in the following: 1) sitting position – half sitting at all stages of the perioperative period; 2) constant respiratory support, mainly HFO; 3) early transfer to the pron-position in the postoperative period, accompanied by effective postoperative anesthesia for its provision; 5) a quick return to heparin therapy in therapeutic doses. This approach ensured that there was no need to use general anesthesia with tracheal intubation for CS.
Conclusions Supplemented with HFO, half-sitting SA is the method of choice for providing CS in labor with severe coronavirus pneumonia.

112 NEUROFIBROMATOSIS TYPE 1 AND NEUROAXIAL TECHNIQUES FOR LABOUR AND DELIVERY. ARE THEY ALWAYS FEASIBLE AND SAFE? LAST FIVE YEAR EXPERIENCE IN A TERTIARY CENTRE

VE Vega Sanchez*, E Monge, C Corbella. *Gregorio Marañon University Hospital, Madrid, Spain*

10.1136/rapm-2021-ESRA.112

Background and Aims Neurofibromatosis type (NF) 1 is an uncommon disease. Up to 9% of asymptomatic patients may have spinal tumours with potential enlargement during pregnancy[1]. Its unintentional puncture can lead to bleeding and increased intracranial pressure. Brain tumours are described; scoliosis and preeclampsia are more frequent[2].

Therefore, the choice of the anaesthetic technique will be guided by risk/benefit ratio, being advisable recent neuroimaging. If any doubt, analgesia with opioids is an option or general anaesthesia if required.
Methods Gregorio Marañón University Hospital (Madrid, Spain) database was searched to identify obstetric patients with history of NF I between January 2016 and June 2021.
Results Two cases and three pregnancies were found:

A 25-yr-old at term was attended at two labours. She had no history of neuroaxial involvement throughout time; first eutocic delivery was done under uneventful epidural anaesthesia (neuroimaging available); 2 years later required episiotomy under local anaesthesia (patient´s choice).

A 39-yr-old patient with peripheral neurofibromas history and no neurological follow-up required analgesia for labor, remifentanil institutional PCA protocol was offered; but labour induction failed and c-section was done under general anaesthesia.
Conclusions Patients with NF-1 are a challenge to the obstetric anaesthesiologist and may complicate the management of labour analgesia. Neuroaxial techniques are not precluded but to be safely performed a case by case assessment and recent

neuroimaging (brain and neuroaxial) are advisable, especially if the patient develops any neurological symptoms.

113 AXILLARY BRANCHIAL PLEXUS BLOCK IN A WOMAN AT 34 WEEKS OF GESTATION FOR NON-OBSTETRIC DAY- SURGERY – A CASE REPORT

E Nikouli, G Karras*, V Koutsis, F Arampatzidou, B Kiamiloglou. *'Sismanogleion' General Hospital of Komotini, Komotini, Greece*

10.1136/rapm-2021-ESRA.113

Background and Aims We report an axillary branchial plexus block for surgical anaesthesia in a third-trimester parturient without other comorbidities. The 30-year-old woman (34 weeks) was scheduled for external fixation of her Colles' fracture (left) after a ground-level fall. The patient consented to the proposed awake regional block technique instead of general anaesthesia.
Methods We performed a multiple-injection peripheral nerve stimulation (PNS) technique with 0.5% ropivacaine 30 mL, 1% lidocaine 10 mL, with 1:400.000 epinephrine as intravascular marker. The patient was placed in left lateral decubitus position with the arm to be blocked placed at a right angle to the body and the elbow flexed to 90 degrees. Skin anesthesia was also applied for the placement of an arm tourniquet. Standard monitoring was placed, supplemental oxygen was administered, baseline fetal heart rate was obtained by our obstetrical colleague. No sedatives or analgesics were administered during either procedure.
Results Our block was well tolerated and produced reliable and adequate anaesthesia during the 50-minute surgical procedure. No respiratory compromise was observed. The block lasted approximately 10h and no pain was reported for 6h. In post-anaesthesia care unit, she had normal respiration, she did not complain about pain, and our obstetric colleagues reassessed the fetal heart rate without any new concerns. The patient was discharged the next day.
Conclusions We successfully performed adequate regional anaesthesia, using a reliable and safe technique, avoiding hemidiaphragm paralysis. This non-obstetric surgery in the parturient amplified the necessity of neuraxial anaesthesia, as branchial plexus block can be ideal for upper extremity pathology.

114 PHEOCHROMOCYTOMA AND C-SECTION – IS REGIONAL ANAESTHESIA THE SOLUTION FOR THIS DANGEROUS COMBINATION?

LA Montenegro Ledo, TR Alves Martins*, AR Santos Almeida Silva, MP Sanches Lucas, EC Pereira. *Hospital Garcia de Orta, Almada, Portugal*

10.1136/rapm-2021-ESRA.114

Background and Aims Pheochromocytoma is a rare cause of hypertension during pregnancy, but it is one of the most threatening medical conditions for mother and fetus. Anaesthetic management for C-section is challenging because it is associated with serious cardiovascular complications.

We report a successful case of c-section under combined spinal-epidural (CSE) anaesthesia in a pregnant patient with a pheocromocytoma.

Methods A 32 weeks pregnant women was referred to our hospital with persistently uncontrolled hypertension. During investigation, an abdominal MRI revealed a right-sided suprarenal mass suggesting a pheochromocytoma. Plasma and urine metanephrines were increased, confirming the diagnosis. The remain study showed normal results.

At a multidisciplinary consultation was decided to do surgical resection of pheochromocytoma after elective C-section at 36th week.

Preoperative medical preparation included α-blockade (doxazocin), beta-blockade (propranolol) and normalization of intravascular volume (high sodium diet).
Results Before induction, a central vein and artery were cannulated for hemodynamic monitoring.

A CSE anaesthesia was performed to minimize hypertensive crises. At subarachnoid space, it was administered 11 mg of hyperbaric bupivacaine and 3 mcg of sufentanyl. Rapid co-filling with 1 l of ringer lactate, under pressure, was administer. Adequate anaesthesia level was guaranteed and patient remained hemodynamically stable, without need of vasoactive drugs. No intercurrences were recorded.

Multimodal analgesia was prescribed for post-operative period with epidural patient control analgesia.
Conclusions Meticulous anaesthetic management is crucial and the choice of anaesthetic technique plays a decisive role in outcome of patient.

Regional anaesthesia presented as an effective technique either in blunt surgical stress and to provide post-operative analgesia.

115 QUESTIONNAIRE SURVEY OF SATISFACTION WITH LABOUR NEURAXIAL ANALGESIA – COMBINED VERSUS EPIDURAL

S Carvalho, A Carrão, I Ferraz*, C Castanheira, M Ghira. *Hospital Beatriz Ângelo, Loures, Portugal*

10.1136/rapm-2021-ESRA.115

Background and Aims Both combined spinal-epidural and epidural techniques are shown to provide effective pain relief during labour and there appears to be little basis for offering one technique over the other. The aim of this study was to evaluate if there is any difference between the techniques regarding overall maternal satisfaction.
Methods We conducted a retrospective questionnaire survey to women up to 3 days after delivery, between July and September 2020. The primary outcome was the degree of satisfaction (with a numeric rating scale from 0 to 10). Secondary outcomes were pain relief (with a numeric rating scale from 0 to 10) and side effects. Outcomes after labour analgesia with epidural were compared with combined spinal-epidural technique. Statistical analysis was performed using SPSS® software (version 22).
Results A total of 213 women answered the questionnaire, of which 51.6% had a combined spinal-epidural and 48.4% epidural technique. The median degree of satisfaction was 10 [9;10] after combined spinal-epidural and 10 [8;10] after epidural (p-value <0,05; figure 1). Pain relief was higher after combined spinal-epidural (p-value <0,05; figure 2), despite an incidence of pruritus of 60% compared with 42% after epidural (p-value <0,05). About 49% of women reported no side effects after epidural versus 31% after combined spinal-



HOSPITAL BEATRIZ ÂNGELO

Exma. Senhora

Dra. Sofia Almeida Carvalho

Médica interna de Formação Específica no Serviço de Anestesiologia do Hospital Beatriz Ângelo

Loures, 26 de fevereiro de 2021

NiRel.ª 3569/2021_MJNE-maJNO

Estudo HBA n.º 0550

Correio eletrónico e PM*

Assunto: Inquérito de satisfação da analgesia epidural de trabalho de parto

Exma. Senhora Dr.ª Sofia Almeida Carvalho,

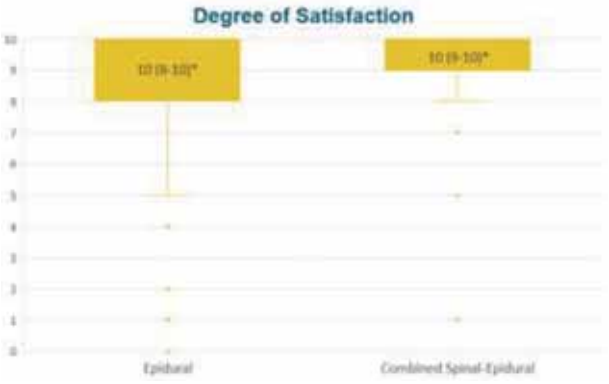
No seguimento da submissão a este Hospital do estudo melhor identificado em epígrafe, no qual v/ Exa. participa na qualidade de Investigador Principal, temos o prazer de informar que a Comissão de Ética para a Saúde (CES) do HBA considera asseguradas as questões éticas relacionadas com a realização do estudo, pelo que deliberou a sua aprovação em reunião extraordinária do dia 26 de fevereiro do corrente ano.

Com os nossos melhores cumprimentos,

A Presidente da Comissão de Ética para a Saúde do HBA

Maria João Heleir

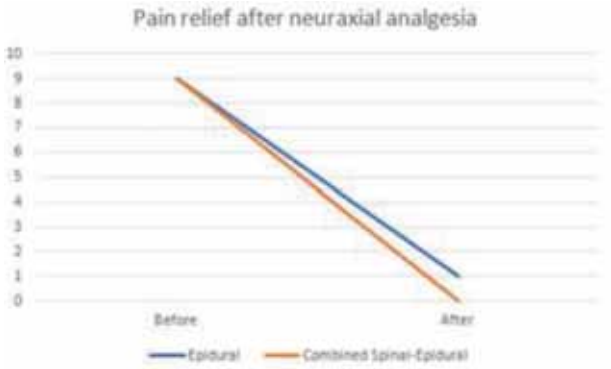
Abstract 115 Figure 1



Abstract 115 Figure 2

epidural (p-value <0,05). No difference was found in terms of requesting neuraxial in a next pregnancy (98.2% after combined spinal-epidural compared with 97.1% after epidural).

Conclusions In our sample, even with higher side effects, namely pruritus, most women had better pain relief and were more satisfied with combined spinal-epidural technique.



Abstract 115 Figure 3

116 CEREBROSPINAL FLUID CUTANEOUS FISTULA AFTER UNEVENTFUL COMBINED SPINAL-EPIDURAL FOR CAESAREAN SECTION: A CASE REPORT

M Sanha, H Barbosa*, M Paiva. *Centro Hospitalar Vila Nova de Gaia/Espinho, Porto, Portugal*

10.1136/rapm-2021-ESRA.116

Background and Aims A cerebrospinal fluid (CSF) cutaneous fistula is a rare complication of neuraxial anaesthesia.

There are few cases described in the literature, and there are no specific recommendations for diagnosis and treatment.

Herein we present a case of an asymptomatic cerebrospinal fluid cutaneous fistula following combined spinal-epidural (CSE) for caesarean section.

Methods A 35-year-old parturient at 39 weeks and 1 day estimated gestational age underwent combined spinal-epidural for a caesarean section due to breech presentation. There were no complications during the intervention. Epidural catheter was left in situ for 24h postpartum for analgesic purposes and then removed without apparent complication. On day 3 postpartum, clear fluid was noted to be slowly draining from the catheter insertion site. The patient remained asymptomatic, denying any neurological symptoms including headache, nuchal rigidity or fever. The neurosurgery team evaluated the case and diagnosed a cerebrospinal fluid cutaneous fistula. The patient was successfully treated with a suture at the epidural site and conservative measures, and no long-term complications were evident.

Results Epidural blood patching has proved to be an effective technique for the management of these fistulas. Nevertheless, patients who are asymptomatic or contraindicated for invasive procedures may be successfully treated with conservative measures, including cutaneous stitching.

Conclusions Case reports of CSF-cutaneous fistulas in the literature are sparse.

This case supports suture at the epidural site and conservative measures as an effective treatment for a CSF-cutaneous fistula after CSE anesthesia.

We aim the importance regarding the surveillance for any complication after neuraxial approach in the obstetric population.

117 IS THERE A PERFECT SPINAL? A CASE OF SENSORINEURAL HEARING LOSS

ARSA Silva, TRA Martins*, LAM Ledo, MPS Lucas. *Hospital Garcia de Orta, Almada, Portugal*

10.1136/rapm-2021-ESRA.117

Background and Aims Spinal anaesthesia (SA) is considered a safe technique even if associated with several complications. Reduced CSF pressure from leakage trough dural puncture site has been associated with post-dural puncture headache (PDPH) and is a proposed mechanism for sensorineural hearing loss (SNHL). Presumably, reduced CSF pressure transmits to inner ear impeding auditory hair cells function. Data reports 0,4% incidence with some cases of persisting SNHL and correlates with large gauge and cutting point needles utilization. Blood patch, steroid therapy, hyperbaric oxygen and supportive measures are among treatment options with good outcome. We aim to point out a case of isolated SNHL after uneventful SA in a healthy young woman.
Methods 42y healthy woman with uncomplicated pregnancy admitted for elective C-Section at term. SA was successful at first attempt with a 27G pencil point needle inserted on L3-L4 space. Bupivacaine 7,5 mg plus sufentanyl 2,5µg were administered after backflow of CSF.
Results No complications were recorded on perioperative period. After 3 days, isolated sudden left SNHL occurred upon standing. Otolaryngologic evaluation showed isolated low frequency left SNHL. Vigorous hydration and restricted supine position resulted in rapid improvement. Audiogram confirmed absence of SNHL at discharged on day 7.
Conclusions SNHL may occur despite an uneventful SA. Improvement after implemented measures reinforces the above-mentioned hypothesis as probable underlaying physiological mechanism. Supportive treatment can be successful managing isolated SNHL. Because there is a risk of permanent damage, a high suspicion index for SNHL should be present even in the absence of PDPH to warrant an early diagnosis.

118 ANESTHETIC MANAGEMENT FOR CESAREAN SECTION IN A SUPER MORBIDLY OBESE PATIENT

H Gouveia*, S Reinolds Pereira, J Freitas, R Rodrigues. *Serviço de Saúde da Região Autónoma da Madeira – Hospital Central do Funchal, Funchal, Portugal*

10.1136/rapm-2021-ESRA.118

Background and Aims Super morbid obesity is defined as a body mass index of >50 kg/m2. Complications from anesthesia and overall morbidity and mortality are higher in this population. Neuraxial techniques are the preferred anesthetic techniques for cesarean delivery in obese parturients but can be technically challenging.
Methods We present the successful anesthetic management of a super morbidly obese obstetric patient with BMI of 68.3 kg/m2 underwent cesarean section due to Cephalopelvic disproportion at 38 weeks gestation. A 36-year-old parturient, G2P0 with a history of spontaneous first trimester miscarriage and significant medical history of chronic arterial hypertension, limited mobility, obesity-related shortness of breath and fatigue that had been exacerbated by her pregnancy.
Results In the operating room after several failures to locate the epidural space with an 8 cm needle, we successfully located it at a depth of 9.5 cm using a 18 gauge 10 cm



Abstract 118 Figure 1

Tuohy needle, in the low lombar at an estimated L1-L2 interspace, but a 10 cm 24 gauge quincke neddle for the spinal block wasn't enough. After the placement of the epidural catheter space, we successfully performed the spinal anesthesia at the L3-L4 interspace with a 12 cm 22 gauge and spinal hyperbaric bupivacaine 0.5% and sufentanyl was administer. The surgery was completed uneventfully. Postoperatively the patient was observed and a multimodal analgesia was satisfactorily provided. The patient was discharged home on postoperative day eight without complications.
Conclusions It is important to report these cases to support the development of new protocols and more adequate conducts for this population.

119 OUTCOMES OF PREGNANCY AND DELIVERY FOLLOWING A SURGERY OF ADVANCED ENDOMETRIOSIS

[1]S Krzconavičiūtė*, [2]V Abraitis. [1]*Lithuanian University of Health Sciences, Kaunas, Lithuania*; [2]*Lithuanian University of Health Sciences Kaunas Clinics, Kaunas, Lithuania*

10.1136/rapm-2021-ESRA.119

Background and Aims Even though endometriosis is widely spread among women of reproductive age [1, 2], few researches have been done to identify the influence of endometriosis on pregnancy and delivery outcomes. The aim of this study is to evaluate outcomes of pregnancy and delivery following a surgery of advanced endometriosis.
Methods A retrospective analysis was conducted at LSMU Kaunas Clinics. The sample consisted of 64 women who underwent surgery of endometriosis. The results were compared to the statistical data and other scientific researches. Significant differences were considered when $p<0.05$.
Results 25% of pregnancies ended with spontaneous abortion, 15,63% – with premature labour. Pregnancy complication rate did not statistically significantly differ in IVF pregnant women compared to conceived naturally. More pregnancy complications were identified following a surgery of a III stage of

endometriosis compared to after surgery of a IV stage of endometriosis (p<0,05). From all analysed deliveries 31,25% ended with cesarean section. More deliveries via cesarean section were found after IVF compared to natural conception (p>0,05). A higher frequency of cesarean section was found in women who got pregnant after IV stage endometriosis surgery compared to those after III stage surgery (p>0,05).

Conclusions Women after a surgery of III stage endometriosis have an increased probability of pregnancy complications compared to woman after surgery of IV stage endometriosis. Rate of cesarean section is still increased after a surgery of advanced endometriosis. Cesarean sections are performed more frequently on women after surgery of IV stage endometriosis than after surgery of III stage endometriosis.

120 HOW ELECTRONIC PRESCRIBING BUNDLES IMPROVED PAIN RELIEF PRESCRIBING PRACTICES FOR PATIENTS UNDERGOING ELECTIVE CAESAREAN SECTIONS

J Patch*, V Pattni, S Bell. *Princess Alexandra NHS Trust, Harlow, UK*

10.1136/rapm-2021-ESRA.120

Background and Aims The elective caesarean section (CS) rate in England was 15% in 2019. It is vital to offer adequate pain relief to these patients to improve experience and reduce morbidity. NICE suggests intrathecal/epidural diamorphine for analgesia. If no contraindications, NSAIDs should be offered. RCoA advises that women receiving opioids should have pain scores recorded and anti-emetics and laxatives prescribed.

The prevalence of electronic prescribing in UK hospitals is increasing. These systems can be beneficial in improving patient safety, governance and productivity.

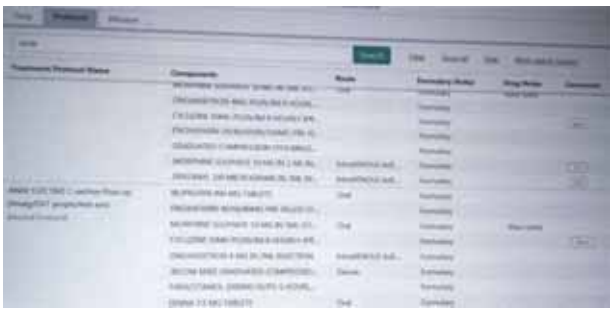
We audited compliance with aforementioned standards and instigated changes to electronic prescribing systems to improve practice.

Methods Data collected prospectively for 26 patients using anaesthetic records, online prescribing charts and pain assessment by questioning patients. Objectives were; 100% women satisfied with analgesia day 1 post CS; 100% women receive intrathecal/epidural opioids with regional anaesthetic; Unless contraindicated, 100% women prescribed NSAIDs; 100% women prescribed anti-emetics and laxatives PRN.

The cycle was repeated with 15 patients following alteration of prescribing bundles to include recommend medications.

Results Initially, 100% of patients given intrathecal opioid. 69% received NSAIDs. 19% prescribed laxatives and 96% prescribed anti-emetics. 100% of women expressed satisfaction with pain relief. After modification, opioid use remained 100%. NSAID use rose to 100%. 80% prescribed laxatives and 100% prescribed anti-emetics. Satisfaction remained 100%.

Conclusions Adequate post-operative analgesia is a cornerstone of good anaesthetic practice. Electronic prescribing bundles improved compliance with national standards of recommended analgesia for patients undergoing elective CS.



Abstract 120 Figure 1

121 POSTPARTUM POSTDURAL PUNCTURE HEADACHE: WHEN THINGS CAN GO WRONG…

K Theodoraki*, I Siafaka. *Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece*

10.1136/rapm-2021-ESRA.121

Background and Aims We report a case of cerebral venous sinus thrombosis (CVST) after no obvious dural puncture in a postcesarean section patient

Methods A 32-year old primigravida underwent cesarean section under a combined spinal-epidural. She had a medical history of panic attacks and depression. On the second postpartum day, the parturient developed orthostatic headache which was considered as postdural puncture headache and treated accordingly. Three days postdischarge, the headache returned, having lost its orthostatic component. The parturient however refused to return to hospital for reassessment. Over the next few days, the parturient started behaving strangely and refusing interaction with the newborn. A psychiatrist consulted by the family diagnosed anxiety disorder based on the parturient's previous medical history and suggested anti-anxiety medication.

Results On the seventh postpartum day, the parturient was urgently readmitted to hospital, unable to speak and looking catatonic. Major postpartum depression was diagnosed by the attending psychiatrist and antidepressive medication was initiated. However, on the first readmission night, the parturient developed tonic-clonic seizures and an urgent brain CT-scan revealed multiple left-sided infarcts with haemorrhagic foci. CVST was diagnosed, low-molecular weight heparin was started and the parturient's situation improved dramatically

Conclusions CVST is attributed to cerebral venous dilation and intracranial hypotension in the setting of postpartum hypercoagulability and can have a deleterious outcome if unsuspected and untreated. This case of misdiagnosis emphasizes the need for urgent neurological consultation in the puerperium in case of new or recurrent neurological symptoms. CVST should be considered in the differential diagnosis, especially in case of atypical clinical presentation.

122 EPIDURAL BLOOD PATCH IN THE 3RD TRIMESTER OF PREGNANCY. WHAT ABOUT LABOUR ANALGESIA?

P Rebelo, AS Nogueira, C Pinto*. *Hospital Pedro Hispano, Matosinhos, Portugal*

10.1136/rapm-2021-ESRA.122

Background and Aims Postdural puncture headache (PDPH) is a well-known and common complication of spinal anesthesia which depends upon the characteristics of spinal needle.

Methods We report a blood patch in the 3rd trimester of pregnancy.

Results A 27-year-old healthy women with an history of cervical cerclage at 26 weeks, required a new cervical cerclage at 29 weeks. Spinal anesthesias were performed. In the first surgery a 27G pencil point was used without complications. In the second surgery, 3 attempts were required with a 27G quincke, but as the block failed, general anesthesia was necessary.

Two days after surgery, she developed frontal headache, vomiting, photophobia and noise sensibility that aggravated by orthostatic position. She was apyretic, normotensive and with no neurological deficits. The blood tests were normal except for anemia. Conservative treatment for PDPH was tried with no success and she was offered an epidural blood patch (EBP). The procedure, the risks and benefits were explained. Under aseptic condition the EBP was performed with 20 ml of autologous blood with no complications. The procedure was successful and she was discharged home asymptomatic.

One month later she was admitted with full dilatation. Labor analgesia with epidural was effective.The postoperative course was uneventful.

Conclusions In our case, multiple attempts and the use of a quincke needle increased the risk of PDPH. Even though the time between EBP and the subsequent epidural analgesia was only one month, we speculate that the EBP had no effect on the quality of epidural analgesia.

123 VAGINAL BIRTH AFTER CESAREAN SECTION IN ALBANIA

[1]N Ceni*, [1]A Bimbashi, [2]R Ceni. *[1]Obstetric-Gynecological University Hospital 'Koço Gliozheni', Tirana, Albania; [2]Lady of Good Counsel University, Tirana, Albania*

10.1136/rapm-2021-ESRA.123

Background and Aims The rate of primary cesarean section (CS) is on the rise. More and more women report with a history of a previous CS. A trial of vaginal delivery can save these women from the risk of repeat CS. The study was conducted to assess the safety and success rate of vaginal birth after CS (VBAC) in selected cases of one previous lower segment CS (LSCS).

Methods This is a prospective study conducted at the Department of Obstetrics and Gynecology, University Hospital 'Koço Gliozheni', Tirana, Albania, in the period 2015–2019. Sixty eight pregnant women with a history of one previous LSCS were enrolled in the study. The study was approved by national Medical Ethics Committee of Albania.

Results In the present study, 92% cases had a successful VBAC and 8% underwent a repeat emergency LSCS for failed trial of vaginal delivery. Cervical dilatation of more than 3cm at the time of admission was a significant factor in favor of a successful VBAC. Birth weight of more than 3,000g was significantly associated with a lower success rate of VBAC ($p<0.01$). The incidence of fatal distress and uterine rupture was 1.6% respectively in the present study. There was no maternal or neonatal mortality.

Conclusions Trial of VBAC in selected cases has a great importance in the present era of the rising rate of primary CS. Majority of the cases of previous CS done for nonrecurrent indication can be delivered safely by the vaginal route, without any major complication to the mother and the newborn.

124 ANAESTHETIC APPROACH IN PREGNANTS INFECTED WITH COVID-19 IN A TERTIARY MATERNITY

AF Correia*, S Ramos, I Vilhena, I Martins, S Sá, L Melo, I Silva. *CHUC, Coimbra, Portugal*

10.1136/rapm-2021-ESRA.124

Background and Aims The authors analyse the anaesthetic approach in pregnants infected (PI) with COVID-19 admitted in a tertiary maternity (TM) during 12 months. They report and compare data from three-month period and data from not infected pregnants (NIP).

Methods Descriptive and retrospective observational study, with no need to ethical approval according to local committee. Data from a sample of 2288 pregnants (April 1,2020 – March 31,2021). Variables and their associations were analysed with statistical tests using the SPSS tool.

Results 2.8% of pregnants were infected with COVID-19. 11% of these were admitted in the 1st quarter, 2% in 2nd, 29% in 3rd and 58% in 4th.

The anaesthetic approach was, with statistically significant, different between PI and PNI($p<,001$). Use of neuraxial labour analgesia/anaesthesia in PI increased (42,9% -1st vs 65,8% -4th). General anaesthesia decreased (10,5% -1st vs 5,3% -4th). Comparing deliveries, there was a statistically significant difference($p=0.01$): 38% of births were caesarean section (CS) in PI vs 23% in PNI. In PI there was a decrease of 8,7% in CS between the 1st and 4th quarter. The need for emergency surgery (ES) had statistically significant difference($p=0.02$), 26.2% of ES in PI vs 15.1% in PNI. In PI there was no statistically significant difference ($p>0,05$) when comparing the occurrence of ES in the different quarters.

Conclusions An increase of neuraxial labour analgesia/anaesthesia and decrease in GA was verified, despite the higher percentage of ES in PI. This can be related to increase in experience and knowledge, demostrating that neuraxial thecniques are safe/recommended in pregnants infected with COVID-19.

125 CONTENTS OF URIC ACID, VITAMIN D IN THE BLOOD SERUM AND CHARACTERISTICS OF EPIDURAL ANALGESIA FOR LABOR IN PARTURIENT WOMEN WITH PREECLAMPSIA

E Oreshnikov*, S Oreshnikova, E Vasiljeva, T Denisova. *Chuvash State University, Cheboksary, Russian Federation*

10.1136/rapm-2021-ESRA.125

Background and Aims It is known that more than 40% of pregnant women have a deficiencyof vitamin D. In addition to the classic symptoms of preeclampsia, more than a quarter of century, many foreign clinicians as preeclampsia indicator used by the hyperuricemia. We study the relationship of pain in childbirth, characteristics of epidural analgesia in patients with preeclampsia and the level of vitamin D, uric acid in the blood serum.

Methods The study group included patients with severe and moderate preeclampsia,alone have given birth vaginally with epidural analgesia. The control group included patients with physiological pregnancy, independently gave birth vaginally with epidural analgesia. The material of the study was to peripheral blood of pregnant women taken at admission to

the hospital for delivery. VitaminD level was performed by enzyme immunoassay kits. The concentration of uric acid was determined spectrophotometrically.

Results In patients with severe preeclampsia revealed: a pronounced deficiency ofvitamin D, a tough hyperuricemia, had higher numbers mean arterial pressure during labor epidural analgesia in the background. The results also gave evidence to suggestthat patients with preeclampsia who have previously been registered low levels of vitamin D and an increased concentration of uric acid in the birth have a greater need for a local anesthetic toreduce pain and stabilize blood pressure than patients with higher levels of vitamin D and smaller uric acid.

Conclusions In women with preeclampsia during childbirth epidural analgesia, low levels of vitamin D and hyperuricemia are associated a higher demand for local anesthetics.

Pediatric

126 PERSISTENT OPIOID USE AFTER PEDIATRIC FRACTURE TREATMENT

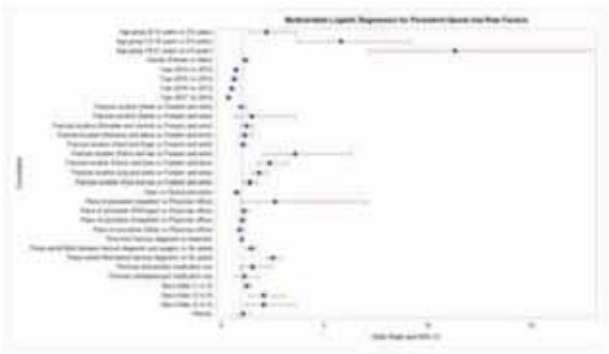
[1]KR DelPizzo*, [2]C Cozowicz, [1]H Zhong, [2]HN Ladenhauf, [1]LA Wilson, [1]J Liu, [3]J Poeran, [1,2]SG Memtsoudis. *[1]Hospital for Special Surgery, New York, USA; [2]Paracelsus Medical University, Department of Anesthesiology, Perioperative Medicine and Intensive Care Medicine, Salzburg, Austria; [3]Institute for Healthcare Delivery Science, Department of Population Health Science and Policy, Icahn School of Medicine at Mount Sinai, New York, USA*

10.1136/rapm-2021-ESRA.126

Background and Aims The opioid epidemic persists as one of the most critical public health concerns in the United States. In the pediatric population, fractures are among the primary causes for surgical interventions. Therefore, the identification of opioid prescription patterns and potential risk factors for prolonged opioid use is critical.[1]

We hypothesized that the numbers of pediatric patients with persistent opioid use after surgery would be significant and that several risk factors driving persistent opioid use could be identified.

Methods A retrospective population-based cohort study was conducted. National claims data from the Truven Health MarketScan database were utilized to 1) characterize opioid prescription patterns, and 2) describe the epidemiology and risk factors for single use as well as persistent use of opioids among pediatric patients with surgical fracture treatment.



Abstract 126 Figure 1

Abstract 126 Table 1 Patient characteristics by opioid prescription

	Opioid prescribed after surgery	No opioid prescribed after surgery	Overall	p-value
N (%)	65,331 (21.54)	238,004 (78.46)	303,335	
Age group, n (%)				<.001
0-5 years	6071 (14.0)	37,287 (86.0)	43,358 (14.3)	
6-12 years	19,228 (15.1)	107,972 (84.9)	127,200 (41.9)	
13-18 years	27,697 (26.8)	75,571 (73.2)	103,268 (34.0)	
19-21 years	12,335 (41.8)	17,174 (58.2)	29,509 (9.7)	
Gender, n (%)				<.001
Male	43,862 (23.1)	146,309 (76.9)	190,171 (62.7)	
Female	21,469 (19.0)	91,695 (81.0)	113,164 (37.3)	
Year, n (%)				<.001
2013	22,850 (21.4)	84,089 (78.6)	106,939 (35.3)	
2014	19,921 (19.1)	84,651 (80.9)	104,572 (34.5)	
2015	10,574 (25.3)	31,164 (74.1)	41,738 (13.8)	
2016	8053 (24.9)	24,330 (75.1)	32,383 (10.7)	
2017	3933 (22.0)	13,770 (77.8)	17,703 (5.8)	
Preoperative Opioid utilization				<.001
No opioid filled before surgery	45,725 (18.8)	214,218 (81.2)	263,943 (87)	
Opioid filled only between fracture diagnosis and surgery	8645 (37.6)	14,326 (62.4)	22,971 (7.6)	
Opioid filled before fracture diagnosis	6961 (42.4)	9460 (57.6)	16,421 (5.4)	
Previous anxiolytics medication use, n (%)				<.001
Yes	2772 (42.8)	3700 (57.2)	6472 (2.1)	
No	62,559 (21.1)	234,304 (78.9)	296,863 (97.9)	
Previous antidepressant medication use, n (%)				<.001
Yes	2836 (43.0)	3757 (57.0)	6593 (2.2)	
No	62,495 (21.1)	234,247 (78.9)	296,742 (97.8)	
Deyo index, n (%)				<.001
0	56,415 (21.6)	204,731 (78.4)	261,146 (86.1)	
1	8231 (20.8)	31,378 (79.2)	39,609 (13.0)	
2	467 (25.8)	1340 (74.2)	1807 (0.6)	
3+	218 (28.2)	555 (71.8)	773 (0.3)	
Obesity, n (%)				0.005
Yes	1575 (20.6)	6073 (79.4)	7648 (2.5)	
No	63,756 (21.6)	231,931 (78.4)	295,687 (97.5)	
Type of procedure, n (%)				<.001
Closed	42,459 (16.1)	221,241 (83.9)	263,700 (86.9)	
Open	22,872 (57.7)	16,763 (42.3)	39,635 (13.1)	
Place of Procedure, n (%)				
Inpatient	5189 (60.7)	3363 (39.3)	8552 (2.8)	<.001
Outpatient	29,058 (35.8)	52,196 (64.2)	81,254 (26.8)	
ER/Urgent care	11,382 (32.5)	24,021 (67.9)	35,403 (11.7)	
Physician office	11,731 (7.4)	147,082 (92.6)	158,813 (52.4)	
Other	7971 (41.3)	11,342 (58.7)	19,313 (6.4)	
Time from fracture onsite to procedure (days), median [IQR]	0 [0, 1]	0 [0, 1]	0 [0, 1]	0.018

Results Among 303,335 patients, 21.54% received at least 1 opioid prescription within 6 months after surgery, and 1,671 (0.6%) developed persistent opioid use. Risk factors for persistent opioid use included older age, female gender, lower extremity trauma, surgeries of the spine, rib cage or head, closed fracture treatment, earlier surgery years, previous use of opioid, and higher comorbidity burden.

Conclusions Among a cohort of pediatric patients who underwent surgical fracture treatment, 21.5% filled at least 1 opioid prescription, and 0.6% (n=1,671) filled at least one more opioid prescription between 3 to 6 months after surgery. Understanding the risk factors associated with persistent opioid use in pediatric patients is critical for the development of prevention strategies in this patient population.

127 COMPARISON OF TRANSVERSUS ABDOMINIS PLANE BLOCK AND LATERAL QUADRATUS LUMBORUM BLOCK IN PEDIATRIC PATIENTS; A DOUBLE BLIND RANDOMIZED CONTROLLED TRIAL

OP Zanbak Mutlu*, P Kendigelen, AC Tutuncu. *Istanbul University-Cerrahpasa, Cerrahpasa Faculty of Medicine, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.127

Background and Aims Undescended testicle is a common genitourinary pathology in pediatric population. Due to the complex innervation of the testicle and spermatic cord, analgesic management can be challenging in orchiopexy. We aimed to compare the effects of transversus abdominis plane (TAP) and lateral quadratus lumborum block (QLB) on peri-postoperative pain, analgesic use and patient satisfaction in unilateral orchiopexy.

Methods This prospective, double-blind, randomized, controlled trial was approved by IRB of Istanbul University-Cerrahpasa (2019-71381), registered to Clinicaltrials.gov (NCT03969316) and enrolled 90 pediatric patients aged 6 months to 12 years. Lateral QLB or TAP block were applied under ultrasonography before the surgery. Our primary outcomes were the remifentanyl consumption during the surgery and pain intensity within 24 hours postoperatively. Postoperative pain was evaluated with FLACC score in hospital, Wong-Baker score after discharge. Additional postoperative analgesic consumption and parent satisfaction were evaluated.

Results As a primary outcome, the number of patients who needed remifentanyl was found significantly higher in the TAP group (p<0,001). FLACC and Wong-Baker scores, except the postoperative first hour FLACC score, were detected significantly higher in TAP group (p<0,001). Additional analgesic agent consumption at the 10th, 20th minutes, 6th, 16th and 24th hours, especially after the 6th hour, were significantly higher in the TAP group. Parent satisfaction was significantly higher in the QLB group (p<0.001).

Conclusions Preoperative lateral QLB is superior to TAP block in terms of peri-postoperative pain scores, additional analgesic requirement, patient satisfaction in orchiopexy, and it has been shown to be an appropriate option for the lower abdominal surgery in pediatric patients.



Abstract 127 Figure 1



Abstract 127 Figure 2

128 SPINAL ANESTHESIA VERSUS GENERAL ANESTHESIA IN NEONATES UNDERGOING INFRAUMBILICAL SURGERIES REGARDING HEMODYNAMICS AND COMPLICATIONS

M Hosny*, M Lamei, E El Taher, SA Al-Touny. *Suez Canal University, Ismailia, Egypt*

10.1136/rapm-2021-ESRA.128

Background and Aims Neonatal anesthesia needs understanding of the rapidly changing physiology of the neonates, the pathology of the coexisting diseases, and the pharmacology of the medications used. The multisystem immaturity of this age generates developmental differences in the drug handling and response compared to older children[1,2]. Regional anesthesia in pediatrics may be beneficial[3] to avoid airway manipulation and respiratory depression. It also improves intraoperative pain management or decreases the potential neurotoxic effects of intravenous or inhaled general anesthetics[4]. So, this study


Suez Canal University
Faculty of Medicine
Research Ethics Committee

Date: 8/5/2019

Dr: Mahmoud Hosny Ahmed Ali Ahmed

Department: Anesthesia and Intensive Care, Faculty of Medicine, Suez Canal University, Ismailia, Egypt.

Reference: Research 36360

Thesis Title: A Comparison between Spinal Anesthesia and General Anesthesia in Neonates Undergoing Infraumbilical Surgeries.

Dear Dr,

Thank you for your letter in (30/4/2019) to ask for the ethical clearance previously given for the above mentioned thesis.

We are pleased to confirm that the above mentioned thesis was for the partial fulfillment of *Master degree in Anesthesia and Intensive Care* for *Mahmoud Hosny Ahmed Aly Ahmed*, under the supervision of *Prof. Ezzat Mohamed El-Taher, Dr. Medhat Lamei Shoker & Dr. Shimaa Ahmed Hamed Al-touny*.

The proposal of the above mentioned thesis was reviewed by the full board Committee at its meeting on (31/1/2019) and **the ethical clearance was given for that proposal.**

Yours sincerely,

Prof. Amani Waheed

Chair of Research Ethics Committee
Faculty of Medicine
Suez Canal University

13/5/2019

Mail address: Research Ethics Committee, Faculty of Medicine, Suez Canal University, Ring Road, Ismailia, Egypt. **P.O. Box:** 41522 **E-mail:**

Abstract 128 Figure 1

was designed to allow an alternative to general anesthesia. The objectives were to compare spinal versus general anesthesia in neonates undergoing infraumbilical surgeries regarding hemodynamics and complications.

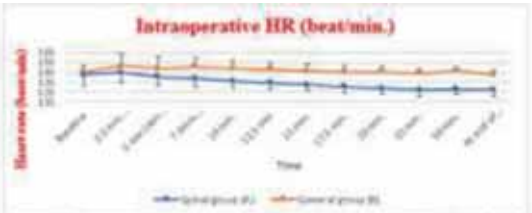


Figure (1): Intraoperative Heart Rate (HR) (beat /minute) with standard deviation (SD) in both groups of the study at different time points during surgery.

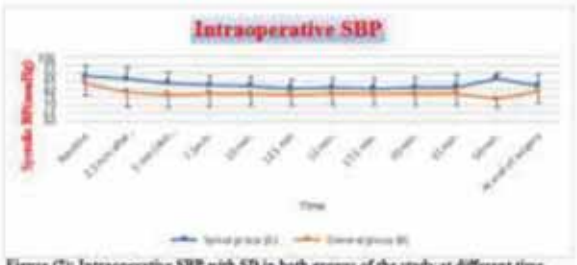
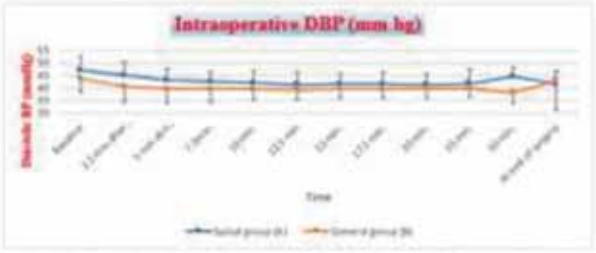


Figure (2): Intraoperative SBP with SD in both groups of the study at different time points during surgery



Abstract 128 Figure 2

Methods Our study was a comparative single-blinded clinical trial included 36 mature neonates who were planned for infraumbilical surgeries. They were randomly allocated into two equal groups.Spinal anesthesia(SA) group was received intrathecal bupivacaine 0.5% in a dose of 1 mg/kg. General anesthesia(GA) group was received inhalational sevoflurane for induction and maintenance and Paracetamol 15 mg/kg IV infusion for analgesia. Ethical committee approval was obtained.

Abstract 128 Table 1 Comparison between patient characteristics in SA and GA groups: demographic data and duration of surgery

Patient characteristics		Spinal group n=15	General group n=15	p value
Age (days)	Mean ± SD	17.11 ± 7.07	12.50 ± 8.89	0.094 (NS)
Sex				
Male	N (%)	13 (72.2 %)	10 (55.56 %)	0.297 (NS)
female	N (%)	5 (27.8 %)	8 (44.44 %)	
Weight	Mean ± SD	4.04 ± 0.57	3.8583 ± 0.72	0.397 (NS)
ASA I	N (%)	18 (100%)	18 (100%)	
Duration of surgery	Mean ± SD	43.05 ± 7.09	41.94 ± 4.24	0.573 (NS)

Table (2): Post-operative complications (number of patients) in both groups:

	No. of patients with complications (%)	Normal	p value
Spinal group	1 (5.56 %)	17 (94.44 %)	0 .0161 (*)
General group	7 (38.89 %)	11 (61.11 %)	

(NS) Statistically non-significant difference (p > 0.05).

Table (3): types of post-operative complications in both groups:

Type of complications	Spinal group n=15	General group n=15
Agitations	1	2
Nausea & vomiting	0	2
Agitation & vomiting	0	3

Abstract 128 Tables 2 Post-operative complications (number of patients) in both groups

Patient characteristics		Spinal group n=15	General group n=15	p value
Age (days)	Mean ± SD	17.11 ± 7.07	12.50 ± 8.89	0.094 (NS)
Sex				
Male	N (%)	13 (72.2 %)	10 (55.56 %)	0.297 (NS)
female	N (%)	5 (27.8 %)	8 (44.44 %)	
Weight	Mean ± SD	4.04 ± 0.57	3.8583 ± 0.72	0.397 (NS)
ASA I	N (%)	18 (100%)	18 (100%)	
Duration of surgery	Mean ± SD	43.05 ± 7.09	41.94 ± 4.24	0.573 (NS)

Table (2): Post-operative complications (number of patients) in both groups:

	No. of patients with complications (%)	Normal	p value
Spinal group	1 (5.56 %)	17 (94.44 %)	0 .0161 (*)
General group	7 (38.89 %)	11 (61.11 %)	

(NS) Statistically non-significant difference (p > 0.05).

Table (3): types of post-operative complications in both groups:

Type of complications	Spinal group n=15	General group n=15
Agitations	1	2
Nausea & vomiting	0	2
Agitation & vomiting	0	3

Abstract 128 Tables 3 Types of post-operative complications in both groups

Patient characteristics		Spinal group n=15	General group n=15	p value
Age (days)	Mean ± SD	17.11 ± 7.07	12.50 ± 8.89	0.094 (NS)
Sex				
Male	N (%)	13 (72.2 %)	10 (55.56 %)	0.297 (NS)
female	N (%)	5 (27.8 %)	8 (44.44 %)	
Weight	Mean ± SD	4.04 ± 0.57	3.8583 ± 0.72	0.397 (NS)
ASA I	N (%)	18 (100%)	18 (100%)	
Duration of surgery	Mean ± SD	43.05 ± 7.09	41.94 ± 4.24	0.573 (NS)

Table (2): Post-operative complications (number of patients) in both groups:

	No. of patients with complications (%)	Normal	p value
Spinal group	1 (5.56 %)	17 (94.44 %)	0 .0161 (*)
General group	7 (38.89 %)	11 (61.11 %)	

(NS) Statistically non-significant difference (p > 0.05).

Table (3): types of post-operative complications in both groups:

Type of complications	Spinal group n=15	General group n=15
Agitations	1	2
Nausea & vomiting	0	2
Agitation & vomiting	0	3

Results Intraoperative hemodynamics was statistically significantly more stable in SA group. In SA group bloody tap occurred once. While in GA group, two patients had hypoxia. The intra-operative complications were statistically non-significant between both groups. Post-operative complications were statistically significantly lower in SA group compared to GA group ($p < 0.05$). Postoperative heart rate (HR) was statistically significantly lower in the SA group compared to the GA group ($p< 0.05$).

Conclusions Spinal anesthesia is a good alternative to general anesthesia in neonates for infraumbilical surgeries.

129 PEDIATRIC ULTRASOUND-GUIDED DORSAL PENILE NERVE BLOCK PLUS SEDATION IN SPONTANEOUS BREATHING. A RETROSPECTIVE OBSERVATIONAL STUDY, PRELIMINARY RESULTS

[1]F Meroi*, [1]B Dottore, [1]M Comuzzi, [2]S Intini, [1]L Vetrugno, [1]T Bove. *[1]University Hospital of Udine – Anesthesia and Intensive Care Department, Udine, Italy; [2]University Hospital of Udine – General Surgery Unit, Udine, Italy*

10.1136/rapm-2021-ESRA.129

Background and Aims One of the most frequent surgical procedures in the pediatric population is circumcision—following which postoperative pain could be stressful. Usually, the most common approach is combining regional anesthesia techniques such as landmark dorsal penile nerve block (DPNB) with general anesthesia (GA). The hypothesis of this study investigates ultrasound-guided DPNB plus sedation in spontaneous breathing.

Methods Our ethical committee approved this study Prot. #5848. 58 children who underwent circumcision at our University-Hospital between January 2016 and December 2019 were included: 35 received GA plus DPNB performed by the surgeon with a landmark technique; 23 were sedated in spontaneous breathing and the anesthetist performed an ultrasound-guided DPNB with the probe positioned transversally at the base of the penis – in-plane – to visualize the local anesthetic spread. The statistical analysis was achieved with commercially available software (MedCalc version 19.0.7, bvba, Ostend, Belgium).

Results Age, weight, and height were comparable between the two groups. Children who received ultrasound-guided DPNB had a statistically significant lower time to discharge from the operating room with faster awakening, lower pain levels immediately after surgery, less intraoperative opioid consumption with a lower rate of complications after 72 hours.

Abstract 129 Table 1

	Landmark (35)		Ultrasound-guided (23)		Mann – Whitney pValue
	Median	(25°-75°)	Median	(25°-75°)	
Opioid dose (µg/Kg)	2.08	(1.72 – 2.38)	1.2	(0.96 – 1.61)	$p < 0.01$
Time to discharge (min)	20	(15 – 27)	4	(2 – 6)	



Abstract 129 Figure 1



Abstract 129 Figure 2

Conclusions The ultrasound-guided DPNB associated with sedation and spontaneous breathing is a safe and effective strategy for the management of intra- and postoperative pain in children.

130 COMPARISON OF INTRAPERITONEAL INSTILLATION OF MAGNESIUM SULPHATE AND BUPIVACAINE VERSUS INTRAVENOUS ANALGESIA IN LAPAROSCOPIC SURGERIES IN PEDIATRICS

I Ahmed Walash*, W Sultan. *Menofia University Hospitals, Shebin el-kom, Egypt*

10.1136/rapm-2021-ESRA.130

Background and Aims Administration of magnesium sulphate via different routes has been used in anaesthetic practice for decreasing perioperative pain. It is N-methyl d-aspartate (NMDA) receptor antagonist and suppresses these receptor induced inflammation and hyper responsiveness. The antinociceptive effect of magnesium sulphate is not only useful in chronic pain, but it also determines in part, the duration and intensity of postoperative pain. These effects are due to calcium antagonism and decrease influx of calcium into the cell and antagonism of NMDA receptor. As these receptors regulate neuronal signalling and are involved in pain processing, magnesium sulphate by blocking this receptor, decreases postoperative pain as well.

Aim of the work studying analgesic efficacy of intraperitoneal instillation of a combination of Magnesium sulphate with bupivacaine versus ordinary parentral analgesics for pain relief after laparoscopic surgeries in pediatrics.



Abstract 130 Figure 1

Methods Groups: Group1: will receive ordinary analgesics via intravenous route as paracetamol (7.5- 10 mg/kg) and ketorolac (0.5 mg/kg).

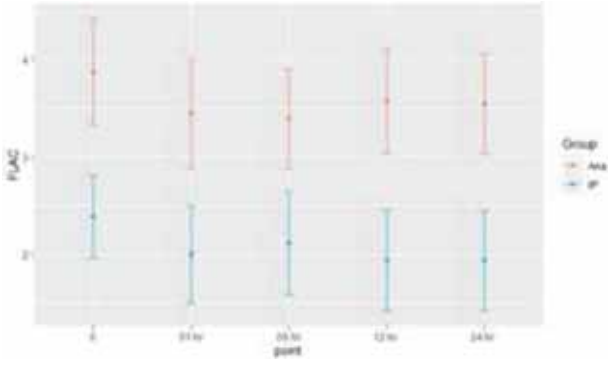
Group2: will receive (Magnesium sulphate 40 mg/kg and bupivacaine 4 mg/kg) in 30 ml of isotonic 0.9%N.S intra peritoneal at the end of surgery. Patient evaluated regarding FLACC score.

Results statistically significant difference according to FLACC.

highly statistically significant difference between the groups according to time to first analgesic administration.

and total analgesic requirement in the first 24h postoperative.

Conclusions The intraperitoneal administration of combination of magnesium sulphate and bupivacaine is a safe and effective method in the management of postoperative pain after laparoscopic surgeries more than intravenous administration of ordinary analgesics in laparoscopic surgeries in pediatrics.



Abstract 130 Figure 2

Abstract 130 Table 1

n	66	33	33	
Type = IP (%)	33 (50.0)	0 (0.0)	33 (100.0)	<0.001
Gender = Male (%)	38 (57.6)	17 (51.5)	21 (63.6)	0.455
Operation (%)				0.877
Appendicectomy	27 (40.9)	14 (42.4)	13 (39.4)	
Cholecystectomy	13 (19.7)	7 (21.2)	6 (18.2)	
Hiatus hernia	6 (9.1)	3 (9.1)	6 (18.2)	
Inguinal hernia	6 (9.1)	3 (9.1)	3 (9.1)	
Undescended testis	11 (16.7)	6 (18.2)	5 (15.2)	
KG 1 (mean (SD))	3.14 (1.59)	3.88 (1.54)	2.39 (1.20)	<0.001
KL hr 1 (mean (SD))	2.73 (1.06)	3.45 (1.58)	2.00 (1.41)	<0.001
KL hr 1 (mean (SD))	2.76 (1.58)	3.39 (1.63)	2.12 (1.48)	0.001
K12 hrs 1 (mean (SD))	2.76 (1.70)	3.58 (1.52)	1.94 (1.48)	<0.001
K24 hrs 1 (mean (SD))	2.74 (1.66)	3.55 (1.46)	1.94 (1.46)	<0.001
pre_hr (mean (SD))	102.41 (9.17)	104.39 (6.90)	100.42 (10.79)	0.114
Post_hr (mean (SD))	110.79 (11.21)	114.85 (8.70)	106.67 (12.03)	0.002
K1 hr hr (mean (SD))	108.59 (12.44)	114.24 (8.76)	102.94 (13.10)	<0.001
K2 hr hr (mean (SD))	106.45 (10.75)	110.15 (9.24)	102.76 (11.77)	0.004
K6 hr hr (mean (SD))	106.09 (11.06)	109.67 (8.13)	102.52 (12.49)	0.009
K12 hr hr (mean (SD))	104.42 (11.02)	108.18 (8.27)	100.67 (12.17)	0.005
K24 hr hr (mean (SD))	103.59 (10.36)	107.27 (7.91)	99.91 (11.29)	0.003
pre_SBP (mean (SD))	91.74 (7.10)	91.47 (7.20)	91.82 (7.27)	0.992
post_SBP (mean (SD))	95.98 (8.42)	97.12 (7.50)	94.85 (9.23)	0.274
K1 hr SBP (mean (SD))	95.83 (8.07)	96.82 (7.80)	94.85 (8.24)	0.325
K3 hr SBP (mean (SD))	94.70 (7.44)	94.70 (6.84)	94.70 (8.10)	1
K6 hr SBP (mean (SD))	94.32 (7.59)	94.24 (7.20)	94.39 (8.08)	0.958
K12 hr SBP (mean (SD))	93.64 (7.62)	93.79 (7.18)	93.48 (8.15)	0.873
K24 hr SBP (mean (SD))	93.48 (7.49)	93.18 (7.27)	93.79 (7.81)	0.745
pre_DBP (mean (SD))	48.48 (5.61)	47.58 (5.32)	49.38 (5.83)	0.19
post_DBP (mean (SD))	51.24 (6.15)	51.97 (5.58)	50.52 (6.68)	0.341
K1 hr DBP (mean (SD))	51.44 (5.46)	52.42 (4.86)	50.45 (5.91)	0.144
K3 hr DBP (mean (SD))	50.15 (6.07)	50.45 (5.21)	49.85 (6.90)	0.689
K6 hr DBP (mean (SD))	50.53 (6.03)	50.45 (5.36)	50.61 (6.70)	0.92
K12 hr DBP (mean (SD))	50.61 (6.59)	50.45 (5.64)	50.76 (7.51)	0.854
K24 hr DBP (mean (SD))	49.85 (5.82)	49.85 (5.23)	49.85 (6.43)	1
sat (mean (SD))	98.50 (0.50)	98.48 (0.51)	98.52 (0.51)	0.809
ana_req_first hour (mean (SD))	0.61 (4.45)	3.24 (1.23)	0.97 (3.92)	<0.001
ana_req_totanalgant (mean (SD))	91.79 (54.72)	149.94 (25.79)	51.52 (31.82)	<0.001
adverse = N/O (%)	66 (100.0)	33 (100.0)	33 (100.0)	NA

131 ERECTOR SPINAE BLOCK FOR PERIOPERATIVE PAIN MANAGEMENT IN CHILDREN UNDERGOING THORACOTOMY

[1]E Mossad*, [2,2]E Chung. *[1]Texas Children's Hospital, Houston, USA; [2]Cook Children's Hospital, Fort Worth, USA*

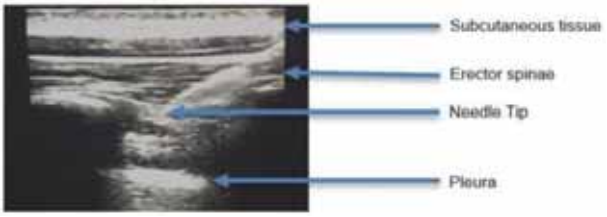
10.1136/rapm-2021-ESRA.131

Background and Aims Thoracotomy for pediatric cardiac surgery can be associated with significant pain. Regional anesthesia techniques such as epidurals and paravertebral blocks can reduce the pain of thoracotomy but can also be associated with significant risk.

The erector spinae plane (ESP) block targets the dorsal and ventral rami of spinal nerve roots and has been used extensively for a host of adult surgical procedures. The ESP block is a less invasive option due to the avoidance of the neuraxial and paravertebral spaces.

Methods We present a case series in which the ESP block was used successfully in 25 pediatric patients undergoing thoracotomy for cardiac surgery. We compare the ESP to other modalities of perioperative pain management in 29 pediatric patients.

Results Patients presented for coarctation repair (5) and vascular ring division (20 patients). The patients ranged in age from 8 months to 17 years of age. The ESP blocks were performed after induction of general anesthesia under ultrasound guidance Intraoperative opioid use was decreased compared to the usual doses used with other blocks or pain management modalities, and post-operative opioid use in the first 24 hours after surgery ranged from 0.05 to 0.5 milligrams per kilogram, significantly lower than other modalities. Postoperative FLACC pain scores were significantly lower in the ESP group in the first 48 hours.



Abstract 131 Figure 1

Conclusions The erector spinae plane block can potentially lead to decreased intraoperative and post-operative opioid use for pediatric patients undergoing thoracotomy for cardiac surgery.

132 SINGLE SHOT ERECTOR SPINAE PLANE BLOCK IN NEWBORNS UNDERGOING OPEN TYPE C ESOPHAGEAL ATRESIA REPAIR

O Rahil*. *Clinique Universitaire de Chirurgie Pediatrique Ali Bouzid, Algiers, Algeria*

10.1136/rapm-2021-ESRA.132

Background and Aims Erector spinae plane block (ESPB) is a new paraspinal block that provides périopérative pain relief in thoracoabdominal surgery.ESPB seems to be a safe and effective alternative to thoracic paravertebral block. We report our experience in single shot ESPB for post operative pain management in newborns (NB) undergoing open type c esophageal atresia repair.

Methods Sixteen NB scheduled for open type C esophageal atresia repair were included in this prospective observational study (2017–2019). Blocks were performed in intubated asleep patients (propofol &,or sevoflurane). NB were placed in left Lateral decubitus. A right parasagital ESPB, was performed at the level of the forth dorsal vertebrae (D 04), followed by in plane injection of 0.5 ml/kg of 0.1% Bupivacaine. We considered as insufficient surgical analgesia any increase in heart rate beyond 20% of baseline and requiered rescue intravenous (IV) Alfentanyl (10 µg/kg).Postoperative pain was evaluated using the EDIN scale (every 4 hours) during The first post operative day. All newborns received intravenous paracetamol (7,5 mg/kg/6h). We have also noted incidents and complications.

Results 16 patients had a primary surgical repair (14 term NB, and 02 prematures). Mean age was 38 post menstrual weeks (36–41). Mean weight was 2150 g (1600–3200).Two NB (12,5%) required intra operative analgesia, but none in postoperative. No pneumothorax nor vascular puncture were noted.

Conclusions Integrated in a multimodal non opioid périopérative pain relief strategy, single shot ESPB seems to be a safe & effective alternative to tradittional thoracic epidural & paravertebral blocks, in newborns undergoing open type c esophageal atresia repair.

133 TRUNCAL (TAP AND QL) BLOCKS FOR APPENDECTOMY IN CHILDREN: A RETROSPECTIVE STUDY OF EFFICACY COMPARED TO GENERAL ANESTHESIA ALONE

[1]I Kyselova*, [2]Y Pavlova, [1]V Orel. *[1]Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine; [2]Kyiv Children's Hospital #1, Kyiv, Ukraine*

10.1136/rapm-2021-ESRA.133

Background and Aims The aim of this study is to evaluate the efficacy of US-guided truncal blocks (TAP and QL) in children undergoing appendectomy.

Methods After approval by the ethics committee we conducted a retrospective study including 204 paediatric patients underwent for appendectomy from April 2020 to April 2021. A group 'GA' received general anaesthesia alone (n=142), a group 'GA+RA' received GA with ultrasound-guided TAP or QL blocks (n=62). We compared total surgical and anaesthesia time, the needs in opioids intraoperatively, non-opioid analgesia and fluid therapy first 5 days postoperatively, incidences of PONV, duration of the body temperature reaction, length of hospital stay (LOS), using Mann-Whithney U-test, chi-square and Fisher's exact tests.

Results Patients in both groups were comparable in age, body weight, ASA status. Total surgical time including anaesthesia was longer in 'GA+RA' group [1,63(0,6) vs 1,34(0,6) hours, p<0,001]. Patients in 'GA+RA' needed significantly less doses of phentanyl intraoperatively [4,5(2,4) vs 7,0(3,6) mkg/kg/h, p<0,001], despite of that, there was no difference in incidences of PONV between groups. 34% of patients in 'GA+RA' and 58% of patients in 'GA' needed additional analgesia in the end of surgery (p=0,003), but needs in non-opioid analgesia in 1–5 days after surgery were comparable. We didn't observe differences in duration of temperature reaction, fluid therapy, as well as in LOS after surgery.

Conclusions Results of our study suggest that combined general anaesthesia with truncal blocks such as TAP or QL for appendectomy in children may lengthen operative time, reduce the needs in analgesics, but do not effect on general outcomes.

134 THE IMPACT OF INTRAVENOUS LIDOCAINE IN CHILDREN AND YOUNG PEOPLE UNDERGOING SPINAL FUSION SURGERY: THE EXPERIENCE IN A UK SPECIALIST CHILDREN'S HOSPITAL

JE Bordoni*, S Siew, J Keough, M McMonagle, R Ravi, R Diwan, I Okonkwo. *Alder Hey Children's Hospital NHS Foundation Trust, Liverpool, UK*

10.1136/rapm-2021-ESRA.134

Background and Aims The use of intravenous lidocaine therapy (IVLT) improves pain outcomes in certain adult populations, however, little evidence exists in paediatric populations. We aim to evaluate its impact in patients with adolescents idiopathic scoliosis(AIS) undergoing primary posterior spinal instrumentation and fusion (PSIF).

Methods ASA1 and ASA2 patients over 12-years-old undergoing PSIF surgery for AIS between January 2017 and December 2020 were reviewed retrospectively. Demographic data, anaesthetic and pain management were evaluated alongside postoperative outcome measures.

This service evaluation was deemed no to require ethical approval (http://www.hra-decisiontools.org.uk/research/docs/DefiningResearchTable_Oct2017-1.pdf) by our local clinical governance committee (Audit No. 6351)

Abstract 134 Table 1 Outcomes and characteristics of 45 patients undergoing PSIF



Results 162 patients with a median age of 15.2(IQR:13.6–16.5 [range 11.4–19.2])years underwent PSIF for AIS. 33/162 (20.4%) were male and 129/162(79.6%) female. 73/162 (45.1%) received IVLT at a median infusion-rate of 1.8(IQR: 1.5–1.9 [range 1.1–2.0])mg/kg/hr. These patients required significantly less fentanyl: intraoperatively (p=0.0182,95% CI=0.1–1.3), on day-1 (p=0.0032;95%CI=1.6–7.6) and day-2 (p=0.0104;95%CI=0.8–6.5 (see table 1); reported similar/lower pain scores (day 1: p=0.0494; 95%CI 0.0–0.8) and attained rehabilitation goals in similar timeframes.

Conclusions We observed the use of intraoperative IVLT to be associated with a significant reduction in early opiate requirements in paediatric PSIF, suggesting patients may benefit from earlier conversion from intravenous to oral opiates. This change has been implemented within our local Enhanced Recovery After Surgery Programme to facilitate earlier mobilization and discharge. Our patients reported similar levels of comfort and attained their rehabilitation goals in a similar timeframe. Further review and study is required to determine the optimal components and dosing within paediatric PSF ERAS programmes.

Peripheral nerve blocks

135 IPACK AND ADDUCTOR CANAL BLOCK VS PERIARTICULAR INJECTION; ENHANCES POSTOPERATIVE PAIN CONTROL IN ANTERIOR CRUCIATE LIGAMENT (ACL) REPAIR: A RANDOMIZED CONTROLLED TRIAL

A AlJa'bari*. *DMF Hospital, Riyadh, Saudi Arabia*

10.1136/rapm-2021-ESRA.135

Background and Aims Motor-sparing peripheral nerve blocks, such as the infiltration between the popliteal artery and capsule of the knee (IPACK) and the adductor canal block (ACB), may augment PAI in multimodal analgesic pathways for knee surgery, but supporting literature remains rare. We hypothesized that ACB and IPACK would lower pain on ambulation on postoperative day (POD) 1 compared to PAI alone.

Methods This triple-blinded randomized controlled trial included 50 patients undergoing ACL repair. Patients either received (1) a PAI (control group, n = 26) or (2) an iPACK with an ACB (intervention group, n = 24). The primary outcome was pain on ambulation on POD 1. Secondary outcomes included numeric rating scale (NRS) pain scores, patient satisfaction, and opioid consumption.

Results The intervention group reported significantly lower NRS pain scores on ambulation than the control group on POD 1(3.3 [2.7 to 4.0]; P <0.001). In addition, NRS pain scores on ambulation on POD 0 (3.5 [2.7 to 4.3]; P <0.001) and POD 2 (1.0 [1.0 to 1.9]; P =0.033) were significantly lower. Patients in the intervention group were more satisfied, had less opioid consumption (P =0.005, PACU, P =0.028, POD 0), less intravenous opioids (P <0.001), and reduced need for intravenous patient-controlled analgesia (P =0.037).

Conclusions The combination of iPACK to ACB significantly improves analgesia and reduces opioid consumption after ACL repair compared to PAI alone. This study strongly supports iPACK and ACB use within a multimodal analgesic pathway.

136 WHICH BLOCKS CAN YOU DO? AN ASSESSMENT OF ANAESTHETIC TRAINEE CONFIDENCE PERFORMING COMMON PERIPHERAL NERVE BLOCKS

D Luff*, F Moosa, N Sadavarte, N Pinnamaneni, N Bedforth. *Nottingham University Hospitals Trust, Nottingham, UK*

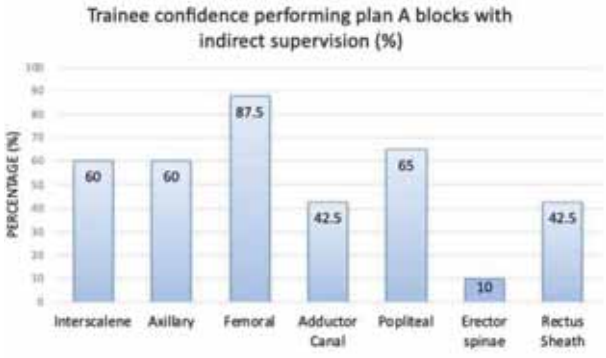
10.1136/rapm-2021-ESRA.136

Background and Aims Recent opinion has suggested focusing training on a small number of 'Plan A blocks' to improve basic regional anaesthesia competence amongst non-regional enthusiasts[1]. We assessed trainee confidence performing Plan A blocks with indirect supervision. We also sort trainee opinion regarding which techniques should be designated as essential competencies and how our regional anaesthesia training could be improved.

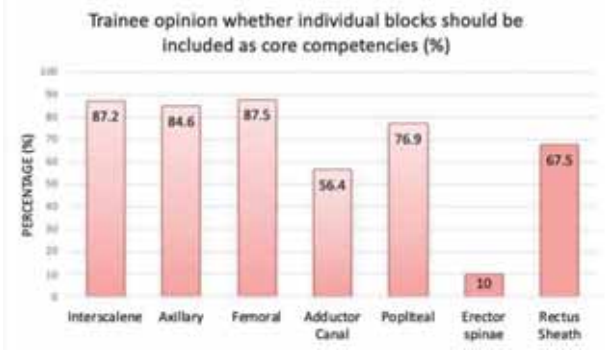
Methods We performed an email survey of all anaesthetic trainees within the East Midlands School of Anaesthesia exploring their confidence in performing regional anaesthesia.

Results We received 40 trainee responses (7 CT1-CT2, 13 ST3-ST5, 20 ST6-ST7). Trainees confident in performing plan A blocks under indirect supervision were (numbers are expressed as% [positive responses/total responding]): Interscalene 60 [24/40]; axillary 60 [24/40]; [NB1] femoral 87.5 [35/40]; adductor canal 42.5 [17/40]; popliteal 65 [26[NB2]/40]; erector spinae 10 [4/40]; rectus sheath blocks 42.5 [17/40]. Trainees responding that individual blocks should be included as core competencies: Interscalene 87.2 [34/40]; axillary 84.6 [33/40]; femoral 87.5 [35/40]; adductor canal 56.4 [22/40]; popliteal 76.9 [30/40]; erector spinae 10 [4/40]; rectus sheath blocks 67.5 [27/40].80% of our trainees expressed a desire for regular local teaching and 50% wanted teaching to focus on a reduced number of essential blocks.

Conclusions The majority of our trainees felt confident performing most plan A nerve blocks with indirect supervision. Opinion regarding which blocks should be essential competencies mirrored these results. We have commenced regular small group teaching sessions focusing on Plan A blocks.



Abstract 136 Figure 1



Abstract 136 Figure 2

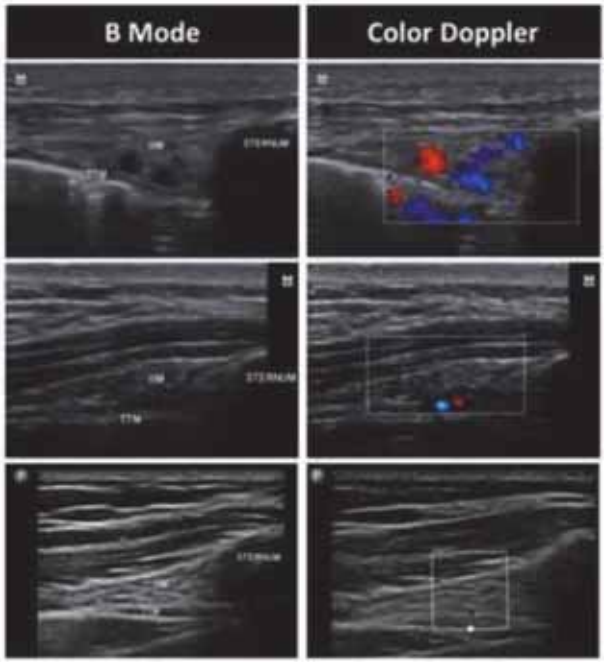
137 AVOIDING INTERNAL THORACIC ARTERY INJURY DURING PRE-INCISION TRANSVERSUS THORACIC MUSCLE PLANE BLOCK IN CORONARY ARTERY BYPASS GRAFT SURGERY: A TECHNICAL REPORT

AAGPS Jaya*, AR Tantri, RB Sukmono. *Universitas Indonesia/Dr. Cipto Mangunkusumo Hospital, Department of Anesthesiology and Intensive Care, Faculty of Medicine, Jakarta Pusat, Indonesia*

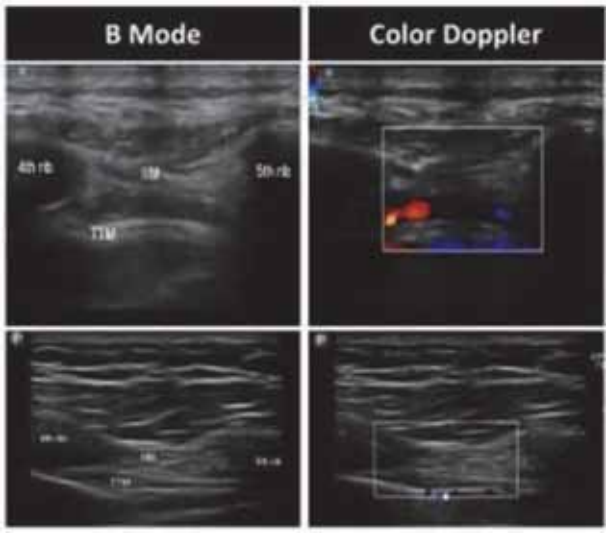
10.1136/rapm-2021-ESRA.137

Background and Aims Internal thoracic artery (ITA) is the gold-standard conduit in coronary artery bypass graft surgery (CABG). Therefore, ITA injury should be avoided during the pre-incision transversus thoracic muscle plane block (TTPB) in CABG. Hence, some anesthesiologists prefer to perform TTPB postoperatively. However, pre-incisional TTPB has potential advantages in reducing the requirement for intraoperative opioids and decreasing pain sensitization. We describe a sequence of steps in performing pre-incision TTPB to avoid ITA injury.

Methods We performed a pre-block scan by placing a high-frequency linear ultrasound probe transversely at desired intercostal space (ICS), applied color Doppler to identify ITA (figure 1), and marked the skin above ITA. After aseptic skin preparation, we put the ultrasound probe in sagittal orientation on the skin mark and then moved laterally until the lateral edge of transversus thoracic muscle (TTM) is visible. We target the



Abstract 137 Figure 1



Abstract 137 Figure 2

plane between internal intercostal muscle and TTM, lateral to ITA.

Results TTPB can be performed at the 3rd or 4th ICS, using a transverse or sagittal approach. A sagittal approach at the 4th ICS is recommended due to the wider LA spread. We may encounter several challenges during TTPB performance: ITA location is in the same plane as the target of TTPB, ITA varies in size, identification of ITA is not always easy, and ITA might mimic TTM (figure 2), which prone to accidental puncture.

Conclusions We have developed a sequence of steps that may guide anesthesiologists to perform the safe and effective TTPB, particularly when the block is performed before the incision in CABG.

138 COMPARISON OF ANTERIOR, POSTERIOR AND LATERAL APPROACHES OF ULTRASOUND GUIDED QUADRATUS LUMBORUM BLOCK IN PEDIATRIC PATIENTS UNDERGOING LOWER ABDOMINAL SURGERY: A PROSPECTIVE RANDOMIZED CONTROL TRIAL

AS K*, A Kumar, B Kumar, C Sinha, A Kumar, P Kumari. *All India Institute of Medical Sciences, Patna, Patna, India*

10.1136/rapm-2021-ESRA.138

Background and Aims Background: Changing concepts have made pediatric pain management providers think beyond traditional opioid management to help alleviate pediatric pain[1]. Ultrasound-guided quadratus lumborum (QL) block is now considered as one of the novel abdominal block[2].

Aims: To compare the post-operative analgesic effect between the three approaches of USG guided quadratus lumborum block (QLB).

Methods It's a prospective, double-blinded, randomized trial of pediatric patients. 30 were recruited and randomized into 3 groups,

Group A, Trans-muscular/anterior QLB, Group B, Lateral QLB, Group C, Posterior QLB

After general anaesthesia, QLB was given with 0.2% ropivacaine, 0.5 ml/kg. Primary outcome – total fentanyl consumption in the first 24 hours of post-operative period. Pain in post-operative period was accessed using FLACC score[3].

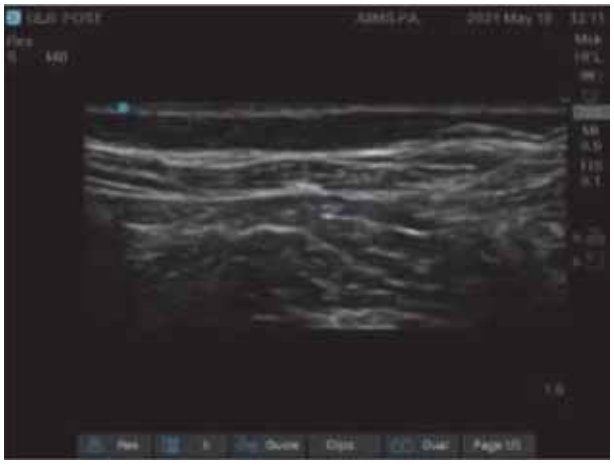
Results All baseline demographics were comparable. Total fentanyl consumption in the first 24 hours of post-operative



Abstract 138 Figure 1



Abstract 138 Figure 2



Abstract 138 Figure 3

period was statistically insignificant. But FLACC score at 30min in post-operative period was significant for Group C (mean – 5.2 ± 1.6, p – 0.035) in comparison to Group A (7.2 ± 1.9) and Group B (6.3 ± 1.2). FLACC score for 24 hours, remained less for Group C, it was statistically insignificant but could be clinically significant.

Even parental satisfaction score was statistically significant for Group C (p = 0.016).

Conclusions No dose of rescue analgesia was required in Group C (Group A – 2/10, Group B – 1/10). It was statistically insignificant but could be clinically significant. Hence USG guided posterior QLB has much better post – operative analgesic effect, without any complications.

IEC clearance was obtained with a letter reference number: AIIMS/Pat/IEC/PGTh/Jan19/15.

139 CLINICIAN-LED SURVEY ON ESSENTIAL DOCUMENTATION FOR REGIONAL ANAESTHESIA VS CURRENT DOCUMENTATION STANDARDS

[1]E Pack*, [2]S Shanmuganathan. *[1]Great Ormond Street Hospital, London, UK; [2]Royal National Orthopaedic Hospital, Stanmore, UK*

10.1136/rapm-2021-ESRA.139

Background and Aims No standards exist for documentation of peripheral nerve blocks (PNBs). Aim: To identify what clinicians think should be essential documentation and evaluate whether current practice meets these standards.

Methods Anaesthetists from three hospitals were surveyed. Forty suggested documentation topics were listed. We asked what they thought should be essential documentation and what they were currently documenting.

We performed a retrospective audit across two hospitals, looking at which of the forty topics had been documented for all PNBs. In the hospital using handwritten notes, anaesthetic charts were audited over two-weeks, and in the hospital using a computerised programme, notes were audited over 15-months.

Results 41 anaesthetists were surveyed. 12 documentation topics were thought to be essential by over 80%. Documentation of 38 PNBs were audited in the hospital using handwritten notes, and 960 PNBs in the hospital using computerised records.

Conclusions We found a discrepancy between perceived and actual documentation. Computerised systems improve this but are reliant on programming, demonstrated as only one percent of notes documented complications because no text field prompted this. Clear guidelines are required so that documentation of PNBs can be standardised.

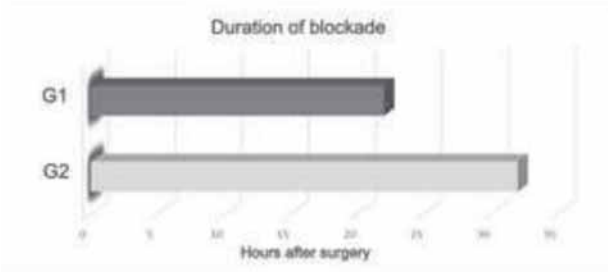
140 DURATION OF BLOCKADE OF PERIPHERAL NERVES WITH LOW CONCENTRATED BUPIVACAINE SOLUTION DEPENDING OF THE ADJUVANTS

M Barsa*. *Danylo Halytsky Lviv National Medical University, Lviv, Ukraine*

10.1136/rapm-2021-ESRA.140

Background and Aims Anesthesiology is showin a tendency to reduce use of opioids. This is due to respiratory depression and hypoxia in postoperative period. In addition – opioids does not allow patient to mobilize in early postoperative period, which increases the risk of thromboembolic complications. Rapid progress in development of regional methods of analgesia has significantly reduced the use of opioids and has provided sufficient pain relief. Despite the results achieved, we continue to search for perfect combination of local anesthetic and adjuvants to ensure long-lasting and safe analgesia.

Methods Seventy peripheral nerve blocks were performed in patients undergoing orthopedic surgery. Patients were randomly assigned to 2 groups (G1, G2), depending on the adjuvant: G1 – blockade with solution of bupivacaine 0,375% and dexamethasone 0,02%; Gr2 – blockade with a solution of bupivacaine 0,375% with dexamethasone 0,02% and



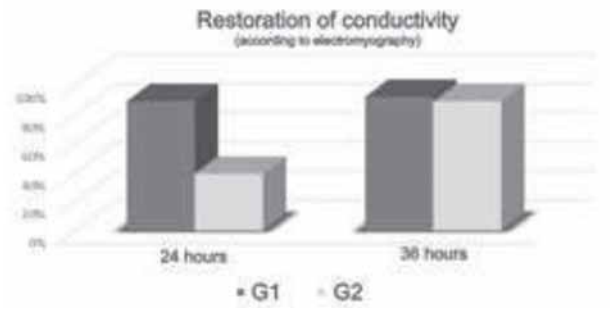
Abstract 140 Figure 1

Abstract 139 Table 1 12 essential topics and their documentation

		Handwritten	Computerised
Topic	% who think they document this	% of notes this was documented	
Stop before you block	69%	39%	76%
Performing doctor	84%	26%	76%
Which PNB performed	100%	95%	98%
Drug / dose of sedation	89%	100%	not collected
Patient awake, sedated or asleep	95%	92%	94%
Aseptic technique	97%	45%	90%
Ultrasound or landmark	93%	92%	78%
Needle type	89%	89%	79%
Needle size	89%	95%	88%
Drug / concentration of local anaesthetic	97%	95%	48%
Pain / paraesthesia on injection	71%	46%	85%
Complications	91%	47%	1%



Abstract 140 Figure 2



Abstract 140 Figure 3

epinephrine 0,00018%. The duration of the blockade was assessed. Pain intensity was assessed at the 6th, 12th, 24th and 36th h. after blockade. The amount of narcotic anesthetic were also recorded. In addition, patients underwent electromyography of the innervation area of the blocked nerve before the surgery and 24 and 36h after surgery.

Results Duration of blockade in G2 was longer by 10h, intensity of pain was significantly higher after 24h (1.65 ± 1.35 in G2 and 5.3 ± 1.26 in G1). According to electromyography, 24h after blockade conductance in G1 was restored by 95–100%, unlike G2, where conductivity was restored by only 47–59%.

Conclusions Proposed combination of local anesthetics and adjuvants provides both adequate anesthesia during surgery and prolonged post-operative analgesia.

141 A PILOT STUDY TO EVALUATE THE UTILITY OF ASSISTIVE ARTIFICIAL INTELLIGENCE IN ULTRASOUND-GUIDED REGIONAL ANAESTHESIA

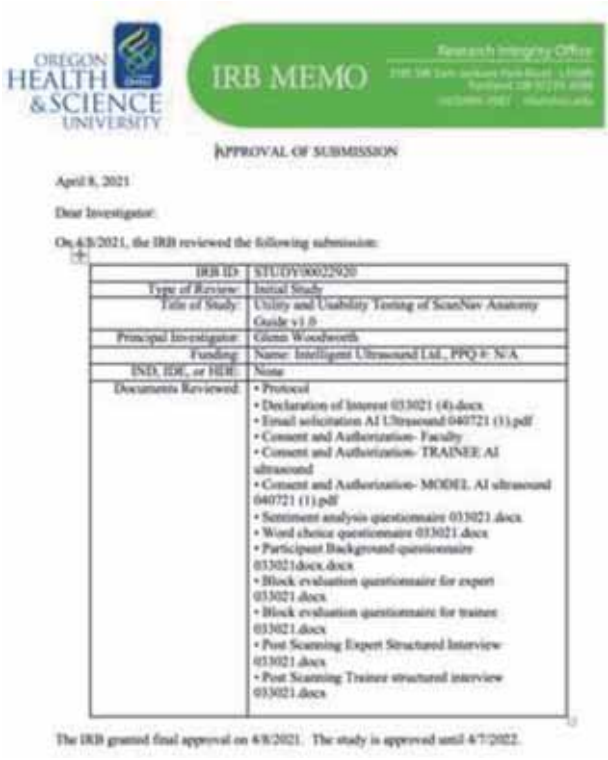
[1,2]J Bowness*, [3]G Woodworth, [4]D Burckett-St Laurent, [1]A Noble, [1]H Higham. *[1]University of Oxford, Oxford, UK; [2]Aneurin Bevan University Health Board, Newport, UK; [3]Oregon Health and Sciences University, Portland, USA; [4]Royal Cornwall Hospitals NHS Trust, Truro, UK*

10.1136/rapm-2021-ESRA.141

Background and Aims Ultrasound-guided regional anaesthesia (UGRA) involves the acquisition and interpretation of ultrasound images. This pilot study explores the utility of an artificial intelligence (AI) device, which highlights key sono-anatomical structures with a real-time colour overlay.

Methods With ethical approval, 30 anaesthetists collected 240 ultrasound scans over nine block regions. Half (n=15) of participants were experts in UGRA, 120 scans were performed with the AI device (60 expert & 60 non-expert – under supervision). Half were performed in a subject of BMI <30 kg/m^2 (half BMI ≥30 kg/m^2). Participants completed structured questionnaires on benefits of the device and potential risks of unnoticed incorrect highlighting.

Results Data are summarised in tables 1–3. Feedback was positive in 165/360 (45.8%) instances for non-experts, and 102/300 (34.0%) for experts (Yates's χ^2 = 9.03, p <0.01). Feedback was neutral in 186/360 (51.7%) and 178/300 (59.3%) for non-experts and experts respectively (Yates's χ^2 = 3.58, p


OREGON HEALTH & SCIENCE UNIVERSITY

IRB MEMO

Research Integrity Office

APPROVAL OF SUBMISSION

April 8, 2021

Dear Investigator:

On 4/8/2021, the IRB reviewed the following submission:

IRB ID:	STUDY00022920
Type of Review:	Initial Study
Title of Study:	Utility and Usability Testing of ScanNav Anatomy Guide v1.0
Principal Investigator:	Glenn Woodworth
Funding:	Name: Intelligent Ultrasound Ltd., PPQ #: N/A
IND, IDE, or HDE:	None
Documents Reviewed:	• Protocol • Declaration of Interest 033021 (4).docx • Email solicitation AI Ultrasound 040721 (1).pdf • Consent and Authorization- Faculty • Consent and Authorization- TRAINEE AI ultrasound • Consent and Authorization- MODEL AI ultrasound 040721 (1).pdf • Sentiment analysis questionnaire 033021.docx • Word choice questionnaire 033021.docx • Participant Background questionnaire 033021docx.docx • Block evaluation questionnaire for expert 033021.docx • Block evaluation questionnaire for trainee 033021.docx • Post Scanning Expert Structured Interview 033021.docx • Post Scanning Trainee structured interview 033021.docx

The IRB granted final approval on 4/8/2021. The study is approved until 4/7/2022.

Abstract 141 Figure 1

Abstract 141 Table 1 Non-expert feedback on benefits (n=60)

	Positive (Increase)	Neutral	Negative (Decrease)
Identifying Structures	31 (51.7%)	27 (45.0%)	2 (3.3%)
Finding Correct View	22 (36.7%)	37 (61.7%)	1 (1.7%)
Learning Scan	36 (60.0%)	23 (38.3%)	1 (1.7%)
Helped Training	37 (61.7%)	23 (38.3%)	0 (0%)
Supervisor Support	8 (13.3%)	51 (85.9%)	1 (1.7%)
Confidence	31 (45.8%)	25 (51.7%)	4 (2.5%)
Overall (/360)	**165 (45.8%)**	**186 (51.7%)**	**9 (2.5%)**

Abstract 141 Table 2 Expert feedback on benefits (n=60)

	Positive (Increase)	Neutral	Negative (Decrease)
Identifying Structures	15 (25.0%)	42 (70.0%)	3 (5.0%)
Teaching	30 (50.0%)	29 (48.3%)	1 (1.7%)
Supervising	27 (45.0%)	29 (48.3%)	4 (6.7%)
Frequency of Intervention	16 (26.7%)	34 (56.7%)	10 (16.7%)
Confidence	14 (23.3%)	44 (73.3%)	2 (3.3%)
Overall (/300)	**102 (34.0%)**	**178 (59.3%)**	**20 (6.7%)**

Abstract 141 Table 3 Expert-identified potential increased risk from device highlighting (max n=103)

	Yes	No
Nerve Injury (/103)	5 (4.9%)	98 (95.1%)
Pneumothorax (/65)	0 (0%)	65 (100%)
LAST (/86)	3 (3.5%)	83 (96.5%)
Peritoneum Violation (/49)	0 (0%)	49 (100%)
Block Failure (/103)	4 (3.9%)	99 (96.1%)
Total (/406)	12 (3.0%)	394 (97.0%)

= 0.06). Negative feedback was noted in 9/360 (2.5%) and 20/300 (6.7%) for non-experts and experts (Yates's χ^2 = 5.81, p = 0.02). Experts reported no increased risk in 394/406 (97.05%) and that unnoticed incorrect device highlighting carried potential increased risk in 12/406 (3.0%).

Conclusions Non-experts viewed the device most positively, particularly in support of learning, training and identifying sono-anatomical structures. Perceived increased risk was infrequent, but some potential complications considered may be clinically important (e.g., nerve injury, local anaesthetic systemic toxicity). This pilot study provides evidence that such technology may support (rather than replace) clinician judgement for UGRA procedures.

142 COMPARING THE EFFICACY OF PERICAPSULAR NERVE GROUP BLOCK (PENG) BLOCK VERSUS SUPRA-INGUINAL FASCIA ILIACA BLOCK (FIB) IN HIP ARTHROPLASTY

C Vamshi*, DA Kumar, DC Sinha, DA Kumar, DS Kumar, DP Kumari. *All India Institute of Medical Sciences, Patna, India*

10.1136/rapm-2021-ESRA.142

Background and Aims Postoperative pain is a major concern in the patients undergoing Total Hip Arthroplasty. Peripheral nerve blockades have started gaining attention in the recent past for arthroplasty. Supra-inguinal fascia iliaca block (FIB) has become the standard of care at many places. Lately, (PENG) block has been proved to be safe and effective.

To compare the analgesic efficacy of USG guided Pericapsular nerve group block (PENG) with Supra-inguinal fascia iliaca block (SIFIB) in THR under General Anesthesia (GA).

Methods After IEC clearance, 18 patients scheduled to undergo THR under GA were included in this double blinded, randomized controlled trial.

Group I received PENG and Group II received SIFIB block with 0.25% bupivacaine and 1mcg/kg clonidine respectively. The primary outcome was 24 hr morphine consumption. Secondary outcomes were Intraoperative opioid consumption, Mean Numerical rating scale (NRS: 0–10) in 24 hr. and adverse effects.

Results Baseline demographics were similar. The mean 24-hour morphine(mg) consumption in Group I(PENG) was 10.44 ±1.94 mg and 12.22±1.85 mg in Group II(SIFIB) with p value=0.065. Intraoperative Fentanyl consumption(mcg) in PENG was 51.11± 9.28 and in SIFIB was 67.78±12.02 with p value = 0.005 which is statistically significant. Median of Mean NRS of 24 hr was 2.63± 0.44 in PENG and 3.31± 0.62 in SIFIB.

Conclusions Patients receiving PENG block required less intraoperative opioid. The postoperative 24-hour morphine consumption though not statistically significant but could be clinically significant. Also, PENG group experienced less pain comparing to SIFIB group. Two patients experienced vomiting in the SIFIB group.

IEC Clearance obtained with reference number: AIIMS/Pat/IEC/PGTH/July19/22.

143 PERIBULBAR BLOCK – A MATURE OPTION FOR AN IMMATURE PATIENT

A Palha Ribeiro, LV Rodrigues*, P Pina. *Centro Hospitalar Universitário do Porto, Porto, Portugal*

10.1136/rapm-2021-ESRA.143

Background and Aims Literature is scarce regarding anesthetic management for treatment of retinopathy of prematurity (ROP). Retrospective analysis report that peribulbar block (PB) combined with general anesthesia (GA) seems safe in preterm infants.

Methods We report a case of a preterm infant submitted to bilateral PB for surgical treatment of ROP.

Results 2.8 kg, 41 weeks correct age male preterm infant was scheduled for elective vitreoretinal surgery due to stage IV ROP.

In preoperative assessment no supplement oxygen was needed and he presented anemia and gastroesophageal reflux. Monitorization included continuous electrocardiogram, two pulse oximeters, noninvasive arterial pressure, end tidal carbon dioxide, temperature and glycemia. GA and tracheal intubation were performed and bilateral PB was executed with single infratemporal injection 0.25 ml/kg/eye ropivacaine 0.375% with 30G needle (0.7 mL local anesthetic/eye). Maximum allowed concentration was considered (3 mg/kg).

Intraoperative course lasted 290 minutes and was uneventful, without further opioid requirements. Dexamethasone and paracetamol were administered. Neuromuscular blockage was reversed and infant successfully extubated and transferred to Neonatal Intensive Care Unit for 24 hours, following local protocol. No complications were reported or rescue analgesics were required.

Conclusions Premature infants present a challenge as they are more prone to perioperative cardiorespiratory complications.

PB has demonstrated effectiveness in reducing incidence of oculocardiac reflex, surgical bleeding, postoperative apnea and pain. GA complemented with bilateral PB achieved stable hemodynamics without additional opioid throughout surgery, indicating an acceptable quality of analgesia. Moreover, risk of postoperative apnea was reduced, as baby presented < 60 weeks correct age and anemia, two known risk factors in preterm infants.

144 TOTAL KNEE ARTHROPLASTY: CHRONIC PAIN AND FUNCTIONAL EVALUATION AFTER ONE YEAR, IMPLICATION OF THE FEMORAL NERVE BLOCK

[1]A Maggiore*, [2]J-F Fils, [3]F Zuccarini, [1]E Guntz. *[1]ULB, Braine L'Alleud, Belgium; [2]ULB, Nivelles, Belgium; [3]ULB, Bruxelles, Belgium*

10.1136/rapm-2021-ESRA.144

Background and Aims Primary outcome was to assess if femoral nerve block (FNB) could affect long-term pain and function after total knee arthroplasty (TKA) (1).
Methods Ethics Committee approved this retrospective study, patients (age 18–90 years) operated from unilateral TKA one year before were included and divided in 2 groups: patients receiving spinal anesthesia (hyperbaric bupivacaine±sufentanil) or spinal anesthesia with FNB (50–100 mg levobupivacaine). Impact of age, gender, BMI, height, durations of surgery and tourniquet over the pain and disability were also evaluated. Patients were asked to evaluate pain before (NRS) and after TKA with the Numeric Rating Scale (NRS1) and functional disability with the Oxford Knee Score one year after surgery (OKS1).
Results Continous variables were compared between groups with Wilcoxon test, discrete variables with Chi^2 Pearson test; $p<0.05$ significant. 111 patients were included (24 with FNB) There is no difference in term of OKS1 (42 [39 – 46] vs 43.5 [38.75 – 46]; $p=0.87$) when FNB is added to spinal anesthesia. Median OKS1 is superior for men compared to women (41 [37.75 – 44.25] vs 45 [40 – 46]; $p= 0.01$). When comparing OKS1>40 with OKS1<40, in group OKS1>40: Median Height and delta (NRS1-NRS) are superior (height: 1.65 [1.56 – 1.71] vs 1.68 [1.63 – 1.76]; $p= 0.02$. Delta NRS: -4 [-6 – -2] vs -6 [-8 – -4] $p<0.01$); NRS1 is inferior (4 [2 – 5] vs 1 [0 – 2]; $p<0.001$).


CHIREC - Site Delta

COMITE D'ETHIQUE

Bruxelles, le 23 mars 2021

Au Docteur A. Maggiore

CC Docteur E. Gurtz
Service Anesthésie
CHIREC – site HSH

Concerne : 2021-06 «Evaluation de la douleur chronique après mise en place d'une prothèse totale de genou : impact de la réalisation d'un bloc fémoral» N°B222021000005 –
Dr Alessandra Maggiore TFE anesthésie LLSI et Dr E. Gurtz Chirec – site HSH

Cher Docteur,

Le président du Comité d'Ethique CHIREC – CM 167, a pris connaissance l'étude susmentionnée et conformément au Chapitre II, art 11 § 4 de la loi du 7 mai 2004, déclare que les points 4, 5 et 7 sont bien rencontrés dans l'étude, à savoir, la compétence de l'investigateur et de ses collaborateurs, la qualité des installations, l'adéquation et l'exhaustivité des informations écrites à fournir ainsi que la procédure à suivre pour obtenir le consentement éclairé et la justification de la recherche.

Il confirme également que s'agissant d'une étude rétrospective, le consentement du patient n'est pas nécessaire.

Nous vous prions d'agréer, Cher Docteur, l'expression de nos sentiments les meilleurs.

Docteur Michel PEETERS
Président

Abstract 144 Figure 1

Conclusions FNB does not improve long-term pain and knee function. Knee function seems to be improved by the decrease of pain, the gender and the height.

145 A NOVEL CONVENIENT WAY OF PERFORMING MEDIAL APPROACH TO SCIATIC NERVE BLOCK IN SUPINE POSITION

JWL Lim*, Y Cheng. *Ng Teng Fong General Hospital, Singapore, Singapore*

10.1136/rapm-2021-ESRA.145

Background and Aims Current approaches to sciatic nerve block either require position change, which is time consuming, or involves blocking the sciatic nerve deeper in the tissue. To perform the block in supine position, patient's knee is flexed in unsteady position, requiring assistant or sandbag under the ankle to maintain this position. Medial approach described in current literature position patient's leg in figure-of-four which is difficult in patients with hip or knee conditions. We propose a novel convenient way of positioning patient's lower limb of interest above contralateral ankle for medial approach to sciatic nerve block in two case studies.
Methods Sciatic nerve block was performed in two patients under ultrasound guidance with their lower limb of interest positioned above contralateral ankle.
Results Sciatic nerve block was performed successfully for anaesthesia intraoperatively in both patients. Our proposed position was time efficient with ease of positioning in supine position without need for support and femoral/saphenous nerve block was performed in the same position. Sciatic nerve appears more elongated on ultrasound when approached



Abstract 145 Figure 1



Abstract 145 Figure 2

medially, allowing greater surface area for spread of local anesthesia. Vascular structures were further from sciatic nerve, reducing the risk of intravascular injection of local anaesthesia. With tibial nerve approached first medially, risk of common peroneal nerve injury could be reduced compared to lateral approach.

Conclusions Our proposed position for medial approach of sciatic nerve block saves positioning time, with greater surface area for spread of local anesthesia, likely reducing the risk of intravascular injection of local anaesthesia and common peroneal nerve injury.

146 ADDUCTOR CANAL BLOCK AND FEMORAL TRIANGLE BLOCK: COMPARISON OF TIME TO ACHIEVE DISCHARGE CRITERIA AND EVALUATION OF LOCAL ANESTHETIC SPREAD

N Sakai*, C Taruishi, T Sudani. *Daiyukai General Hospital, Ichinomiya, Japan*

10.1136/rapm-2021-ESRA.146

Background and Aims The femoral triangle block (FTB) and adductor canal block (ACB) have become standard analgesia for total knee arthroplasty (TKA). We compared the anatomical difference and postoperative recovery between two blocks.

Methods We randomly assigned 118 patients to the FTB or ACB group. Patients were given 10 mL of 0.25% levobupivacaine as FTB or ACB. FTB was defined as at the mid-thigh, and ACB at the apex of the femoral triangle. The primary outcome was to achieve the discharge criteria (pain control with oral analgesics, knee flexion >90°, and ambulatory rehabilitation). ACB would be noninferior to FTB if the 95% confidence interval of the two groups' differences were closer to zero than -9 hours (margin). We compared the local anesthetic spread, straight leg raise (SLR), and other outcomes.

Results The time to achieve discharge criteria was 56.3±17.3 hours in the ACB group and 56.2±18.4 hours in the FTB group, a difference of 0.1 hours (95% CI: -6.4–6.6 hours, p=0.97), establishing noninferiority. At one hour postoperatively, 48 of 60 patients in ACB and 40 of 58 patients in FTB were capable of SLR (Odds ratio:0.59, p=0.29), a non-significant difference. The distance between the two points was 5.1 (4.9–5.4) cm, and the spread of local anesthetics was 6.9 cm cephalad, 5.1 cm caudad. There were no differences in pain scores or other outcomes.

Conclusions ACB was non-inferior to FTB in time to achieve discharge criteria. We must warn of the potential quadriceps weakness after local anesthetic injection because of the high cephalad spread.

147 ERECTOR ERECTOR SPINAE BLOCK FOR ANALGESIA IN A PATIENT HAVING UNDERGONE CLAM SHELL THORACOTOMYSPINAE BLOCK FOR ANALGESIA IN A PATIENT HAVING UNDERGONE CLAM SHELL THORACOTOMY

[1]S Park*, [2]A Mcdaniel. [1]*Imperial College Healthcare NHS Trust, London, UK*; [2]*St Mary's Hospital, London, UK*

10.1136/rapm-2021-ESRA.147

Background and Aims A 16 year old male suffered a stab wound to right posterior lower thorax. CT showed a right hydrohaemopneumothorax & right renal laceration and chest drain was inserted. The patient became unstable during opertation requiring a clam shell thoracotomy. The patient's haemodynamics improved with multiple blood product transfusions and repeat CT showed an enlarging right perinephric haematoma, and shattered right kidney. He was admitted to ICU for Respiratory weaning but adequate analgesia was challenging, coagulopathy and rising inflammatory markers ruled out epidural. Bilateral erector spinae plane infusions were sited to optimise analgesia.

Methods ESP catheters were inserted at T5 bilaterally. Nerve catheters were placed under ultrasound guidance and 60 ml of 0.25% Levobupivacaine (adrenaline 1:400 000) loading dose administered. A continuous infusion of levobupivacaine at 15 ml/hr was commenced and bolus doses prescribed.

Results ESP catheter infusion continued at 10–15 ml/hr for 10 days with 40 ml of 0.125% levobupivacaine bolus top-ups. The patient was extubated D10 ESP infusion and the infusion was weaned – patient reported 0/10 pain. He was transitioned to regular analgesics with regular pregabalin and PRN oxycodone & discharged to the ward.

Conclusions ESP can be considered as a part of analgesia regime in appropriately selected patient groups. Multiple contra-indications exist in trauma settings. This patient's coagulopathy contraindicated epidural insertion. However, an ESP could be safely inserted, achieving a good level of analgesia.

Overall, the ESP played a pivotal role in this patient's ITU care and the overall recovery from his polytrauma.

148 REVIEWING THE CURRENT REGIONAL ANAESTHESIA SERVICE FOR HIP FRACTURES AT A MAJOR TRAUMA CENTRE

R Kulec*, A Hassan. *Nottingham University Hospitals NHS Trust, Nottingham, UK*

10.1136/rapm-2021-ESRA.148

Background and Aims A Fractured neck of Femur can cause severe pain. There is overwhelming evidence that peripheral nerve blocks are effective in providing analgesia for this injury and reduce serious complications such as the risk of acute confusion, chest infection and time to first mobilisation.[1]

In 2018 a landmark Fascia Iliaca Block (FIB) service was set up at the Queen's Medical Centre in Nottingham. Since then, there have been new national recommendations supporting the use of ultrasound to provide a more accurate deposition of local anaesthetic and superior block.[2,3]

Methods Retrospective data collection on 101 patients who attended the emergency department with a neck of femur fracture. Their notes were reviewed electronically for information on demographics, FIB delivery, pain scores and opioid


FW: 20-712C-Evaluate the clinical effectiveness of landmark technique fascia iliaca blocks in patients with fractured neck of femurs

Good Morning

Thank you for submitting your online registration form for the above project.
Having reviewed the registration form, I have now logged your project with no further support required from the Clinical Effectiveness Team for your data collection and analysis of the audit.

- Your project number is: **20-712C**

Once the audit has been completed, there is an expectation that you will present the findings at an appropriate forum for discussion and development of recommendations and an action plan (if required). You will be required to fill in the attached audit review form, with your conclusions/recommendations/and action plan (if required) and submit this to the clinical effectiveness team.

- Only upon receipt of this review form, we will change your audit status from 'Ongoing' to 'Completed' on our trust database and we can issue you with your certificate of participation.
- Obviously, due to the current COVID-19 situation, we totally appreciate that your audit may well take far longer to complete than anticipated and your proposed timelines can be updated at any time.

Please contact auditenquiries@nuh.nhs.uk if you need to change your timelines or for any other queries.

Abstract 148 Figure 1

requirements post block. Ethical approval was sought for this project.

Results Approximately 71% of patients received a FIB, the main contraindication was anticoagulation. Levobupivacaine 0.25% was the local anaesthetic of choice. 87% of the blocks were performed by doctors, the remaining by advanced nurse practitioners. 92% were performed via the landmark technique. Approximately 77% of patients scored either moderate or severe pain pre-block, decreasing to approximately 18% post-block. Approximately 39% of patients required analgesia 12 hours post block, and the mean opioid requirements were 3 mg of oxycodone.

Conclusions There has been a significant increase in the number of FIB rates (71%) since 2018 when the average was 8%. Despite this improvement, there is still scope to increase the efficacy. The use of an ultrasound-guided technique will facilitate this change.

149 BRACHIAL PLEXUS BLOCK UNDER DEXMEDETOMIDINE SEDATION FOR SHOULDER ARTHROSCOPY

C Pereira, C Pinto*, CGaio Lima, M Soares. *Unidade Local de Saúde de Matosinhos – Hospital Pedro Hispano, Porto, Portugal*

10.1136/rapm-2021-ESRA.149

Background and Aims Shoulder arthroscopic surgery is associated with significant postoperative pain and opioid consumption. Regional anesthesia is a valuable part of anesthetic management either combined with general anesthesia or as a sole anesthetic technique. However, surgery in beach chair position in an awake state increases patient anxiety and discomfort.

Methods We report a case of a 74-year-old male, ASA III, admitted for arthroscopic rotator cuff repair in an ambulatory setting. He had a history of chronic obstructive pulmonary disease (important bullous emphysema), smoking and past pulmonary tuberculosis.

Results Given the high risk of iatrogenic pneumothorax and postoperative pulmonary complications, we decided to avoid mechanical ventilation. We proceeded with a locoregional technique associated with dexmedetomidine sedation. An interscalene brachial plexus block (BPB) was performed under ultrasonography guidance (in-plane technique) with nerve stimulation. 20 ml of 1% mepivacaine were used. Dexmedetomidine infusion was started at 0.6 ug/kg/h while performing the nerve block, and titrated up to 1 ug/kg/h. Intravenous analgesia with single ketamine bolus (0,3 mg/kg), acetaminophen (1gr), tramadol (100 mg) and ketorolac (30 mg) were also administered. The patient remained comfortable and under spontaneous ventilation during the procedure (90min). No bradycardia or other adverse events were registered. No additional analgesia was needed in the post-anesthesia care unit.

Conclusions BPB provides surgical anesthesia and postoperative analgesia while avoiding many side effects of general anesthesia. Dexmedetomidine allows sedation and analgesia with minimal respiratory depression and can significantly prolong the duration of BPB[1]. Our case suggests that BPB under dexmedetomidine sedation can be safe and effective for shoulder arthroscopy in ambulatory settings.

150 THE EFFICACY OF THE ULTRASOUND GUIDED ICB NERVE BLOCK AND BRACHIAL PLEXUS NERVE BLOCK FOR UPPER ARM TRANSPOSED BRACHIAL-BASILIC ARTERIOVENOUS FISTULA IN VASCULAR ACCESS SURGERIES

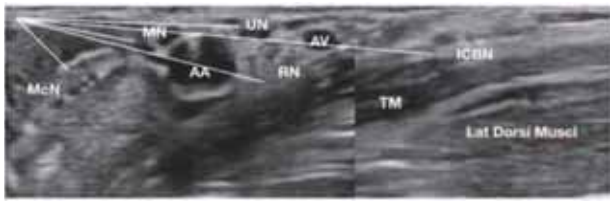
D Mathew*, MH Wong. *Khoo Teck Puat Hospital, Singapore, Singapore*

10.1136/rapm-2021-ESRA.150

Background and Aims Transposed brachiobasilic arteriovenous fistula (TBBAVF) is often used as an alternative for difficult AVF creation in the forearm or cubital fossa. The proximal site surgical incision close to the axilla frequently extends beyond coverage by a brachial plexus block (BPB) and often requires either rescue local anaesthetic (LA) supplementation or general anaesthesia. We report two cases that were successfully managed with an intercostal nerve block (ICB) and axillary brachial plexus block under ultrasound guidance.

Methods The Institutional Review Board's approval was obtained for these case reports. Two ASA III patients with similar comorbidities of hypertension, hyperlipidemia, diabetes mellitus and end-stage-renal failure, required TBBAVF due to their previous non-functioning AVFs.

An ICB nerve block (figure 1) and axillary BPB (figure 2) were performed under ultrasound guidance in both patients with Ropivacaine 0.25% 10 mL and 0.5% Ropivacaine 25 mL



Abstract 150 Figure 1 and 2 Ultrasound guided of axillary brachial plexus nerver block (AXB) and Ultrasound guided Intercostobrachial nerve block (ICBN). MN (Median nerve), UN (Ulnar nerve), McN (Musculocutaneous nerve), RN (radial nerve), TM (Teres Major muscle), AA (axillary artery), AV (axillary vein)



Abstract 150 Figure 3 A continuous longitudinal incision over the basilic vein from the axilla to the medial epicondyle of the humerus for brachial artery to basilic vein anastomosis and anterior and superficial relocation of basilica vein

respectively with a BBraun Stimuplex 21G 100 mm insulated needle.

The surgery involved a continuous longitudinal incision over the basilic vein from the axilla to the medial epicondyle of the humerus for brachial artery to basilic vein anastomosis and anterior and superficial relocation of basilica vein (figure 3). Surgical duration was two hours.

Results The patients remained pain free intraoperatively with no supplemental LA required and completed uneventfully. Patients were discharged on the same day and the numbness resolved within 24 hours.

Conclusions We demonstrated how TBBAVF surgery is successfully managed by an ICB nerve block and axillary BPB under ultrasound guidance. Future studies are required to explore this technique, including dosage-finding study.

151 SONOCLUB: INCREASING ACCESS TO REGIONAL ANAESTHESIA PLAN A BLOCKS

MSF Chong*, S Patel, D McNaughton, R Pilling. *Chelsea and Westminster Hospital, London, UK*

10.1136/rapm-2021-ESRA.151

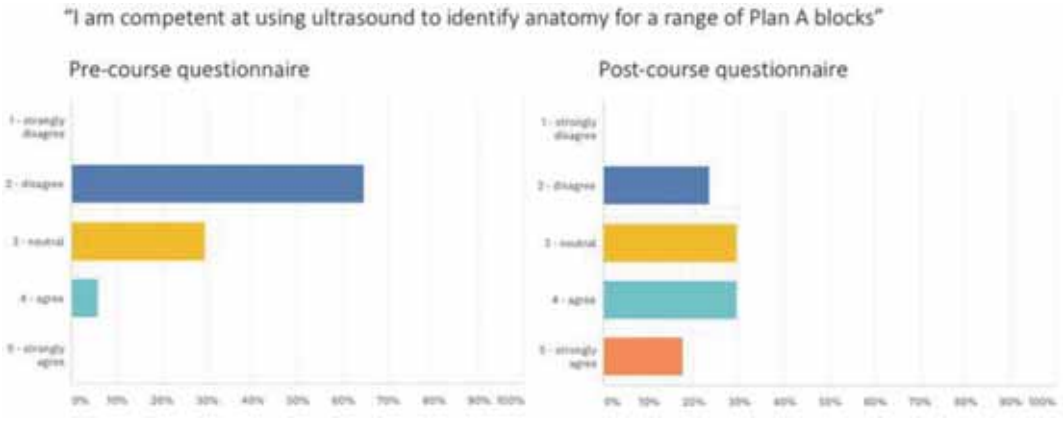
Background and Aims The new RCoA 2021 Curriculum requires anaesthetic trainees to 'deliver a range of safe and effective regional anaesthetic techniques to cover the upper and lower limb, chest and abdominal wall independently' [1]. RA-UK have highlighted inconsistences in training and recommend core competency in high value Plan A blocks [2]. We implemented a weekly Sonoclub teaching program to cover all 7 Plan A blocks to raise the standards in ultrasound guided regional anaesthesia (UGRA) in our hospital (figure 1).

Methods Sonoclub sessions, which were organised by regional fellows from April to June 2021, lasted one hour encompassing lectures to help pass FRCA/EDRA and 'block of the week' scanning. Equipment included a computer, two ultrasound machines, two beds and willing participants. We conducted a pre- and post- course survey to evaluate trainees' training and competency in regional anaesthesia.

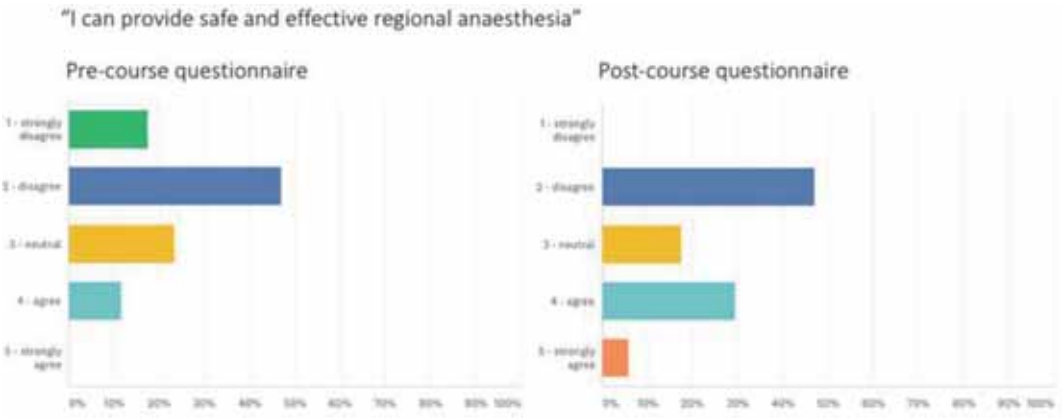
Results 17 anaesthetic trainees (CT1-ST7) replied to the pre- and post- course questionnaire with an average attendance of 3 Sonoclub sessions. 24% agreed and 77% strongly agreed that Sonoclub improved their knowledge and skills in regional anaesthesia. Using a 5-point Likert scale, we found considerable improvements in the practice of obtaining consent, sonoanatomy of Plan A blocks (figure 2), managing complications

KNOWLEDGE	SKILLS
Ultrasound	Plan A - UL: Axillary
Complications	Plan A - Trunk: Erector Spinae Plane
Pharmacology	Plan A - LL: Adductor Canal
Consent	Plan A - UL: Interscalene
Anticoagulants	Plan A - LL: Femoral Nerve, FIB
Nerve stimulators	Plan A - Trunk: Rectus Sheath
Local anaesthetic toxicity	Plan A - LL: Popliteal Sciatic

Abstract 151 Figure 1 Weekly Sonoclub timetable



Abstract 151 Figure 2 Pre- and post-course questionnaire for sonoanatomy of Plan A blocks



Abstract 151 Figure 3 Pre- and post-course questionnaire for providing safe and effective regional anaesthesia

and providing safe and effective regional anaesthesia (figure 3).

Conclusions We have shown regular departmental Sonoclub teaching improves training and competency in regional anaesthesia. We recommend Plan A blocks are taught on a regular basis in all hospitals. It is cheap, easy to implement and improves standards in regional anaesthesia.

152 REGIONAL ANESTHESIA FOR CORRECTION OF CLAVICLE FRACTURE IN A POLYTRAUMA PATIENT DIAGNOSED WITH SEVERE OBSTRUCTIVE SLEEP APNEA (OSA)

D Gonçalves, C Sousa*, F Teixeira, D Roriz, M Sá Vieira, C Sampaio. *Centro Hospitalar Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.152

Background and Aims Clavicle surgery can be performed under general or regional anesthesia; the latter is preferred when there´s interest in avoiding complications associated with general anesthesia.

Multiple rib fractures are associated with significant morbidity such as ventilatory compromise, increased rate of atelectasis, lung contusion and pneumonia. If invasive mechanical ventilation can be avoided, intensive care unit stay and complications from mechanical lung ventilation can be prevented.

Methods A 78-year-old male patient weighing 80 Kg and with severe OSA presented to our emergency department with a left clavicle fracture and left costal arc fractures from T1 to T10 after an accidental fall. After stabilization the patient was scheduled for surgical correction of the clavicle fracture.

After obtaining consent to perform surgery under regional anesthesia and conscious sedation, we administered 50 mcg of fentanyl and initiated a dexmedetomidine infusion.

We performed different ultrasound guided nerve blocks with Ropivacaine 0.5%: 5 mL were administered at the interscalene groove to block the brachial plexus, 5 mL targeted at the supraclavicular nerves and 10 mL at the clavipectoral fascial plane.

Results The patient reported no pain throughout the procedure and there was no ventilatory compromise or need for intubation. In the first 24 postoperative hours, the patient did not report pain, either at rest or movement, without need of rescue analgesia.

Conclusions The use of peripheral nerve blocks allowed for surgical correction of clavicle fracture in our patient, while avoiding pulmonary complications associated to invasive mechanical ventilation, difficult ventilatory weaning, and prolonged stay at the intensive care unit.

153 ULTRASOUND-GUIDED SERRATUS ANTERIOR PLANE BLOCK (US-SAP BLOCK) AND ULTRASOUND-GUIDED PARASTERNAL BLOCK (US-PSB) FOR S-ICD IMPLANTATION IN SEVERE DILATED POST-ISCHAEMIC CARDIOMYOPATHY: A CASE STUDY

F Marrone*, S Paventi, M Tomei, M Bosco. *ASL ROMA 1 – Ospedale Santo Spirito, Roma, Italy*

10.1136/rapm-2021-ESRA.153

Background and Aims s-ICD (subcutaneous-Implantable Cardioverter Defibrillator) is crucial in patients at risk of cardiac adverse events. Positioning technique requires in deep sedation or general anesthesia two incisions with generator placed between 'serratus' and 'latissimus' muscles while defibrillator lead goes through parasternal incision. We report a case of s-ICD implantation under regional anesthesia and sedation.

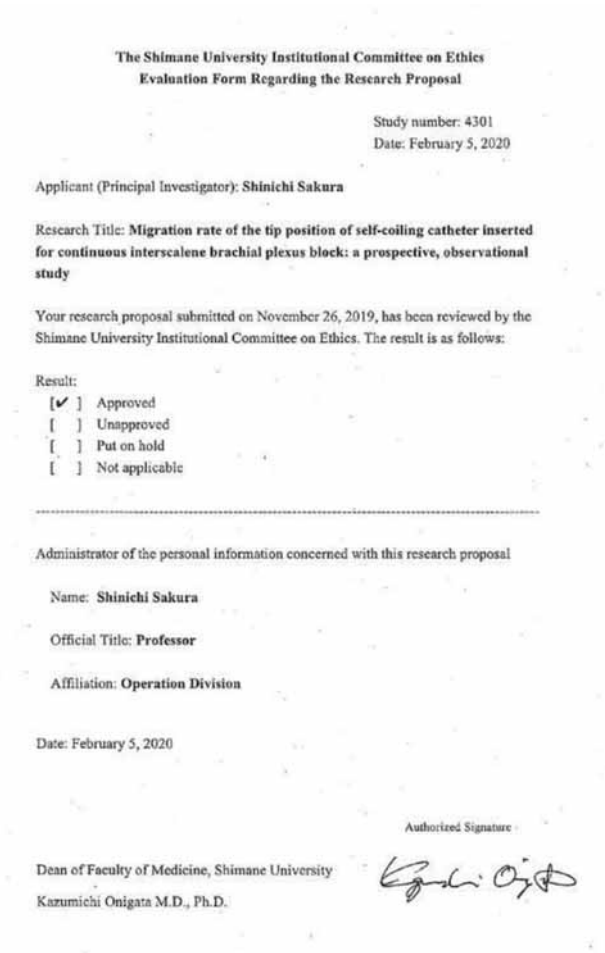
Methods A male patient, aged-44, BMI 21, severe post-ischaemic cardiomyopathy (EF 26%, TAPSE 14 mm, PAP 67 mmHg, BNP 1428), ASA 3, was scheduled for s-ICD implantation. After valid informed consent, US-SAPB was performed aseptically, using 80-mm echogenic, atraumatic needle, at mid-axillary line, fifth rib, left hemithorax. Anatomy and needle's tip correctly viewed. After negative aspiration, in boluses, 0.5% ropivacaine 20 ml were injected. In full asepsis US-PsB, left second and fourth intercostal spaces, was performed; 50-mm echogenic, atraumatic needle. Anatomy and needle's tip correctly viewed. 0.375% ropivacaine 4 ml was injected for each block. No complications. Pneumothorax was excluded by LUS. 10-MHz linear probe was used. MAC (Monitored Anesthesia Care) was provided. Patient was sedated with midazolam 2 mg e.v., propofol 50 mg e.v. and dexmedetomidine in continuous intravenous infusion (0,5mcg/kg/h), in spontaneous breathing and 30% O2 mask.

Results Operation began 15 minutes after beginning of MAC, 45 minutes after blockades placement. Patient vital signs, although severely sick, remained stable. No pain reported. Patient was observed in PACU and discharged with Aldrete-score 10.



Abstract 153 Figure 1

Conclusions In our experience we perform ultrasound-guided interfascial plane blocks with high profile of efficacy and safety in s-ICD placement also in sick patients.



The Shimane University Institutional Committee on Ethics
Evaluation Form Regarding the Research Proposal

Study number: 4301
Date: February 5, 2020

Applicant (Principal Investigator): **Shinichi Sakura**

Research Title: **Migration rate of the tip position of self-coiling catheter inserted for continuous interscalene brachial plexus block: a prospective, observational study**

Your research proposal submitted on November 26, 2019, has been reviewed by the Shimane University Institutional Committee on Ethics. The result is as follows:

Result:
[✔] Approved
[ ] Unapproved
[ ] Put on hold
[ ] Not applicable

Administrator of the personal information concerned with this research proposal

Name: **Shinichi Sakura**

Official Title: **Professor**

Affiliation: **Operation Division**

Date: February 5, 2020

Authorized Signature

Dean of Faculty of Medicine, Shimane University
Kazumichi Onigata M.D., Ph.D.

Abstract 154 Figure 1

154 SELF-COILING CATHETER FOR CONTINUOUS INTERSCALENE BRACHIAL PLEXUS BLOCK AFTER SHOULDER SURGERY: THE INCIDENCE OF CATHETER TIP MIGRATION AND EFFECT ON ANALGESIA

Y Aoyama*, S Sakura, K Gunji, S Sakakibara, H Yamamoto, Y Saito. *Shimane University, Izumo, Japan*

10.1136/rapm-2021-ESRA.154

Background and Aims Continuous interscalene brachial plexus block (CISB) provides analgesia after shoulder surgery. However, when catheter tip migration occurs, pain relief is degraded. We previously reported that catheter tip migration occurred at a rate of 44.8% during CISB for 48 hours regardless of catheter insertion length change when a conventional catheter was used and this migration decreased the analgesic effects. Reducing the migration rate is required to improve postoperative analgesia. Using a catheter of a different shape, like a self-coiling catheter, may help decrease tip migration. We therefore prospectively observed the catheter tip position of self-coiling catheters using ultrasound and studied its analgesic effect during CISB after shoulder surgery.
Methods After receiving IRB approval and informed consent, we studied 19 consecutive patients undergoing shoulder surgery who received the posterior in-plane approach to CISB under ultrasound-guidance. A self-coiling catheter was inserted for postoperative infusion for 48 hours. Using ultrasound, catheter tip location was assessed immediately after surgery and at 24 and 48 hours after block procedure. Pain scores, analgesic requirements, sensory and motor blockade were also assessed.
Results Under ultrasound, a catheter tip was found to be migrated in 2 patients (10.5%) including one patient with no catheter-at-skin change during CISB. Pain was well controlled for 48 hours.
Conclusions Catheter tip migration can occur even with a self-coiling catheter. However, since the incidence rate was almost one quarter of that with a conventional catheter, a comparative randomized study to confirm the present findings is warranted.

155 SUPERIOR TRUNK BLOCK: AN UNORTHODOX ALTERNATIVE TO INTERSCALENE BLOCK FOR PROXIMAL HUMERUS SURGERIES IN PATIENTS WITH SIGNIFICANT PULMONARY DISEASE

R Darshan*, RS Mane, MC Patil. *Kaher's Jawaharlal Nehru Medical College, Belagavi, India*

10.1136/rapm-2021-ESRA.155

Background and Aims Proximal shoulder surgery in patients with compromised pulmonary function stipulates anaesthesiologists to look for an alternative to interscalene block. Such aforementioned challenge pioneered the initiation of use of superior trunk block to utilise distinct advantage of phrenic nerve sparing, allowing the patients to execute normal

respiratory functions perioperatively. Superior trunk of brachial plexus visualised accurately through ultrasound, steers effortless performance and achieving acceptable block characteristics.

Methods Here we present a case series of 8 patients aged between 40 years to 80 years with significant restrictive, obstructive pulmonary disease and post-covid patients posted for proximal humerus surgeries. The block was performed under ultrasound guidance, 23G Quincke spinal needle, 1:1 local anaesthetic mixture of 2% Lignocaine+Adrenaline and 0.5% Bupivacaine with total volume injected being 15 ml. The outcomes measured were loss of shoulder abduction, numbness of shoulder and pain relief, numbness of arm and sonographic assessment of diaphragm movement, oxygen saturation perioperatively and closed-circuit measurement of tidal volume generated

Results 7 patients with superior trunk block achieved complete surgical anaesthesia of proximal shoulder. There was solitary use of Dexmedetomidine for patient with severe anxiety. 2 patients required oxygen supplementation throughout the intraoperative period extending to post-operative period as well. Sonographic assessment intraoperatively and post-operatively disclosed adequate diaphragmatic excursion in all patients. Post-operative pain scores revealed satisfactory pain relief.

Conclusions Effective surgical anaesthesia and analgesia can be delivered considerably with Superior trunk block for surgeries of proximal humerus in patients with compromised pulmonary function by sparing phrenic nerve and it is an appropriate substitute for interscalene block

156 EVALUATION OF THE PERIPHERAL NERVE STIMULATOR USAGE FOR A SUCCESSFUL COSTACLAVICULAR BRACHIAL PLEXUS BLOCK

S Soylu*, S Şehirlioğlu, D Genç Moralar, Ü Aygen Türkmen. *Gaziosmanpasa Training and Research Hospital/Anesthesiology and Reanimation Department, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.156

Background and Aims Ultrasound (US) has become standardized during peripheral nerve block (PNB). Peripheral nerve stimulator (PNS) is combined with US to avoid intraneural injection (1). Monitoring opening injection pressure with a sensor could also show intraneural injection (2). Adding PNS to US guidance did not change block success rates for different types of PNBs (3,4). There is no study in the literature that evaluate effectiveness of adding PNS to US for a successful costaclavicular brachial plexus block (CCBPB). In this randomized prospective clinical study US and injection pressure monitor (IPM) guided CCBPB is compared with US, IPM and PNS guided CCBPB.

Methods 60 patients scheduled for orthopedic surgery below the elbow were enrolled in the study. Ultrasound and IPM guided group called USP and US, IPM and PNS guided group called USPN. In both groups 30 ml bupivacaine-lidocaine mixture was injected when injection pressure is less than 15 psi. In Group USPN, local anesthetic was injected after visualizing the disappearance of motor movement under 0.3 mA on PNS. Motor and sensorial block levels of the radial, ulnar, median and musculocutaneous nerves were measured. Block success rate, block performance time, number of needle passes and complication rates were compared.

Results Block success rate, number of needle passes and complications were similar (table 1). Block performance time was longer in group USPN (figure 1).

Conclusions Peripheral nerve stimulator is not necessary for a successful CCBPB. Using PNS increased block performance time significantly. Ultrasound and IPM are enough for a successful block with shorter procedure time in CCBPB.

Abstract 156 Table 1

	Group USP(n=30)	Group USPN (n=30)	p-value
Block success rate (%)	90	96,7	0,612
Number of the needle passes	2,5	2,7	0,387
Complication rate (%)	6,6	10	0,628



T.C
SAĞLIK BAKANLIĞI
İL SAĞLIK MÜDÜRLÜĞÜ
Tekirdağ Eğitim ve Araştırma Hastanesi
Klinik Araştırmalar Etik Kurulu

Sayı: 07 Tarih: 08.01.2020

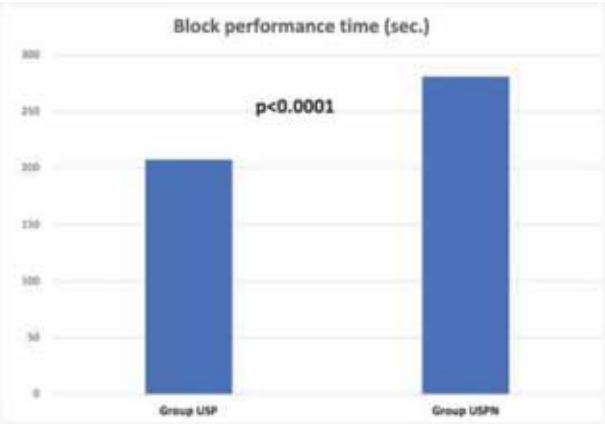
Konu: Onay yazısı

Sayın Serpil ŞEHİRLİOĞLU;

" Kostaklavikular Brakial Pleksus Bloğu Uygulamalarında Nörostimülatör Kullanımının Blok Başarısındaki Etkinliğinin Ultrason ve Basınç Sensörü ile Karşılaştırılması"çalışmanızın gerçekleştirilmesinde etik sakınca bulunmadığına oy birliği ile karar verilmiştir.

Doç. Dr. Elife KİMİLOĞLU

Abstract 156 Figure 1



Abstract 156 Figure 2

157 PATIENT SATISFACTION AND SAFETY OF SEDATION USING PERINEURIAL DEXMEDETOMIDINE IN AXILLARY BRACHIAL PLEXUS BLOCK FOR WRIST SURGERY

[1]RP Ročāns*, [2]M Andruškevičs, [1]A Ozoliņa, [1]B Mamaja. *[1]Riga Stradins University, Riga, Latvia; [2]University of Latvia, Rīga, Latvia*

10.1136/rapm-2021-ESRA.157

Background and Aims Dexmedetomidine is known to prolong the duration of regional block while its sedative effect when administered perineurally is unknown.[1] We aim to evaluate the effect of perineural Dexmedetomidine on the systemic sedation in patients after axillary brachial plexus block (ABPB).

Methods This prospective randomized control trial includes 78 patients undergoing wrist surgery receiving ABPB. The study was conducted with the approval of Ethics Committee of Riga Stradins University. Patients were randomized into two groups – control (CG) (N=39) and study group (SG) (N=39). Both groups received ABPB with a standard dose of local anaesthetics. The study group also received 100 mcg of dexmedetomidine perineurally. Depth of sedation during surgery was evaluated using electroencephalography with Narcontrend Index (NI) and Ramsay Sedation Scale (RSS). Patient satisfaction with sedation was evaluated using a postoperative survey.

Results During 10 to 60 minutes after ABPB the median RSS was 4 and median NI was between 54 to 69 in SG. Median RSS decreased to 2 and median NI increased to 90 in 90 minutes after ABPB in SG. Patients in the CG had the median RSS of 2 and Narcotrend Index of 97 all throughout surgery. (p=0.001) No significant differences in hemodynamic or respiratory parameters were found between the groups. Patients in the SG expressed satisfaction with quality of sedation and 88.4% noted that the sensation was similar to ordinary sleep.

Conclusions Perineural administration of Dexmedetomidine provides systemic sedation with no effect on hemodynamic or respiratory stability and yields a high level of patient satisfaction.

158 TIMING OF FASCIA ILIACA COMPARTMENT BLOCK (FICB) FOR NECK OF FEMUR (NOF) FRACTURE IN THE ACCIDENT AND EMERGENCY DEPARTMENT (AED) AND THE OPERATING THEATRE

E Benison*. *Liverpool Hospitals NHS Foundation Trust, Liverpool, UK*

10.1136/rapm-2021-ESRA.158

Background and Aims FICB is recommended for NOF fracture in the AED to improve analgesia[1] and as an adjuvant to anaesthesia during surgery[2]. Surgical repair of the fracture should be performed on the day of, or the day after, admission[3]. We evaluated the provision of FICB in AED and its potential to cause local anaesthetic (LA) toxicity when followed by a further block at time of surgery.

Methods All patients admitted to our institution with NOF fracture during October 2019 were retrospectively screened for FICBs. We recorded the time of: admission, FICB in AED, surgery, FICB in theatre and LA dose. Data was cross-referenced and validated against National Hip Fracture Database (NHFD) tables. Toxicity thresholds were taken from the British National Formulary and medicines.org.uk websites. Ethical approval was granted.

Abstract 158 Table 1

Time (hh:mm) from	admission to surgery	block in AED to surgery
Average	34:08	26:32
Minimum	08:28	06:00
Maximum	140:06	57:01

Results 36 patients were identified. 14(39%) received a FICB in AED, 6(16%) a peripheral nerve block in theatre and 3(8%) received both. On average, each block delivered 100 mg of L-bupivocaine. Table-1 details times from admission to surgery and from block in AED to surgery. The maximum recommended doses of L-bupivocaine in 24 hours and post-operative analgesia are respectively 400 mg and 18.75 mg/h.

Conclusions Pain promotes delirium[2] and worsens outcomes hence effective pain relief between admission and surgery is key to NOF fracture treatment. Our data matched the NHFD tables and highlighted the potential for LA toxicity in patients receiving a FICB in AED and same-day-of-admission surgery.

159 EFFECT OF THE ADDICTION OF DEXMEDETOMIDINE IN REDUCING THE EFFICIENT DOSE OF BUPIVACAINE IN ULTRASOUND GUIDED SUPRACLAVICULAR BLOCK

M Elhamdi*, C Ghouibi, M Boussofara. *Université de Tunis El Manar, Tunis, Tunisia*

10.1136/rapm-2021-ESRA.159

Background and Aims This study was conducted to determine the role of dexmedetomidine (DEX) as an adjuvant in reducing the efficient dose of bupivacaine in supraclavicular block.

Methods A prospective study, including 40 patients ASA I and ASA II undergoing upper limb and hand surgery, who were randomly divided into 2 groups; group D received the fixed dose of 100 µg of dexmedetomidine (1 ml) added to a predefined dose of bupivacaine 0.25%; Group S received bupivacaine 0.25% with 1 ml of normal saline (NS).Starting with the dose of 30 ml of bupivacaine 0.25%. The dose was reduced by 3 ml every time the block was a success. the onset time of the block at 30 min at most defined as the success criteria. The minimal dose required to have a sensory and a motor block in each group was compared. Onset time and duration of sensory and motor blockage, as well as side effects were also studied.

Results The addition of 100µg of DEX did not reduce the minimum efficient dose of bupivacaine. Tis dose was 17 ml in GD versus 18 ml in GS, to have 50% of successful supraclavicular bloc [ED50].

We noted a prolonged blockage duration without a reduction in the onset time in GD, with no statistical difference between the two groups.

We noted complications in the GD only, 2 cases of bradycardia, 2 of Claude Bernard Horner and one case of hypotension. But no statistical difference between the two groups.

Conclusions To have 50% of successful supraclavicular bloc [ED50].

160 A RETROSPECTIVE CASE SERIES ON THE EFFECTIVENESS AND SAFETY OF A NOVEL ULTRASOUND-GUIDED CLAVIPECTORAL PLANE BLOCK FOR MIDSHAFT CLAVICLE SURGERIES

A Rosales*, N Aypa. *Makati Medical Center, Makati, Philippines*

10.1136/rapm-2021-ESRA.160

Background and Aims The use of brachial plexus block (interscalene approach) or combination blocks (interscalene with superficial cervical plexus) in clavicle surgeries can be time consuming versus using a clavipectoral plane block (CPB), a novel block first described in the 2017 European Society of Regional Anaesthesia Congress. The primary objective of this study was to demonstrate the effectiveness and safety of using CPB with or without superficial cervical plexus (SCP) block as surgical anesthesia in clavicle surgeries.

Methods This was a retrospective, descriptive, observational case series of seven patients with midshaft clavicle fractures approved by the IRB (Protocol Number 2021-047). The primary endpoint was to determine the pain scores and opioid consumption of the patients thru a chart review and to determine any adverse effects of the blocks.

Results Both patients given with CPB had pain after PACU discharge up to 24 hours after surgery, but none required opioid medications post-op. All five patients who had CPB with SCP block had pain after PACU discharge up to 24 hours after surgery but one patient previously under sedation had required opioid medication after PACU discharge. The median duration between PACU discharge and first post-operative pain reported was at 12 hours. None of the patients had any adverse effects from the nerve blocks received.

Conclusions CPB with or without SCP block provided effective and safe anesthesia and analgesia to patients who underwent clavicle surgery under general anesthesia or intravenous sedation. However, larger prospective trial studies should be conducted to further illustrate the sensory distribution of this plane block.



MAKATI MEDICAL CENTER

INSTITUTIONAL REVIEW BOARD

CERTIFICATE OF APPROVAL

Protocol Title	A Retrospective Case Series on the Effectiveness and Safety of a Novel Ultrasound-Guided Clavipectoral Plane Block for Midshaft Clavicle Surgeries
Protocol Version No. and Date	Version 1.1 dated 03 June 2021
Principal Investigator	AILEEN L. ROSALES, MD, DPSA
Co-Investigator	NOEL S. AYPA, MD, DPSA, FPSA, EDRA
Date of Initial Submission	APR/29/2021 — IRB Protocol Number: MMCIRB 2021-047
Sponsor	Not Applicable — Sponsor's Protocol No.: Not Applicable

List of Documents Approved:

1. Protocol ref: Version 1.2, dated 03 June 2021
2. Case Report Form ref: Version 1.2, dated 19 April 2021
3. Informed Consent Waiver ref: Version 1.0, dated 03 June 2021
4. Gantt Chart ref: Version 1.0, dated 19 April 2021
5. Study Budget ref: Version 1.0, dated 19 April 2021
6. Flowchart of the Study ref: Version 1.0, dated 19 April 2021
7. Curriculum Vitae and Good Clinical Practice Certificates of:
   a. AILEEN L. ROSALES, MD
   b. NOEL S. AYPA, MD, DPSA, FPSA, EDRA

Other Document(s) Filed:

1. Protocol ref: Version 1.0, dated 19 April 2021

Abstract 160 Figure 1



MAKATI MEDICAL CENTER

INSTITUTIONAL REVIEW BOARD

Type of Review	☐ Full Board ■ Expedited (DSARE)
Duration of Approval Period	07 Jun 2021 to 06 Jun 2022
Frequency of Progress Report	Annually
Date of Resubmission	JUN/04/2021

Name of IRB Chair	Signature	Date
G. DARWIN A. DAUIS, M.D.		Electronically Signed JUN/07/2021

Recipient's Name	Signature	Date

Abstract 160 Figure 2

161 INCIDENCE OF PNEUMOTHORAX FROM CHEST WALL BLOCKS FOR AMBULATORY BREAST CANCER SURGERY IN A HIGH-VOLUME PRACTICE

H Tokita*. *Memorial Sloan Kettering Cancer Center, New York, USA*

10.1136/rapm-2021-ESRA.161

Background and Aims There is growing interest in regional anesthesia for breast surgery however many clinicians avoid paravertebral blocks (PVB) for fear of causing pneumothorax due to proximity to the pleura. Fascial plane blocks have been proposed as alternative approaches that may be safer for patients. We describe the rate of pneumothorax from PVB and serratus blocks in our high-volume practice.

Methods This IRB-approved retrospective study assessed 2,793 patients who received a regional block for mastectomy from January 5, 2016 – April 22, 2020 subdivided by laterality and block type (Table 1). We calculated risk of pneumothorax (including 95% C.I.) for patients who received: at least one PVB; at least one serratus block; unilateral blocks; and bilateral blocks. All blocks were placed preoperatively with ultrasound-guidance by an experienced anesthesiologist or supervised trainee.

Results PVB: 2251 patients, one pneumothorax. Complication rate 0.04%; 95% C.I. <0.01%, 0.2%

Serratus: 520 patients, one pneumothorax. Complication rate 0.2%; 95% C.I. <0.01%, 1.1%

Unilateral: 1081 patients, no pneumothorax. Complication rate 0%; 95% C.I. 0%, 0.3%

Bilateral: 1712 patients, two pneumothoraces. Complication rate 0.1%; 95% C.I. <0.01%, 0.4%

Conclusions Pneumothorax is a rare complication of ultrasound-guided PVB and serratus blocks in a high-volume practice. This aligns with the prior findings of Pace[1] in a retrospective study of 856 patients who received ultrasound-guided PVB, none of whom had suspected pneumothorax. We report a slightly higher rate of pneumothorax with serratus blocks, suggesting that fascial plane blocks are not necessarily 'safer.'

162 ULTRASOUND GUIDED SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK WITH 0.5% BUPIVACAINE AND ADDITIVES: CASE SERIES AT TEACHING HOSPITAL ANURADHAPURA

M Hapugoda*. *Teaching Hospital Anuradhapura, Anuradhapura, Sri Lanka*

10.1136/rapm-2021-ESRA.162

Background and Aims Supraclavicular block (SCB) is associated with excellent post-operative patient outcomes for upper limb surgeries. Bupivacaine, a long-acting regional anaesthetic, efficacy of which is altered with the co-administration of additives.

Aim of the study was to assess the efficacy of supraclavicular block with 0.5% bupivacaine compared to co-administration of additives and the associated complications.

Methods Following ethical clearance and informed consent, over a period of 5 months from June 2020, 152 adult patients at Teaching Hospital Anuradhapura Sri Lanka, undergoing upper limb surgeries were divided into 4 groups & prospectively followed-up. All received 0.5% of Bupivacaine while additives 2% Lidocaine, 8.4% sodium bicarbonate & 8 mg Dexamethasone was added to other 3 groups. Sensory and Motor block onset time, duration of post-block analgesia, acute and late complications and patient satisfaction was noted.Data was analysed using descriptive statistics & ANOVA, using SPSS V.25.

Results Successful surgical anesthesia was achieved in all with 0 cases of long-term neurological complications with 94% patient satisfaction. The motor & sensory block onset time & post block analgesia duration respectively for Lidocaine (9.74min,9.74 min & 7.07 h), Bicarbonate (12.89min, 16.32min & 12.09h),dexamethasone (19. 34 min, 17.24min & 20.87h) & Bupivacaine was (20.39min, 18.42min & 13.15h).

Conclusions The differences between bupivacaine and lidocaine groups for sensory & motor block onset times & between Bupivacaine & dexamethasone groups for post-block analgesia duration were statistically significant (p<.001).Supraclavicular block has minimal associated complications & additives Lidocaine shortens the onset of anaesthesia and the duration of analgesia while dexamethasone prolongs the duration of analgesia significantly.

163 AN OPEN CONVERTED ABDOMINAL SURGERY IN ERAS (ENHANCED RECOVERY AFTER SURGERY) PROTOCOL

C Marchandise*, G Samouri, N Parisi, P Creyf. *Saint-Pierre, Ottignies, Belgium*

10.1136/rapm-2021-ESRA.163

Abstract 163 Table 1

	Patient 1	Patient 2
Drink water	H0	H2
Eat a rusk	H6	H6
Stand up & toilet	H6	H6
Intestinal transit	H36	H40
Catheters out	H36	H42
Discharge	H48	H96

Background and Aims Described by Forero et al, the Erector Spinae Plane Block (ESPB) is a multidermatomal sensory block that provides regional anesthesia to the ipsilateral thoracic or abdominal wall.

We report two cases of Enhanced Recovery laparoscopic after sigmoidectomy converted to laparotomy, combining multimodal analgesia with bilateral ESPB for postoperative analgesia.

Methods The plan was general anesthesia with minimal stress surgery care; using opioid free anaesthesia, dexmedetomidine, dexamethasone and NSAID. Early in the procedure, the surgeon converted to open surgery so we decided to keep the ERAS protocol with a bilateral ESPB which would ensure more comfort.

The ultrasound-guided injection of a long acting local anaesthetic between the erector spinae muscle and the transverse spinal process is followed by the placement of a catheter for continuous infusion (L-bupivacaine 0.125% at the rate of 6 ml/h).

Results The ERAS protocol was ensured. The Numerical Rating Scale scores were always below 3/10 except on day 2, at the withdrawal of the catheter relieved by 5 mg of oxycodone. No nausea or vomiting were reported. (Table 1)

Conclusions Bilateral ESPB is a safe technique with no major side effects compared to the epidural. It gives good quality analgesia and it provides a faster recovery with early standing so a good option in converted abdominal surgery. Prospective randomized trials are needed to confirm the apply of this block.

164 ANAESTHESIA AND POSTOPERATIVE ANALGESIA FOR FOREFOOT SURGERY – A REVIEW OF OUR CURRENT PRACTICE AT NOTTINGHAM CITY HOSPITAL

[1]N Sadavarte*, [2]T Chen, [1]V Thanawala. *[1]Nottingham University Hospitals NHS Trust, Nottingham, UK*; *[2]University of Nottingham Medical School, Nottingham, UK*

10.1136/rapm-2021-ESRA.164

Background and Aims Foot and ankle surgery are associated with moderate to severe pain which can influence the postoperative outcome. We performed an audit to review our practice for forefoot surgery at Nottingham City Hospital based

on the anaesthesia and analgesia principles outlined in the recently published PROSPECT (PROcedure SPECific Postoperative Pain ManagemenT) guideline for Hallux Valgus repair surgery.[1]

Methods We performed a retrospective audit for patients who underwent forefoot surgery between 01/07/19 to 31/12/19. The data was collated from the Digital Health Records database, analysed in Microsoft Excel and presented at clinical governance meeting

Results A total of 102 patients underwent forefoot surgeries. Out of them, 68 patients had peripheral nerve blocks (PNBs) only, 30 had general anaesthetic alone or in combination with PNB or local anaesthetic infiltration (LAI) and 4 had only spinal anaesthetic. Ankle block was the most commonly performed PNB. Only 5% of patients received systemic paracetamol + nonsteroidal anti-inflammatory drugs (NSAIDs) and 26% received intraoperative dexamethasone. Discharge prescription were missing for 22% of the patients. Of those retrievable, 89% included an opioid to take home.

Conclusions As recommended in the guideline, the ankle block was PNB of choice. The majority of those who did not have an ankle block, had a popliteal sciatic nerve block and saphenous nerve bock or LAI. However, there is scope of improvement in the use of intraoperative multimodal analgesia with paracetamol, NSAIDs and dexamethasone and appropriate discharge prescription for effective postoperative pain management.

165 CONTINUOUS SUPRACLAVICULAR BRACHIAL PLEXUS BLOCK FOR REPLANTATION IN THE UPPER EXTREMITY – A CASE REPORT

M Branco, AC Martins*, P Freire, M Chedas. *Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.165

Background and Aims Continuous brachial plexus block (CBPB) with local anaesthetic is useful for long surgical operations on upper extremity. CBPC improve tissue perfusion after replantation surgery of the extremity by decreasing vasospasm, relieving pain, and promoting collateral circulation. In reconstructive surgery is particularly important because sympathetic blockade of the vessels provides increased blood flow to the injured extremity, which increases the success rate of the surgery.[1,2]

Methods We present a case of a 51-year-old man, ASA 2, who had combined anaesthetic technique with continuous supraclavicular block of the brachial plexus to prevent postoperative pain and maintain extended vasodilatation.

The procedure was successfully completed under combined anesthesia.

Results In the reported case, CBPB was effective providing the best analgesia during the postoperative period and preventing the development of vasospasm in the digital arteries of the reimplanted digit and improving graft survival. The patient had a satisfactory evolution during the postoperative period, with adequate analgesia. No complications were reported.

Conclusions Microsurgical operation of the hand is a common procedure of reconstructive surgery. CPPB offers numerous advantages in terms of the best graft perfusion and was found to be effective in both sympathetic blockade and postoperative pain management. [1–4]

166 THE EFFICACY OF MODIFIED THORACOABDOMINAL NERVES BLOCK THROUGH PERICHONDRIAL APPROACH: A PROSPECTIVE OBSERVATIONAL STUDY AND A CADAVERIC EVALUATION

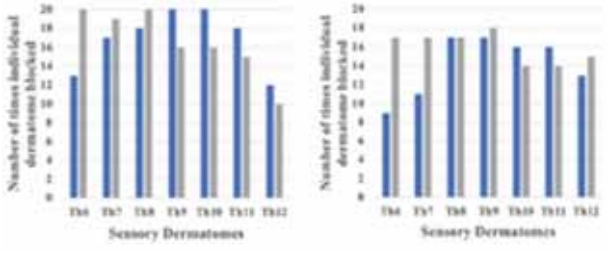
N Tanaka*, T Suzuka, Y Kadoya, M Kawaguchi. *Nara Medical University, Kashihara, Nara, Japan*

10.1136/rapm-2021-ESRA.166

Background and Aims Modified thoracoabdominal nerves block through perichondrial approach (M-TAPA) was first described as a peripheral nerve block by Tulgar in 2019, which provides an analgesic effective range in Th7–11 with a single puncture per side[1]. The efficacy and effective duration of the M-TAPA has been reported in several case reports; however its effects require further examination.

Methods With an IRB approval (No.2700) and registration (UMIN Clinical Trials Registry: UMIN000041137), 10 adult female patients scheduled for an open radical hysterectomy with vertical incision or laparotomy with a midline incision from under the xiphoid process to the symphysis pubis were enrolled. The primary outcome was the number of anesthetized dermatomes at 2 and 24 h postoperatively. Secondary outcomes included the numerical rating scale scores and the total amount of fentanyl used. Cadaveric evaluation was performed to assess the spread of the dye.

Results Patient characteristics are shown in table 1. The median number (interquartile range) of anesthetized



Abstract 166 Figure 1

Abstract 166 Table 1 Patient characteristics

	All patients (n=10)
Age (years), median (IQR)	50.4 (43.5–58.5)
ASA grade (1/2)	3/7
Height (cm), mean (SD)	156±5
Weight (kg) , mean (SD)	60±10
Duration of surgery (min) , median (IQR)	241 (159–260)
Duration of anesthesia (min) , median (IQR)	298 (193–322)
Intraoperative fentanyl use (μg/kg) , median (IQR)	7.1 (5.7–9.5)
Time-weighted average of remifentanil use (μg/kg/min) , median (IQR)	0.18 (0.15–0.22)
Blood loss (mL) , median (IQR)	728 (448–770)
Urine output (mL) , median (IQR)	205 (155–270)
Total Input (mL) , median (IQR)	3000 (2300–3383)
Pre-operative Albumin (mg/dL), mean (SD)	4.3±0.2
Type of surgery	
ATH+BSO+PLA+PALA+OMX	4
ATH+BSO+PLA	3
ATH+BSO+OMX	2
BSO+OMX	1

Abstract 166 Table 2

	All patients (n=10)
NRS at rest	
2 hours	5 (2–6.5)
24 hours	0.5 (0–2)
48 hours	1 (0–2)
NRS on movement	
2 hours	NA
24 hours	3 (3–5.5)
48 hours	3.5 (3–5)
Total amount of postoperative fentanyl use in μg/kg	
0–12 hours	6.1 (5.1–6.7)
12–24 hours	5.7 (4.6–8.4)
24–36 hours	4.6 (1.9–6.2)
36–48 hours	3.0 (0.6–3.9)
Postoperative nausea and vomit within 48 hours (+/-)	4/6
Number of additional analgesics use, n (%)	
0 time	8 (80%)
3 times	2 (20%)
Patient satisfaction	8.5 (8–10)

dermatomes at 2 and 24 h postoperatively were 6 (5–7) and 6.5 (5–7) in the anterior cutaneous branch area, and 5 (4–7) and 7 (5–7) in the lateral cutaneous branch area, respectively. (Figure 1) There was an 85% chance of simultaneously acquiring the Th8–Th11 analgesic area including completely blocking Th9–10 in the anterior cutaneous branch area. Results are presented in table 2. Cadaveric evaluation showed the spread of the dye in Th8–11.

Conclusions M-TAPA may provide an analgesic effect in Th8–11 in the anterior cutaneous branch area.

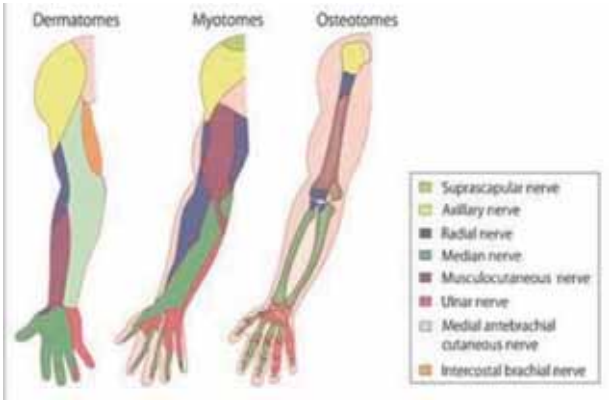
167 ULTRASOUND GUIDED COSTOCLAVICULAR BRACHIAL PLEXUS BLOCK FOR PROXIMAL HUMERUS FRACTURE WITH PNEUMOTHORAX IN AN ELDERLY PATIENT – A CASE REPORT

A Baskaran*, G P, S D, B J. *Ganga Medical Centre and Hospitals pvt ltd, Coimbatore, India*

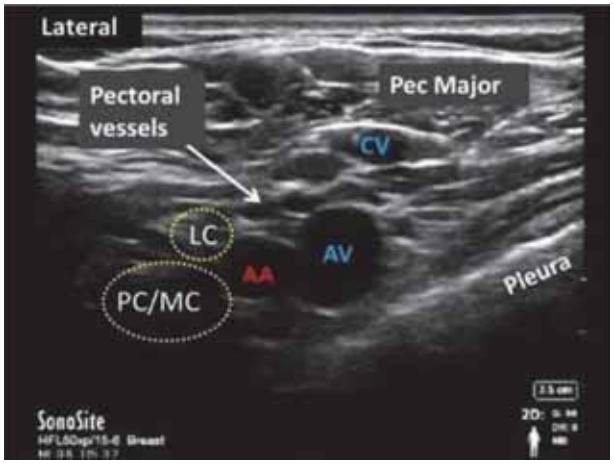
10.1136/rapm-2021-ESRA.167

Background and Aims Patients with proximal humeral fractures present a unique challenge to anesthesiologists because no single brachial plexus block adequately covers the entire distribution of the upper extremity. It is more complicated in the presence of multiple trauma with rib fractures and pneumothorax.

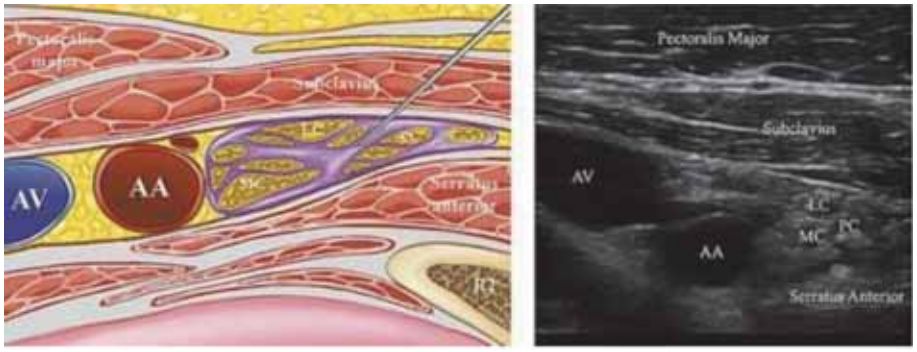
Methods We report a case of 70 year old male,ASA II admitted with polytrauma. Radiological investigations revealed closed fracture of right humerus and right distal radius with left sided mild pneumothorax following multiple left sided rib fractures and was scheduled for right humerus plating along with bone grafting and closed reduction of right distal radius. Inside operation theatre, standard monitors were attached and oxygen support was provided. Under sterile aseptic precautions, patient in supine position, a linear array Ultrasound probe (5–13MHz, Sonosite, USA) was used. Under Ultrasound



Abstract 167 Figure 1



Abstract 167 Figure 3



Abstract 167 Figure 2

guidance, 21G,1.5inch needle was inserted in-plane approach. Right Costoclavicular block was given with 15 ml of 0.75% Ropivacaine with 8 mg Inj. Dexamethasone and subcutaneous infiltration of 10 ml of 2% lignocaine with adrenaline for the blockade of intercostobrachial nerve and posterior cutaneous nerve of arm.

Results Costoclavicular block is also effective in the blockade of upper trunk of brachial plexus due to chimney effect. In the infraclavicular region, the neurovascular plexus sheath forms longitudinal septae between the cords that limits the circumferential spread of local anesthetics resulting in sparing of phrenic nerve. The success of anesthetic block is higher with multiple injections compared to single injection technique.

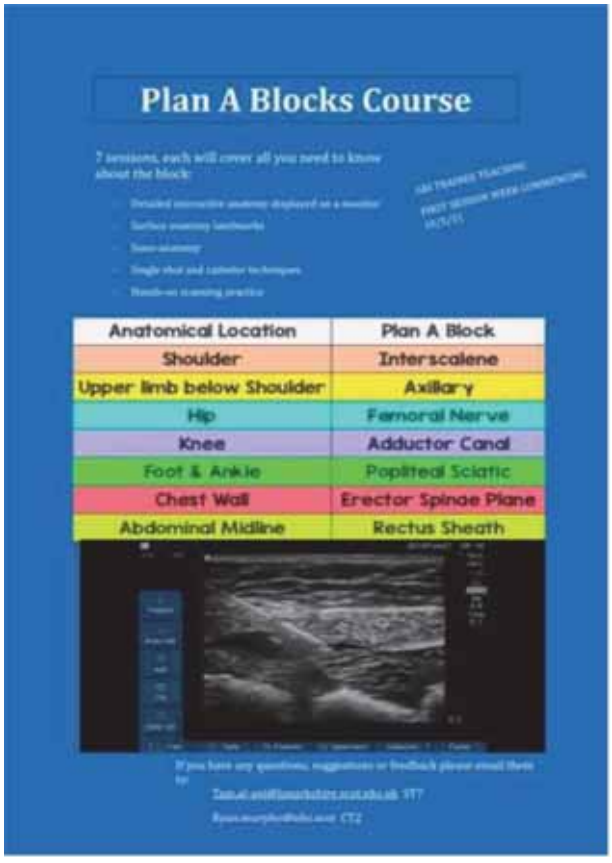
Conclusions Costoclavicular block is safer alternative for upper limb surgeries in case of polytrauma with compromised lung function.

168 PLAN A BLOCKS COURSE

T Al-Ani*, R Murphy. *Glasgow Royal Infirmary, Glasgow, UK*

10.1136/rapm-2021-ESRA.168

Background and Aims The consistency in education and training of regional anaesthesia could be achieved by focusing teaching on basic level yet high value nerve blocks. This quality improvement project aims to standardise regional anaesthesia teaching for anaesthetic trainees by delivering a 'Plan A' blocks course which covers: Interscalene brachial plexus (BP), Axillary BP, Femoral nerve, Adductor canal, Popliteal sciatic, Erector spine and Rectus sheath.



Abstract 168 Figure 1

Methods The course is delivered across seven sessions and repeated four times a year. Each session is focused on one block at a time and lasts for one hour, covering: detailed anatomy, sono-anatomy, landmarks and ultrasound guided block techniques. Then, trainees get supervised hands on practice of landmarks and ultrasound scanning of a model. Ethics approval is not required as per NHS Greater Glasgow and Clyde policy.

Results The course is added to our formal anaesthetic department teaching. All attendees feedback has been positive, with all stating they would be more confident performing the 'Plan A' blocks after this course. This strongly supports the focused learning of one block at a time.

Conclusions Designing and delivering a 'Plan A' blocks course focusing on one core nerve block per session could improve the quality of regional anaesthesia learning.

169 THE INFLUENCE OF COVID-19 PANDEMIC ON THE USE OF ULTRASOUND-GUIDED REGIONAL ANESTHESIA/ ANALGESIA TECHNIQUES FOR ORTHOPEDIC SURGERY CASES IN LESKOVAC GENERAL HOSPITAL, SERBIA

[1]N Pejčić*, [1]R Mitić, [1]M Jović, [2]I Velickovic, [3]N Sadana. *[1]Leskovac General Hospital, Leskovac, Serbia; [2]SUNY Downstate, Brooklyn, USA; [3]Tufts, Boston, USA*

10.1136/rapm-2021-ESRA.169

Background and Aims In Serbia, the use of regional anesthesia and analgesia (RA) techniques in orthopedic surgery cases has been low, despite sporadic efforts to increase the use. Thanks to the Kybele international teaching visit held in April 2017, members of the Department of Anesthesia at Leskovac General Hospital, Serbia (LGH) started doing ultrasound-guided RA (UGRA) techniques.

Methods From the LGH anesthesia database for period January 2016 to December 2020 data on all upper and lower extremity (LE) surgeries were obtained.

Results During the study period, there was an increase in neuraxial anesthesia (NA) use for LE surgery (2016 – 60%, 2020

Abstract 169 Table 1

Type of Surgery \ Year		2017	2018	2019	2020
THA	FIB	1	1	0	0
	QLB	0	2	4	1
	ESPB	0	0	7	2
TKA	ACB	10	8	5	0
	ACB + IPACK	0	0	8	3
Lower Leg Surgery	FNB	2	0	0	0
	SNB + FNB	0	1	0	1
	Poppl.NB	0	1	2	1
	Poppl.NB+ACB	7	8	5	4
Arm Surgery	Interscalene NB	1	1	0	1
	Supraclavicular NB	5	8	5	4
	Axillar NB	0	2	0	0
	ESPB	0	0	3	1


ОПШТА БОЛНИЦА ЛЕСКОВАЦ

ОДЛУКУ

ПРЕДСЕДНИК
ЕТИЧКОГ ОДБОРА

Abstract 169 Figure 1



Abstract 169 Figure 2

– 78%). There was also a small increase in both adductor canal (AC) and IPACK block use for postoperative pain management[1], and sporadic use of quadratus lumborum (QL) and erector spinae plane (ESP) block following hip and femur surgery[2] (table 1). We had a significant increase in number of cases done under monitored anesthesia care and peripheral nerve block (supraclavicular brachial plexus block for arm surgery, and combination of popliteal and AC block for lower leg surgery) (table 1). In 2020, with decrease in trauma cases, the absolute number of UGRA blocks decreased, however the percentage of patients that received the block increased (table 1, figure 1).

Conclusions It remains to be seen if current percentage of patients who have UGRA techniques will be maintained when the number of trauma cases returns to pre-COVID level.

170 LUMPECTOMY UNDER INTERPECTORAL BLOCK AND PECTO-INTERCOSTAL FASCIAL BLOCK

[1]D Morais*, [2]C Lobo. [1]*CHTMAD, Vila Real, Portugal*; [2]*Hospital das Forças Armadas – Pólo Porto, Porto, Portugal*

10.1136/rapm-2021-ESRA.170

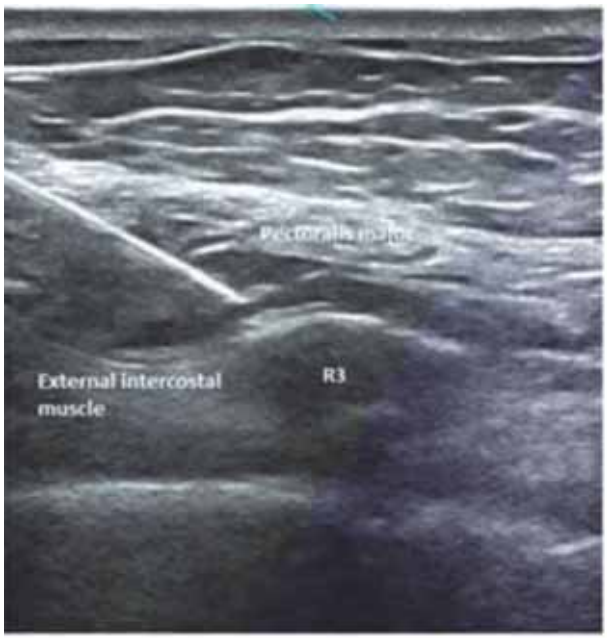
Background and Aims Regional anestesia (RA) is a valuable alternative to general anesthesia (GA) in breast cancer surgery (BCS). In vitro studies suggest that RA might positively influence cancer outcome (1). We present a documented difficult airway case of a 80-year-old woman, proposed for lumpectomy under Interpectoral block (IPB) and Pecto-Intercostal Fascial Block (PIFB).

Methods A 80 year-old woman suffering from a non-controled severe obstructive sleep apnea, obesity (BMI 34) with a breast papilar carcinoma was proposed for lumpectomy (23×11 mm lesion at the internal quadrants).

Results She presented a IV Mallampati score (figure 1), thyromental distance < 6cm, class II upper-lip-bite test and



Abstract 170 Figure 1



Abstract 170 Figure 2

previous history of difficult airway management with postponement of this procedure 3 days before. After patient's consent, we succefully managed the case with an ultrasound-guided IPB and a PIFB (figure 2), total local anaesthetic solution – 20 mL of mepivacaine 1,5% & ropivacaine 0,375% under light sedation. The procedure was uneventful, for patient and surgical team.

Conclusions IPB and PIFB successfully managed anaesthesia & analgesia of this case under light sedation, avoiding GA and management of a documented difficult airway patient. Latest evidence supports IPB as a good technique for BCS(2) and PIFB is a relatively novel block suited for inner quadrant breast surgery approach(3). RA has been a good alternative avoiding airway management on this documented difficult airway, provided excellent surgery conditions, pain relief and a high level of patient satisfaction.

Approval has been granted by the ethics committee

171 PTERYGOPALATINE BLOCKADE IN THE ALGORITHM OF TREATMENT OF OPHTHALMIC COMPLICATIONS OF HERPES ZOSTER

I Oleshchenko*, T Iureva. *Irkutsk Branch of S.N. Fyodorov 'Eye Microsurgery' Federal State Institution, Irkutsk, Russian Federation*

10.1136/rapm-2021-ESRA.171

Background and Aims Ophthalmoplegia in herpes Zoster is quite rare. At the same time, we observed a case of relapse of herpes Zoster with the clinic of ptosis of the upper eyelid on the background of a pronounced pain syndrome without vesicular rashes as the primary clinical signs. Relief of pain syndrome against the background of antiviral therapy is one of the primary tasks. To evaluate the effectiveness of pterygopalatine blockade (PPB) in the algorithm of treatment of atypical ophthalmic herpes Zoster with severe pain syndrome and ophthalmoplegia.

Methods Patient 60 years old. Complaints about OS blepharoptosis, pain (VAS = 4). The edge of the OS eyelid is lowered to the upper edge of the pupil, the cornea is transparent, there are no signs of uveitis. The condition is regarded as ganglionitis n.ophtalmicus of unknown etiology. The patient underwent PPB (4 mL ropivacaine 0.5%) for pain relief in herpetic ophthalmic neuralgia

Results 40 minutes after PPB, the pain was relieved, VAS = 0. 2 hours after PPB, the ptosis decreased. After 72 hours the patient had a draining herpetic rash on the skin in the projection of the III branch of the trigeminal nerve on the left. Further treatment of the patient was continued by an infectious disease specialist.

Conclusions The experience gained in the use of the PPB in the algorithm for the treatment of ophthalmic complications of herpes Zoster allowed us to achieve not only the relief of pain, but also to reduce the severity of the inflammatory reaction of extraocular muscles, ptosis.

172 ULTRASOUND GUIDED COMBINED SCIATIC PLUS FEMORAL NERVE BLOCK IN HIGH RISK PATIENTS POSTED FOR LOWER LIMB SURGERIES

N Adhyapak*, R Mane, M Patil, R Kerur, P Apoorva, A Qadir Zeeshan. *KAHER's J N Medical College, Belagavi, India*

10.1136/rapm-2021-ESRA.172

Background and Aims Regional Nerve Blocks are now the mainstay for high risk patients undergoing surgery where General, Spinal or Epidural Anaesthesia have poor outcome. Combined Sciatic and Femoral Nerve block given for lower limb surgeries like amputation, arthroplasty, ORIF in patients having multiple co-morbidities like Ishaemic Heart Disease (IHD), COPD, Uncontrolled DM and HTN. Ultrasound guided nerve blocks are effective, safe and have reduced incidence of neurological damage and Local Anaesthetic Systemic Toxicity (LAST).

Methods 5 patients undergoing lower limb surgery, in KLE's Dr. Prabhakar Kore Charitable Hospital and MRC were considered. Three of the patients had IHD with EF 40%. One had RV Dysfunction with IVC collapsibility <50%. Another had COPD and was in sepsis. A complete pre-anaesthetic evaluation was done after selecting appropriate patients. Under ultrasound guidance, with patient in sciatic and femoral nerve blocks were given with equal mixtures of 0.5% Bupivacaine + 2% Lignocaine + 2 ml of Soda Bicarbonate. Intra-operatively hemodynamics was maintained. Case 1 required rescue Epidural Anaesthesia. For case 3 i.v paracetamol was given for additional analgesia. In rest of the cases no additional analgesia/anaesthesia was needed.

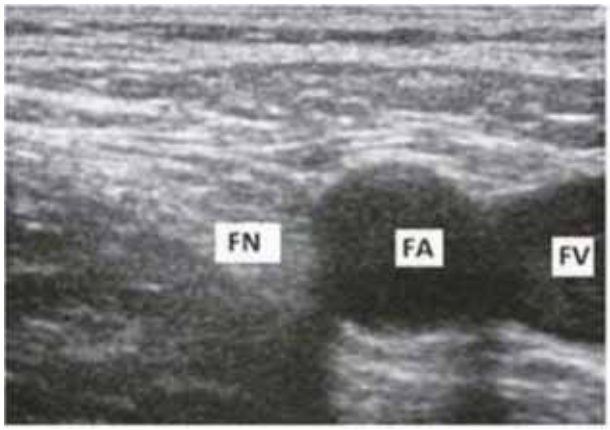
Results



Abstract 172 Figure 1



Abstract 172 Figure 2



Abstract 172 Figure 3

- **Conclusions** Combined Sciatic and Femoral Nerve block is an effective and viable alternative to either General, Spinal or Epidural Anaesthesia as it provides better hemodynamic stability and good post operative analgesia in high risk patients without resulting in any adverse incidents.

173 PERIPHERAL NERVE BLOCKS ALLOW HIP FRACTURE SURGICAL MANAGEMENT IN AN EXTREMELY FRAGILE PATIENT: NO PENG NO GAME

F Gargano, A Strumia*, F Costa, G Pascarella, S Rizzo, V Antinolfi, G Biondo, G Rizzello, FE Agrò. *Università Campus Biomedico di Roma, Rome, Italy*

10.1136/rapm-2021-ESRA.173

Background and Aims Hip fracture represents a frequent cause of disability in the elderly [1]. Early surgery (<48h) has been proven to be associated with lower risk of mortality and morbidity [2]. Regional anaesthesia seems to be the best option, but there is no consensus when a central block is not indicated [3]. We present a case of a multimorbidity patient under anticoagulant drug, underwent hip fracture surgical repair with peripheral nerve blocks.

Methods Female 84 y.o. Atrial fibrillation, PMK wearer, hypertension, renal failure, CODP, cerebrovascular disease, OSAS, confusion and psychomotor agitation.

Echocardiogram: severe systolic function reduction, estimated election fraction 23%.

Right sub-capital hip fracture, candidates for hip endoprosthesis.

Anticoagulant therapy with apixaban with no data on last assumption; thromboelastogram showed augmented values, so a central block was not indicated. Patient's multimorbidity highly elevated the risk of general anaesthesia.

With patient consent, peripheral blocks and sedation were considered. Ultrasound guided Pericapsular Nerve Group Block (PENG) was performed (ropivacaine 0,5% 20 ml + dexamethasone 4 mg), to block femoral, obturator and accessory obturator nerves, which innervate the hip [4]. Lateral femoral cutaneous nerve was also blocked, to cover surgical incision. Moderate sedation was given, maintaining spontaneous breath.

Results Surgical procedure was carried out uneventfully and without pain, parameters were good and stable during and after surgery.

Conclusions Regional anaesthesia could be the key in fragile patients. Knowledge of anatomy and different techniques is fundamental to tailor the anaesthetic plan on patient conditions and surgical approaches.



Abstract 173 Figure 1
FA=femoral artery; IPM=iliopsoas muscle; IPT=ilipsoas tendon; N=needle; IPE=iliopubic eminence; AIIS=anterior inferior iliac spine.

174 PERIOPERATIVE JOURNEY OF PATIENTS HAVING UPPER LIMB NERVE BLOCKS- A SERVICE EVALUATION AND QI PROJECT

[1]M Singh*, [2]S Dondapati, [2]A Singh. *[1]Stoke School of Anaesthesia, Stoke-on-Trent, UK; [2]New Cross Hospital, Wolverhampton, UK*

10.1136/rapm-2021-ESRA.174

Background and Aims Regional anaesthesia (RA) improves postoperative analgesia and can contribute to a reduction in postoperative nausea and vomiting (PONV). RA can improve value of care by reducing length of stay and enhancing patient satisfaction[1].

Regional nerve blocks are commonly performed for upper limb day case surgeries at our centre. We did a prospective patient survey on perioperative experience of upper limb surgery with nerve blocks.

Methods Patients who had regional nerve blocks for upper limb surgery were given proforma to fill after surgery with pre-stamped envelopes. We included 28 proformas returned from March to June 2019 for the survey.

Results All patients received anaesthetic information pre-surgery which included pre-assessment nurse (7/28), information leaflet (2/28) and both (19/28). One patient found information provided unsatisfactory. Quarter of (8/28) patients reported severe pain and PONV during first 24 hours and timings of first oral pain relief was variable with non-standardised analgesics on prescription.

Most of patients (92%) would prefer to have nerve block again.

Conclusions Results showed that post op pain prescription varied. Although most patients were satisfied with nerve block information but could be improved. We recommended to standardise post-operative discharge prescription. We suggested to produce patient video about the perioperative journey of nerve blocks for upper limb surgery which has been produced and will be implemented soon as delayed by pandemic.

Regular patient satisfaction surveys are needed for service evaluation and improvement.

175 REGIONAL ANESTHESIA IN DIFFICULT AIRWAY: IS IT FOOLISH NOT TO FACE IT?

[1]F Costa, [1]LM Remore*, [1]A Strumia, [1]G Pascarella, [1]S Rizzo, [1]F Gargano, [1]V Antinolfi, [1]G Frattolillo, [1]C Piliego, [1]V Scaduto, [2]R Del Buono, [1]FE Agrò. *[1]Università Campus Biomedico di Roma, Rome, Italy; [2]ASST Gaetano Pini, Milan, Italy*

10.1136/rapm-2021-ESRA.175

Background and Aims Difficult airway may represent a challenge in anesthesiologists' clinical practice. In some cases regional anesthesia might be an option. Given a preformulated strategy for intubation, the right decision mainly depends on how confident the anesthesiologist is with the appropriate regional technique [1, 2].

We describe the case of an impossible to intubate patient, underwent surgical debridement of a neck ulcer under regional anesthesia.

Methods Male 57 y.o. History of nasopharyngeal carcinoma, treated with radiotherapy.

Post-actinic osteonecrosis of the jaw; scar tissue around muscles and vessels of the left side of the neck with consequent lock-jaw and cervical rigidity.

Post-actinic infected lesion of the skin in the lateral, posterior and deltoid regions of the left side of the neck, scheduled for surgical debridement and vac-therapy.

Awake tracheostomy was established as anesthetic management. The patient refused and asked for alternatives.Regional anesthesia was considered. Superficial or intermediate cervical plexus block were not feasible because of the scar tissue. Thus, to cover the area of debridement, a combination of a left ESP block at T2 level and a left deep cervical plexus block at C4 were performed.



Abstract 175 Figure 1



Abstract 175 Figure 2



Abstract 175 Figure 3

Awake, trans nasal fiberoptic intubation, was considered as preformulated strategy in case of emergency [3].

Results The surgical procedure was carried out uneventfully with the patient awake and cooperative.

Conclusions Performing regional anesthesia in the difficult airways patients implies major knowledge of the relevant anatomy and techniques. Major skills in airways management are also required. Given these two conditions, it is not always foolish not to secure the airway.

176 IT IS BETWEEN HEAVEN AND HELL – PATIENTS EXPERIENCES OF PREOPERATIVE PAIN AND PAIN MANAGEMENT AMONG PATIENTS WITH HIP FRACTURE RECEIVING A FEMORAL NERVE BLOCK

[1]A Unneby*, [2]Y Gustafson, [3]B Olofsson, [3]B-M Lindgren. *[1]Umea University, Department of Nursing and Department of Surgical and Perioperative Science Orthopedics, Umeå, Sweden; [2]Umeå University, Department of Community Medicine and Rehabilitation, Geriatric Medicine, Umeå, Sweden; [3]Umea University, Department of Nursing, Umeå, Sweden*

10.1136/rapm-2021-ESRA.176

Background and Aims Preoperative pain is common and often severe among patients suffering hip fracture. Opioids are usually used but have many side effects. One alternative is a femoral nerve block (FNB). It has been shown to reduce pain and lower the needs for opioids. However, to our knowledge no study has explored qualitatively how patients with hip fracture experiences the treatment with FNB. The aim of this study was to explore experiences of preoperative pain and pain management among patients with hip fracture who had received femoral nerve block.

Methods A qualitative design with semi-structured interviews (n=23) were conducted 2–6 days after surgery. Inclusion criteria were 70 years or older Swedish speaking patients with hip fracture admitted to the the Orthopedic Ward, treated with femoral nerve block before nursing actions. Data was analyzed with qualitative content analysis. This study was approved by a regional ethical review board, Sweden, (DNR 2016/387-31M)

Results Our result revealed one theme; *hovering between and hell* with five sub-themes; *experiencing memory loss* due to remember the pain and pain management and how the pain were described to be *no pain, to worst pain and everything in between*; they were *dealing with pain in an own way*; felt *dependent to staff´s willingness to relive pain*; and that pain management could be *lifesaving and a near death experience*.

Conclusions The experience of pain and pain management are between heaven and hell. However, a person-centered pain management are important independent on which pain relief given to achieve well managed pain.

177 PROLONGED MOTOR BLOCK WITH PERSISTENT SAPHENOUS NEUROPATHY FOLLOWING COMBINED POPLITEAL/SAPHENOUS NERVE BLOCK FOR ANKLE SURGERY

M Dobrić, B Vinceljek*, J Vukelić Slavić, T Beker. *Clinical Hospital Center Sestre Milosrdnice, Traumatology Clinic, Zagreb, Croatia*

10.1136/rapm-2021-ESRA.177

Background and Aims Ultrasound guided peripheral nerve block for ankle surgery is appropriate alternative for spinal anaesthesia, allowing for earlier mobilization and adequate postoperative pain control.

Methods 38-year-old female, BMI 20.7, presented for hardware removal a year after an open reduction and internal fixation of bimalleolar ankle fracture. Ultrasound guided popliteal/saphenous nerve block was performed with spinal needle (G25, Quincke), using 0.5% levobupivacain and dexamethason as an adjuvant to local anaesthetic. Due to poor visualisation of saphenous nerve, paraesthesia was briefly elicited once during the procedure. Surgical procedure went uneventfully, in complete surgical block and intravenous sedation with propofol. Motor block persisted for 48 hours, with full recovery thereafter. Sensory deficit in the distribution area of saphenous nerve was present one month after the procedure.



Abstract 177 Figure 1

Results The patient was highly satisfied with postoperative pain control with no need for additional analgesics, but concerned about peristing tingling sensation. She declined proposed multimodal treatment for neuropathic pain with calcium channel antagonist pregabalin, and agreed to therapy with NSAID and vitamin B supplements. Further evaluation of eventual prolonged neuropathy, including NMR and nerve conduction studies, was discussed with patient.

Conclusions Dexamethasone prolongs the effect of local anaesthetic when used as an adjuvant. In our case, the duration of motor and sensory block was longer than expected. Complications related to peripheral nerve blocks may go undiagnosed until the first postoperative control. Neural lesions related to peripheral nerve blocks usually resolve within 4 – 7 weeks and over 99% by one year.

178 WALANT TECHNIQUE IMPROVES THE EFFICIENCY OF DISTAL NERVE BLOCKS FOR CARPAL TUNNEL RELEASE

[1]M Doirado*, [2]F Le Sache, [2]L Thomsen, [3]G Aziz, [3]C Naudin, [3]M Merzoug, [2]D Barouk, [2]M Bucciero, [1]A James, [1]C Quemeneur, [2]S Bloc. *[1]Hôpital de la Pitié Salpêtrière, Paris, France; [2]Clinique Drouot Sport, Paris, France; [3]CMC Ambroise Paré, Neuilly Sur Seine, France*

10.1136/rapm-2021-ESRA.178

Background and Aims Axillary block is the standard for carpal tunnel release (CTR), providing good anesthesia and tolerance of tourniquet. Distal blocks, efficient and preventing motor block, are less used due to a poor tolerance of tourniquet (1). This study was designed to assess the benefits of the addition of a tumescent local anesthesia (WALANT: Wide Awake Local Anesthesia No Tourniquet) to distal blocks during CTR.

Methods After approval of the Ethics Committee and written informed consent, 30 patients scheduled for CTR were enrolled in this prospective, randomized, open-label study.

Distal blocks (median – ulnar – lateral cutaneous nerve of forearm) were performed under ultrasound with Ropivacaine 0.375% (5–7 ml) (TOURNIQUET and WALANT groups). In WALANT, an additional infiltration of 7 ml lidocaine and epinephrine was performed in the area of

Abstract 178 Table 1 Patient characteristics

	CONTROL (n=15)	WALANT (n=15)
Demographics		
Male, n (%)	8 (53%)	6 (40%)
Female, n (%)	7 (47%)	9 (60%)
Age, yr	59.5 ± 14.5	55.6 ± 13.2
BMI kg/m2	26.4 ± 4.5	27.2 ± 6
Medical history		
ASA score	2 [1-3]	2 [1-2]
Diabetes, n (%)	2 (13%)	1 (7%)
Peripheral neuropathy, n (%)	0 (0%)	1 (7%)
Arteriopathy, n (%)	3 (20%)	0 (7%)

Abstract 178 Table 2 Trial outcomes

	TOURNIQUET (n=15)	WALANT (n=15)	p value
Pain Score	2.6 ± 0.9	1.6 ± 0.87	0.007
Visualization NRS	5 [5-5]	4 [4-5]	0.002
Patient satisfaction	10 [9-10]	10 [10-10]	0.2
Surgery duration, min	5 [4-5]	5 [3-5]	0.8
Need for sedation, n(%)	4 (27%)	0 (0%)	0.03



CPP - Ile-de-France VI
Groupe Hospitalier Pitié-Salpêtrière

Projet de recherche enregistré — A Paris, le 9 juillet 2020
Sous le n° 55-20 HPS Cat. 2
Dossier n° 20.06.05.62929
ID RCB : 2020-A00872-37

Le comité a été saisi le : 10 juin 2020

d'une demande d'avis pour le projet de recherche intitulé :

« Intérêt de l'association d'une technique WALANT (Wide Awake Local Anaesthesia No Tourniquet) aux blocs tronculaires du poignet pour la chirurgie du canal carpien » Protocole WALA

- Protocole WALA du 29/6/20
- Note d'information et formulaire de consentement du 4/5/20
- Liste des investigateurs du 4/5/20

dont le promoteur est : CMC Ambroise Paré

dont le coordonnateur est : Docteur Frédéric LE SACHE

Le comité a examiné les informations relatives à ce projet lors de sa séance du :

8 juillet 2020

Audrey BELLESOEUR - Oncologue (S)
Kevin BIDAN - Pharmacien hospitalier (S)
Nathalie BIRON - Thérapeute (T)
Laurent CAPELLE - Neurochirurgien (T)
Christophe DEMONFAUCON - Représentant des associations agréées de malades (T)
Micheline DENANCE - Représentante des associations agréées d'usagers du système de santé (S)
Jacqueline DUNO - Qualifiée en matière juridique (S)
Marie-Hélène FIEVET - Pharmacien hospitalier (T)
Marie GICQUEL-BENADE - Travailleur social (T)
Clot GIQUEL - Qualifiée en matière juridique (S)
Clarisse GOUDIN - Qualifiée en matière juridique (S)
Christiane LOOTENS - Représentante des associations agréées de malades (S)
Marie-Cécile MASURE - Psychologue hospitalier (T)
Michèle MEUNIER-ROTIVAL - Chercheur en génétique (T)
Thang NGUYEN - Médecin généraliste (T)
Sophie TEZENAS DU MONTCEL - Biostatisticien (T)
Martyna TOMCZYK - Qualifiée en matière éthique (S)

LE COMITE A ADOPTE LA DELIBERATION SUIVANTE : AVIS FAVORABLE

Motivation : Le comité a estimé que le rapport bénéfice/risque est acceptable pour les sujets participant à la recherche.

- Conformément à l'article R. 1123-26 du code de la santé publique, le présent avis devient caduque si la recherche n'a pas débuté dans un délai de deux ans.

Le Président du CPP
Professeur Nathalie BIRON

CPP IDF VI 47, Boulevard de l'Hôpital 75013 PARIS
Tél : 01 42 16 00 Fax : 01 42 16 27 15

Abstract 178 Figure 1

surgery (= local hemostasis). In TOURNIQUET, a high arm tourniquet was used. Pain score, patient satisfaction, quality of endoscopic surgical procedure (visualization), need of rescue tourniquet in WALANT, efficiency, rate of complications were noted.

Results Demographic data are presented in table 1. WALANT significantly reduced pain score and the use of sedation. Even if the quality of visualization was high in both groups, it was better in TOURNIQUET (table 2). No rescue tourniquet was necessary in WALANT. The rate of hematoma 15 days post-surgery was higher in TOURNIQUET. No other adverse event was observed.

Conclusions Addition of WALANT to distal blocks is adapted for CTR. WALANT improves the comfort of the patient and the quality of anesthesia and provides good surgery conditions.

179 EFFECT OF INTERSCALENE BLOCK VERSUS ANTERIOR SUPRASCAPULAR NERVE BLOCK ON INTRAOPERATIVE AND PACU ANALGESIA REQUIREMENTS: A SYSTEMATIC REVIEW AND META-ANALYSIS

[1]K Davis*, [1]D Reardon, [2]G Velli, [3]M Bright, [1]L White. *[1]Department of Anaesthesia and Perioperative Medicine, Sunshine Coast Hospital and Health Service, Birtinya, Australia; [2]Library and Knowledge Centre, Princess Alexandra Hospital, Brisbane, Australia; [3]Department of Anesthetics, Princess Alexandra Hospital and Faculty of Medicine, The University of Queensland, Brisbane, Australia*

10.1136/rapm-2021-ESRA.179

Background and Aims The anterior suprascapular block (ASSB) is a recently described regional anaesthesia technique for non-arthroplasty shoulder surgery. This systematic review and meta-analysis compared the early analgesic efficacy of the ASSB to the interscalene nerve block(ISB) in patients presenting for non-arthroplasty shoulder surgery.

Methods After performing a systematic review, randomised control trials comparing ISB and ASSB performed for ambulatory or arthroscopic surgery were included for analysis. Only randomised controlled trials of arthroscopic shoulder surgery comparing ASSB versus ISB were included. Analgesia consumption intraoperatively and in PACU were assessed. Meta-analysis was performed using a random effects model. The GRADEpro tool was used to determine certainty outcome results.

Results A total of six studies were eligible for evaluation in this systematic review and meta-analysis. All six studies examined the effect on opioid consumption, demonstrating no statistically significant differences between studies. Four studies measured intraoperative opioid use with heterogenous, non-significantly different results (MD=0.26 mg; 95%I=-0.86 to 1.38 mg; I2=77%; p=0.65; moderate certainty). Similarly, with heterogeneity there was no difference in opioid requirements in PACU (MD=0.74; 95%CI=-0.18 to 1.66 mg; I2=60%; p=0.11; moderate certainty).

Conclusions The analgesia requirements when using anterior suprascapular block in ambulatory or arthroscopic shoulder surgery showed no significant difference to interscalene block for opioid use intraoperatively and in PACU.

180 ERECTOR SPINAE PLANE BLOCK FOR TRAM – ON THE WAY TO ERAS?

[1]LA Montenegro Ledo, [1]AR Santos Almeida Silva*, [1]TR Alves Martins, [2]I Rodrigues, [3]HM Cunha Gomes Santos, [1]EC Pereira. *[1]Hospital Garcia de Orta, Almada, Portugal; [2]Centro Hospitalar Universitário Lisboa Norte, Lisboa, Portugal; [3]Hospital CUF Tejo, Lisboa, Portugal*

10.1136/rapm-2021-ESRA.180

Background and Aims Erector spinae plane block (ESPB) is a newly described interfascial block, consisting in injection of local anesthetic in plane between transverse process and erector spinae muscles. It has emerged as a good alternative for analgesia of entire hemithorax.

TRAM flap reconstruction is traditionally associated of severe pain, requiring opioid analgesia, with all known side effects.

This case reports an opioid-free anesthesia for TRAM flap reconstruction, using ESPB.

Methods Female, 53-years, ASA III, with hypertension, obesity and SAOS, admitted for TRAM flap reconstruction.

Bilateral ESPB was performed, under ultrasound guidance. It was injected 25 ml of ropivacaine 0,375% (2.6 mg/kg) and dexamethasone 4 mg on each side, at T4 level.

Under ASA standard and invasive blood pressure monitoring, a totally intravenous general anesthesia was maintained with propofol and ketamine.

Acetaminophen and ketorolac were administered 30 minutes before end of surgery. No complications recorded during intra-operative period and patient emerged comfortable from anesthesia.

Results On PACU, patient remained comfortable with maximum pain of 1/10 on NRS, without need of additional analgesics.

Postoperative analgesia consisted of acetaminophen and ketorolac every 8 hours and, during first 2 days, the worst pain recorded was 3/10, without need of opioid analgesia.

No complications of the ESPB was recorded and patient was discharge home after 4 days.

Conclusions ESPB is useful, easy and fast strategy that may be used as a valuable adjunct for postoperative analgesia in TRAM flap reconstruction, which pose a challenge in pain control.

Moreover, it offers an advantage in terms of reducing opioid requirements contributing for enhanced recovery.

181 THE APPLICATION OF A COMBINATION OF INTERSCALENE AND PARAVERTEBRAL BLOCKS IN A PATIENT WITH A PATHOLOGICAL HUMERUS FRACTURE: A CASE REPORT

[1]M Župčić*, [2]S Graf Zupcic, [3,4]T Simurina, [5]V Duzel, [6]S Barisin, [7]D Tonković. *[1]Clinical Hospital Centre Rijeka, Clinic of Anesthesiology and Intensive Care Medicine, University of Rijeka, Faculty of Medicine, Rijeka, Croatia; [2]University of Rijeka, Faculty of Medicine, Hospital Centre Rijeka, Clinic of Neurology, Rijeka, Croatia; [3]J. J. Strossmayer University, Faculty of Medicine Osijek, General Hospital Zadar, Department of Anesthesiology and Intensive Care Medicine, Zadar, Croatia; [4]University of Zadar, Department of Health Studies, Zadar, Croatia; [5]Fiona Stanley Hospital, Department of Anesthesiology, Perth, Australia; [6]Clinical Hospital Dubrava, Clinic of Anesthesiology and Intensive Care Medicine, J. J. Strossmayer University, Faculty of Medicine, Zagreb, Croatia; [7]School of Medicine, University of Zagreb, Clinical Hospital Centre Zagreb, Clinic of Anesthesiology, Reanimatology and Intensive Care Medicine, Zagreb, Croatia*

10.1136/rapm-2021-ESRA.181

Background and Aims Most amputation procedures at the shoulder joint, on patients suffering from pathological humerus fractures are performed under general anesthesia.Here we show a case of an American Society of Anesthesiologists classification (ASA) III patient, scheduled for amputation of the humerus, at the shoulder joint. Due to a high risk procedure under general anesthesia, we decided to apply interscalene and paravertebral blocks along with intravenous sedation.

Methods A 55-year-old male, ASA III patient, was scheduled for amputation of his right humerus. The patient had a history of bladder cancer with multiple metastases on the lungs, lymph nodes and bones. He also suffered from a pathological fracture of left humerus, with presence of left-hand cellulitis. During preparation for surgery, an invasive blood pressure measurement was set up, while the interscalene and paravertebral spaces were identified using a nerve-stimulating needle and a linear ultrasound probe of 8 and 12 Hertz. An anesthetic solution of 0.5% levobupivacaine was applied at Thoracic (Th) 2 and Th3 levels (5 milliliters per level) and to the brachial plexus (20 milliliters). We used 1% lidocaine for skin infiltration and sedation was performed with a continuous infusion of 1% propofol.

Results Sensory blockade occurred after 18 minutes and lasted for about 16 hours in the shoulder and 10 hours in the axilla region, with stable hemodynamic parameters and no perioperative complications.

Conclusions Such precise administration of small doses of long-acting local anesthetic at multiple levels has resulted in a satisfactory anesthesia and analgesia without hemodynamic and respiratory complications.

182 A RETROSPECTIVE COHORT STUDY OF BRACHIAL PLEXUS BLOCKS IN VASCULAR SURGERIES FOR HEMODIALYSIS ACCESS OF KIDNEY PATIENTS IN A TERTIARY CARE CENTER (2016–2019)

A Rosales*, N Aypa. *Makati Medical Center, Makati, Philippines*

10.1136/rapm-2021-ESRA.182

Background and Aims Brachial plexus blocks (BPB) have been used to provide surgical anesthesia in vascular procedures. Regional anesthesiologists must correlate technique with the procedure to establish protocols in performing peripheral nerve blocks in renal patients for hemodialysis. The primary objective of this study is to describe relationship between BPB used and the type of surgery done for hemodialysis access.


INSTITUTIONAL REVIEW BOARD

CERTIFICATE OF APPROVAL

Protocol Title	A Retrospective Cohort Study on Interscalene, Supraclavicular, Infraclavicular and Axillary Brachial Plexus Blocks in Upper Extremity Vascular Surgeries for Hemodialysis Access of Chronic Kidney Disease Patients at The Makati Medical Center from 2016 to 2019
Protocol Version No. and Date	Version 1.2, dated 22 March 2021
Principal Investigator	AILEEN L. ROSALES, M.D., DPBA
Co-Investigator	NOEL S. AYPA, M.D., DPBA, FPBA, EDRA
Date of Initial Submission	JUNE/1/2021
IRB Protocol Number	MMCIRB 2021-063
Sponsor	Not Applicable
Sponsor's Protocol No.	Not Applicable

List of Documents Approved:

1. Protocol
   ref: Version 1.2, dated 22 March 2021
2. Dummy Tables
   ref: dated 22 March 2021
3. Data Collection Tool
   ref: dated 22 March 2021
4. Gantt Chart
   ref: dated 22 March 2021
5. Budget
   ref: dated 22 March 2021
6. Curriculum Vitae and Good Clinical Practice of:
   a. AILEEN L. ROSALES, M.D., DPBA
   b. NOEL S. AYPA, M.D., DPBA, FPBA, EDRA

Other Document(s) Filed:

1. Protocol

Abstract 182 Figure 1



INSTITUTIONAL REVIEW BOARD

Type of Review	☐ Full Board ■ Expedited (CHART)
Duration of Approval Period	06 April 2021 to 07 April 2022
Frequency of Progress Report	Annually
Date of Randomization	MAR22/2021

Name of IRB Chair	Signature	Date
D. DARWIN A. DAVIS, M.D.		Electronically Signed: APR12/2021

Recipient's Name	Signature	Date

Abstract 182 Figure 2

Methods This was a retrospective, analytical, observational, cohort type of study conducted through chart review of kidney patients at a tertiary care center approved by the IRB (Protocol Number 2021-003).

Results A total of 355 patients were included in this study where the median age was 64 years old. More than half of the cohort (57.18%) was male. Most of the subjects (93%) were classified as ASA category III. The most common surgical procedure for securing vascular access was arteriovenous fistula creation (39.72%) while the most common BPB performed was axillary approach (59.15%), followed by supraclavicular approach (19.44%), infraclavicular approach (14.93%) and interscalene approach (6.48%).

All four techniques recorded no incidence of inadequate block and only low incidence for need of rescue pain medication for infraclavicular (0.47, 95% CI: 0–10.01) and axillary (0.47, 95% CI: 0–2.62) blocks. This resulted to a low overall incidence of need of rescue pain medication at 0.56, 95% CI: 0–2.02.

Conclusions Axillary, infraclavicular and supraclavicular BPB are appropriate in procedures involving the wrist, distal arm and elbow (i.e., AV fistula creation). In procedures involving the arm such as AV graft creation and thrombectomy, infraclavicular, supraclavicular and interscalene BPB may be utilized.

183 A CASE REPORT OF ERECTOR SPINAE PLANE BLOCK WITH CONTINUOUS INFUSION FOR MULTIPLE RIB FRACTURES

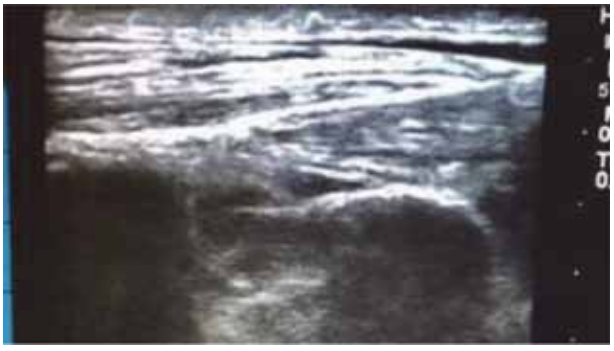
J Cleland*, M Hulgur. *Royal Albert Edward Infirmary, Wigan, UK*

10.1136/rapm-2021-ESRA.183

Background and Aims Rib fractures cause significant pain and respiratory complications[1]. Common analgesic techniques include opiates and thoracic epidurals, both have significant side effects[2]. Erector spinae plane (ESP) block with catheter insertion has been used as an alternative due to its ability to provide analgesia with a potentially better side effect profile[3, 4]. We describe a case of a 74 year old gentleman with a significant smoking history and COPD who had suffered trauma and fractured ribs 8–11 on his right side.

Methods To perform the ESP block we injected local anaesthetic and then inserted a catheter between the erector spinae muscle and transverse processes (figure 1). A bolus dose of 30 ml 0.25% levobupivacaine was injected followed by infusion of bupivacaine 0.125% 10 ml/hr. This was later increased to 15 ml/hr due to some patient discomfort.

Results Prior to the ESP block the patient had required 44 PCA doses in 24 hrs, afterwards he required 10 doses in 24 hrs. Pain scores improved from a baseline level of 8/10 with episodes of 10/10 prior to block, to a baseline level of 0/10 with episodes of 2/10 afterwards. Prior to ESP block he was unable to use the incentive spirometer due to pain, the following day he was able to use the incentive spirometer without any pain (figure 2).



Abstract 183 Figure 1



Abstract 183 Figure 2

Conclusions The ESP block both reduced the patients pain symptoms and improved his respiratory function. The patient much preferred the ESP block to the PCA he had been using before. ESP block is a useful tool in the management of pain from rib fractures.

184 ANALYSIS OF ULTRASOUND GUIDED PERIPHERAL NERVE BLOCKS FOR POSTOPERATIVE ANALGESIA IN ARTHROSCOPIC SHOULDER SURGERY

[1]F Yaman*, [1]T Ozyurt, [1]M Onay, [2]MC Gunay, [1]S Güleç. *[1]University of Eskişehir Osmangazi, Faculty of Medicine, Department of Anesthesiology and Intensive Care, Eskişehir, Turkey; [2]University of Eskişehir Osmangazi, Faculty of Medicine, Department of Orthopedics and Traumatology, Eskişehir, Turkey*

10.1136/rapm-2021-ESRA.184

Background and Aims Effective postoperative analgesia is required for patients to recover quickly and begin rehabilitation. In the literature; although there are different dose and volume studies in interscalene block for pain control, there are studies on alternative block types (1, 2). We aimed to investigate retrospectively the frequency of application of interscalene and suprascapular, the blocks we use in routine practice, analgesia consumption in the postoperative period and complications.

Abstract 184 Table 1

		Grup I			Grup II			p
		Mean±sd /n-%		Median	Mean±sd /n-%		Median	
Age		53.0 ± 12.7		55.5	51.7 ± 14.0		55.0	0.842 [t]
Gender	Female	6	50.0%		4	66.7%		0.502 [χ²]
	Male	6	50.0%		2	33.3%		
Weight		81.3 ± 12.8		80.0	81.0 ± 10.9		78.5	0.957 [t]
Height		1.66 ± 0.07		1.65	1.67 ± 0.06		1.68	0.656 [t]
BMI		29.7 ± 4.4		29.9	29.2 ± 5.2		28.9	0.833 [t]
ASA Score	I	1	8.3%		1	16.7%		1.000 [χ²]
	II	10	83.3%		5	83.3%		
	III	1	8.3%		0	0.0%		
Patient Satisfaction Score		8.50 ± 1.68		9.00	8.67 ± 1.51		9.00	0.808 [m]
Duration Of Surgery		200.0 ± 44.8		200.0	180.2 ± 75.2		180.0	0.490 [t]
Duration Of Anesthesia		220.8 ± 46.4		220.0	203.3 ± 68.5		200.0	0.528 [t]
Complication	(-)	11	91.7%		6	100.0%		1.000 [χ²]
	(+)	1	8.3%		0	0.0%		

Abstract 184 Table 2

	Grup I			Grup II			p
	Mean±sd /n-%		Median	Mean±sd /n-%		Median	
VAS Rest							
30.Minute	0.33 ± 0.65		0.00	0.17 ± 0.41		0.00	0.651 [m]
2 Hours	0.92 ± 1.24		0.00	0.17 ± 0.41		0.00	0.219 [m]
4 Hours	1.42 ± 1.44		1.50	1.00 ± 1.67		0.00	0.481 [m]
6 Hours	2.18 ± 2.14		2.00	1.17 ± 1.47		0.50	0.322 [m]
8 Hours	2.33 ± 2.53		1.50	2.00 ± 2.10		1.50	0.924 [m]
10 Hours	3.33 ± 3.58		2.50	2.83 ± 2.32		3.50	0.962 [m]
12 Hours	2.83 ± 2.72		2.00	2.17 ± 2.04		2.00	0.704 [m]
24 Hours	4.25 ± 3.31		4.00	2.83 ± 2.99		2.00	0.395 [m]
VAS Motion							
30.Minute	0.67 ± 1.37		0.00	0.17 ± 0.41		0.00	0.607 [m]
2 Hours	0.75 ± 1.54		0.00	1.33 ± 1.97		0.50	0.315 [m]
4 Hours	1.42 ± 1.44		1.50	2.00 ± 1.67		2.50	0.435 [m]
6 Hours	2.58 ± 2.50		2.00	1.67 ± 1.51		2.00	0.388 [m]
8 Hours	2.58 ± 2.61		2.00	3.00 ± 2.83		2.50	0.775 [m]
10 Hours	3.25 ± 3.82		1.00	4.17 ± 3.43		5.50	0.810 [m]
12 Hours	3.92 ± 2.87		3.50	3.33 ± 2.80		4.00	0.603 [m]
24 Hours	6.00 ± 2.17		6.00	4.33 ± 3.14		3.50	0.201 [m]
Nause							
30.Minute	5	41.7%		0	0.0%		0.114 [χ²]
2 Hours	5	41.7%		1	16.7%		0.600 [χ²]
4 Hours	2	16.7%		1	16.7%		1.000 [χ²]
6 Hours	3	25.0%		2	33.3%		1.000 [χ²]
8 Hours	2	16.7%		2	33.3%		0.569 [χ²]
10 Hours	1	8.3%		0	0.0%		1.000 [χ²]
12 Hours	2	16.7%		0	0.0%		0.529 [χ²]
24 Hours	2	16.7%		0	0.0%		0.529 [χ²]
Vomiting							
30.Minute	2	16.7%		0	0.0%		0.529 [χ²]
2 Hours	3	25.0%		0	0.0%		0.515 [χ²]
4 Hours	1	8.3%		1	16.7%		1.000 [χ²]
6 Hours	2	16.7%		1	16.7%		1.000 [χ²]
8 Hours	2	16.7%		0	0.0%		0.529 [χ²]

[m] Mann-whitney u test / [χ²] Chi-square test (Fischer test)

Abstract 184 Table 3

		Grup I		Grup II		p
		n	%	n	%	
Rescue Analgesia						
30. Minute	(-)	12	100.0%	6	100.0%	1.000 [χ²]
	(+)	0	0.0%	0	0.0%	
2 Hours	(-)	12	100.0%	5	83.3%	0.333 [χ²]
	(+)	0	0.0%	1	16.7%	
	Tramadol	0	0.0%	1	16.7%	
4 Hours	(-)	9	75.0%	6	100.0%	0.515 [χ²]
	(+)	3	25.0%	0	0.0%	
	Paracetamol	3	25.0%	0	0.0%	
6 Hours	(-)	9	75.0%	6	100.0%	0.515 [χ²]
	(+)	3	25.0%	0	0.0%	
	Paracetamol	1	8.3%	0	0.0%	
	Tramadol	1	8.3%	0	0.0%	
	Dexketoprofen	1	8.3%	0	0.0%	
8 Hours	(-)	10	83.3%	4	66.7%	0.569 [χ²]
	(+)	2	16.7%	2	33.3%	
	Paracetamol	1	8.3%	0	0.0%	
	Dexketoprofen	1	8.3%	2	33.3%	
10 Hours	(-)	9	75.0%	3	50.0%	0.344 [χ²]
	(+)	3	25.0%	3	50.0%	
	Paracetamol	1	8.3%	1	16.7%	
	Dexketoprofen	2	16.7%	2	33.3%	
12 Hours	(-)	10	83.3%	6	100.0%	0.529 [χ²]
	(+)	2	16.7%	0	0.0%	
	Paracetamol	1	8.3%	0	0.0%	
	Tramadol	1	8.3%	0	0.0%	
24 Hours	(-)	4	33.3%	3	50.0%	0.627 [χ²]
	(+)	8	66.7%	6	100.0%	
	Paracetamol	2	16.7%	2	33.3%	
	Tramadol	1	8.3%	0	0.0%	
	Dexketoprofen	5	41.7%	1	16.7%	

[χ²] Chi-square test (Fischer test)

Methods After the approval of the ethics committee, the files of the patients who underwent arthroscopic shoulder surgery between 01.01.2019 and 01.03.2020 were evaluated retrospectively.

Results 18 of 40 patients were included in the study.Interscalene block (group I) with 15 ml of 0.5% bupivacaine was applied with a single injection to 12 of 18 patients, while 7.5 ml of interscalene and 7.5 ml of suprascapular block (group II) were applied to 6 patients with a posterior approach.No significant difference was found in age, gender, BMI, ASA score distribution, patient satisfaction score, duration of surgery and anesthesia, and complication rate, 30th minute, 2nd, 4th, 6th, 8th, 10th, 12th, 24th hour VAS resting score, VAS movement score, nausea and vomiting rate(table 1, 2, 3). Hypoesthesia in the temporoauricular region was defined 24 hours after the operation, but it was decided that it was due to the beach chair position, and it gradually decreased in the follow-up and improved in 1 week.

Conclusions Since the inability to detect any superiority between the groups may be due to the insufficient number of cases, it should be supported by a prospective study.

185 SAFETY AND EFFICACY OF REGIONAL ANESTHESIA ALONE FOR PATIENTS UNDERGOING BREAST SURGERY; A QUALITATIVE REVIEW

[1]S Sharma*, [2]B Hyung, [1]Y Lee, [2]C Tian, [3]P Seth, [1]A Doumouras. *[1]McMaster University, Hamilton, Canada; [2]University of Toronto, Toronto, Canada; [3]Western University, London, Canada*

10.1136/rapm-2021-ESRA.185

Background and Aims Breast cancer and subsequent breast surgery is prevalent in North America. General anesthesia (GA) is

the standard anesthetic choice despite being associated with postoperative complications. Regional anesthesia (RA) offers an alternative anesthetic choice. This study aimed to qualitatively review the literature on efficacy of RA alone for breast surgery.

Methods OVID and EMBASE databases were searched for articles pertaining to the use of regional anaesthesia alone for breast surgery up to June 2021. Systematic review was conducted according to PRISMA guidelines.

Results 24 studies were reviewed encompassing various RA blocks (paravertebral (PVB), pectoralis (PECS), thoracic and cervical epidural blocks (TEA, CE)). PVB represented 42% of studies. Mean patient age was from 54.8 – 72.6, most (65%) were ASA class 2–3. Two studies found the RA group had significantly less pain 24h after surgery, compared to GA.[1,2] Similarly, opioid and morphine equivalent requirements were significantly higher for GA compared to RA in two studies.[3,4] One study reported lower prevalence of pain in the TEA group versus GA. 3 Patients in the RA group had significantly less postoperative nausea/vomiting versus their GA counterparts, and greater level of patient satisfaction in two studies.[2,4] Rate of conversion to GA was 0% (95% CI [0%-3%]). No significant difference between length of stay or days till resumption of diet was found.

Conclusions There is substantial data to support the effectiveness of PVB as an alternative to GA for breast surgery. Such data was limited for PECS blocks, further studies evaluating efficacy of these blocks is warranted.

186 CLAVIPECTORAL FASCIAL PLANE BLOCK AND SUPRACLAVICULAR NERVE BLOCK FOR REMOVAL OF OSTEOSYNTHESIS MATERIAL FROM A CLAVICLE FRACTURE. WHY NOT?

D Gonçalves, F Teixeira*, C Sousa, R Graça, P Miguelez, C Sampaio. *Centro Hospitalar Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.186

Background and Aims Clavipectoral Fascial Plane Block (CPB) is most commonly used as an anesthesia and postoperative analgesia technique to clavicle fracture surgery. It consists in a local anesthetic injection under the clavipectoral fascia. The Supraclavicular Nerve from the Superficial Cervical Plexus is responsible for the sensory innervation of the skin that covers the clavicle, shoulder and superior region of the chest, It´s blockage should complement the CPB.

Methods A 25-year-old male patient, ASA I, (weight 70 Kg, height 184cm) who underwent right clavicle fracture surgery under general anesthesia, was now scheduled for osteosynthesis material removal.

After obtaining informed consent to perform surgery under regional anesthesia, we performed an ultrasound-guided supraclavicular nerve block (SCB) and CPB with a total of 25 mL of local anesthetic (12.5 mL Ropivacaine 0,75% and 12.5 mL of Mepivacaine 2%), 5 and 20 ml were administered respectively. The CPB was performed with two needle punctures one at each side of the osteosynthesis material.

Results A satisfactory peripheral nerve block was achieved, and no complications were found. The patient remained calm and hemodynamically stable throughout the entire procedure.

Conclusions The combination of the CPB with the SCB is a safe and easy to perform procedure. It allows risk reduction of phrenic nerve block as well as prevention of upper limb paralysis, when compared to brachial plexus block at the interscalene level. Other benefits are general anesthesia adverse effects avoidance, such as nausea and vomiting, sore throat, as well as airway manipulation.

187 FEMORAL BRANCH BLOCK OF GENITOFEMORAL NERVE FOR FEMORAL ENDARTERECTOMY: A CASE REPORT

[1]D Maliamanis*, [1]C Christofis, [2]A Koureas, [2]S Michaelides, [2]K Kapoulas, [1]C Yiapana. *[1]General Hospital of Nicosia. Cardiac, Thoracic and Vascular Anaesthesia Department, Strovolos, Cyprus; [2]General Hospital of Nicosia. Vascular Surgery Department, Strovolos, Cyprus*

10.1136/rapm-2021-ESRA.187

Background and Aims Patients undergoing lower extremity vascular surgery are often at high risk for perioperative complications. We report a case of a high risk patient who underwent common femoral endarterectomy anesthetized by ultrasound guided femoral branch block of genitofemoral nerve (FBG) plus intravenous sedation.

Methods A 64 years old female patient was scheduled for common femoral endarterectomy and patch angioplasty. She had a history of congestive heart failure after myocardial infarction and chronic obstructive pulmonary disease. She was on dialysis three times a week, had echinococcal cyst in left lung, suffering from diabetic foot and was admitted to the hospital multiple times due to deregulated CHF. She was considered as high risk patient for general anesthesia. Her international normalized ratio (INR) was 1,7 so neuraxial anesthesia was contraindicated.

The FBG nerve provides sensation to the skin of the femoral triangle and to the underlying tissues and vessels within the femoral sheath. FBG nerve block was performed as a single peripheral nerve block for surgical anesthesia plus sedation. Using Mindray M7 ultrasound machine and L14-6Ns Linear transducer, the needle was inserted in plane to the sheath and 15 ml of 0,5% ropivacaine was injected, as shown.

Results Adequate surgical anesthesia was achieved 30 min later. Extra local anesthesia was needed for the incision close



Abstract 187 Figure 1

to the inguinal ligament, plus remifentanil infusion (0,02–0,04 µg/kg/min) for sedation. The operation lasted 2 hours and the total administation of fentanyl was 2 µg/kg during the procedure.

Conclusions FBG nerve block plus local anesthesia can be an alternative for femoral endarterectomy.

188 REGIONAL ANAESTHESIA SERVICE: POWER TO THE PATIENT

A Ellison*, H Thompson, T Ashken. *University College London Hospital, London, UK*

10.1136/rapm-2021-ESRA.188

Background and Aims Regional anaesthesia is an integral part of elective anaesthesia in modern hospitals and is almost obligatory now for certain orthopaedic and general surgical procedures. There is increasing requirements for efficiency on surgical lists in UK hospitals. Our regional service uses regional specialists and fellows to perform nerve blocks for patients before their surgical procedure and whilst the surgical list can concurrently progress. We aimed to discover if patient's satisfaction was also being met with this service.

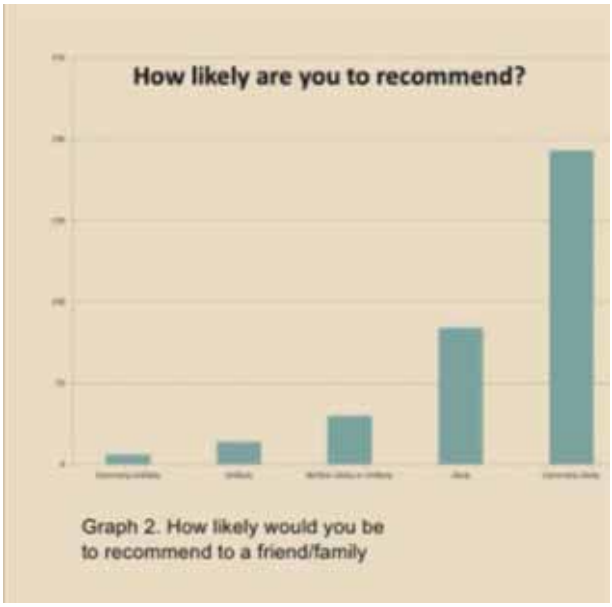
Methods All patients who went through the regional anaesthesia service from 2017 to 2019 had a follow up SMS to their mobile phone after 48 hours. This just involved the patients clicking a link and answering 6 questions on their experience of the nerve block with a free text box for any comments on regional recommendations. Automated email alerts were sent if there was anything concerning.

Results As primary endpoints, 58% stated that the pain block gave relief as expected and only 16% stating it was shorter pain relief than expected. 26% stated it lasted longer.

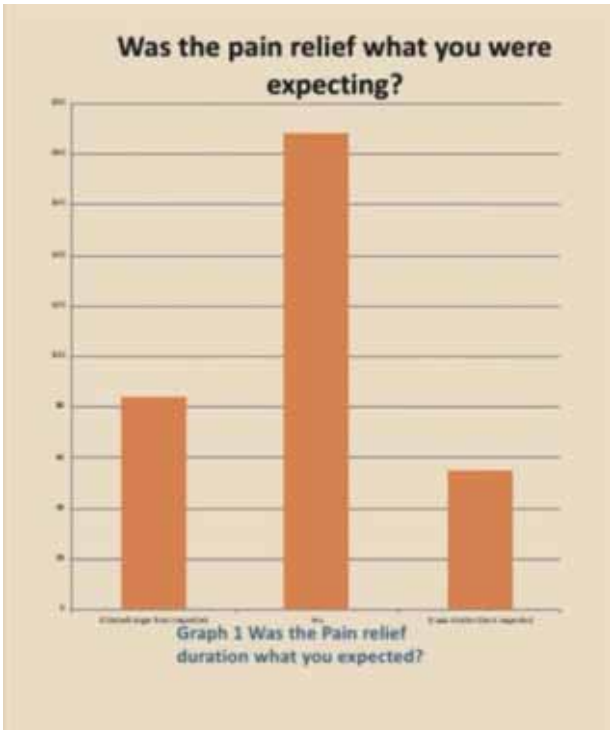
59% stated they were extremely likely and 26% likely to recommend to family/friends.

A few of the negative comments involved pain on injection and long lasting motor block being uncomfortable and annoying.

Conclusions We have found that regional anaesthesia follow up is beneficial for patient safety, satisfaction and service improvement. There was overall a very positive response to regional anaesthesia and this has allowed us to make a business case for resources and funding.



Abstract 188 Figure 1



Abstract 188 Figure 2

189 A CASE OF HORNER'S SYNDROME AFTER ULTRASSOM-GUIDED INTERSCALENE BRACHIAL PLEXUS BLOCK

AM Schwalbert*, D de Pádua Resende Filho'. *Hospital Independência, Porto Alegre, Brazil*

10.1136/rapm-2021-ESRA.189

Background and Aims The brachial plexus innervates the upper limbs through roots from the cervical and thoracic nerves. Due to its anatomical location with proximity to other important nervous and vascular structures, which directly implies the occurrence of post-block complications. The purpose of this article is to review news evidence about the main complications of the interscalene brachial plexus block.

Methods Case report with bibliographic review of PUBMED with the descriptors 'interscalene block', without time limitation.

Results JFS patient, 61 years old, undergoes surgery to repair left rotator cuff injuries under interscalene brachial plexus block (Ropivacaine 0,5% 25 ml e Clonidine 75mcg) and sedation. Needle-guided ultrasound block Stimuplex® A50 (BBraun). The patient remained clinically stable throughout the procedure and was partially sedated to the recovery room.

When alert, the patient evolves with difficulties to communicate. On clinical examination, the patient presented hemodynamically stable with dysphonia and left eyelid ptosis. Kept under observation and after 24 hours the reported symptoms were no longer present.

Conclusions Horner's Syndrome (HS) is a set of signs and symptoms due to the blockade of the ipsilateral sympathetic pathway that innervates head, face and eye. Manifested with

the triad of ptosis, miosis and anhidrosis. In the current literature, the development of HS after interscalene brachial plexus block is 4 – 37.5%, depending on the block technique, distribution, volume and dilution of the local anesthetic, in continuous infusion or after a single injection. Data showed that the use of ultrasound and neurostimulator to perform the block can reduce the rate of HS.

190 RESULTS OF COMBINED POPLITEAL AND SAPHENOUS NERVE BLOCK APPLICATIONS

H Emirkadi*, İ Çiçek. *Gölcük Necati Çelik Goverment Hospital, Kocaeli, Turkey*

10.1136/rapm-2021-ESRA.190

Background and Aims Peripheral nerve block techniques for extremity surgeries have gained increasing popularity and have been used often in recent years.With the help of this method, much more comfort can be provided without the need of general anesthesia.Successful surgery and postoperative analgesia can be obtained by detecting accurate anatomic localization, dermatome and myotomes.

Methods We studied 35 patients (27 male, 8 female)retrospectively,whom received combined sciatic popliteal and saphenous nerve block using peripheral nerve stimulator for lower extremity surgeries between 2018–2020. Diabetic patients were excluded from the study due to diabetic neuropathy. Patients were sedated with 1 mg midazolam before the blockage.Then,the sciatic nerve was localized by peripheral nerve stimulator and popliteal sciatic block was performed by 20 mL of 0.25% bupivacaine and,20 mL of 1% lidocaine.Saphenous vein blockage was performed by 5 ml of 2% lidocaine and 5 ml of 0.5% bupivacaine.

Results The mean blockage performing time was determined as 30 minutes.A tourniquet was applied above 5 cm at the ankle joint for all operations. Average tourniquet (bound) time was measured as 40 minutes.None of the patients needed additional anesthesia procedures.Significant intraoperative complications associated with the application were not observed in the postoperative period.Degree of the patients' post-operative pain was assessed using Visual Analogue Scale.Patients did not require narcotic analgesics in the early and late postoperative period.In all patients,oral intake was started after the completion of surgery

Conclusions In addition to all these advantages,we believe that combined popliteal sciatic block should be preferred in foot surgery for selected patients to avoid complications of general or spinal anesthesia.



Abstract 190 Figure 1

191 A NEW MODIFIED TECHNIQUE OF COMBINED INTRAMUSCULAR QUADRATUM LUMBORUM BLOCK AND IT'S EFFECTIVENESS IN PEDIATRIC PATIENTS

[1]D Dmytriiev*, [2]E Glazov. *[1]Vinnitsa National Medical University, Vinnitsa, Ukraine; [2]Odessa Regional Children Hospital, Odessa, Ukraine*

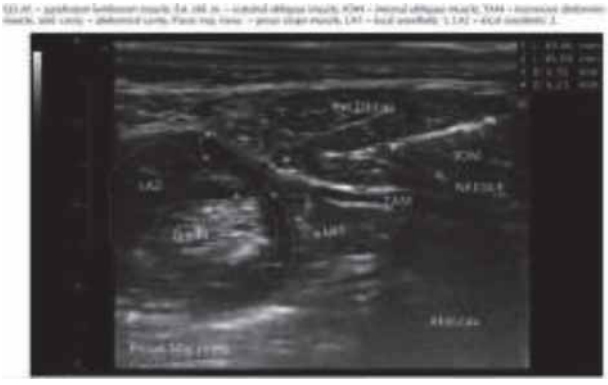
10.1136/rapm-2021-ESRA.191

Background and Aims Regional anesthesia has a rapidly growing use in children over the recent two decades. An aim of our work is to suggest a new technique for quadratum lumborum block (QLB) and prove its efficacy compared to intravenous anesthesia in children.

Methods 44 children (12.6 ± 1.4 years) were included into the study. First group – 20 patients – received anesthesia by new QLB technique (figure 1) under ultrasound guidance with 0.5% bupivacaine hydrochloride.

20 children received a continuous fentanyl intravenous infusion. Efficacy of postoperative analgesia was assessed through the complex of different vital signs; pain intensity was assessed by the Observation Scale for Infants and Small Children (VAS). Ethics Committee approved the conduct of the study. Statistical analysis was performed by a variation statistics method using 'Statistica 5.5' soft and visualized through soft based on Python „Plotus XYZ'.

Results The average pain score according to VAS was significantly lower in patients of the first group in early postoperative period at all stages of the study ($p < 0.05$). The average heart rate was lower than 120 bpm in group 1 for the entire time of QLB. Parameters of central hemodynamics, arterial blood flow in superior mesenterial artery and glucose levels were also normal.



Abstract 191 Figure 1

Conclusions Obtained data shows, that proposed new QLB technique is more effective, when compared to standard intravenous anesthesia.

192 WIDE AWAKE SURGERY USING LOW VOLUME PHRENIC NERVE SPARING INTERSCALENE AND LOW VOLUME SUPERFICIAL CERVICAL PLEXUS BLOCK FOR CLAVICLE NON-UNION WITH PLEXOPATHY

AP Hall*, Z Hamoodi, J Singh, CY Ng, MD Hulgur. *Wrightington Hospital, Wigan, UK*

10.1136/rapm-2021-ESRA.192

Background and Aims Severe respiratory disease presents a challenge for anaesthesia in shoulder surgery. Awake surgery under interscalene block may be considered. However, the reduction in FEV1 and FVC due to phrenic nerve palsy may be prohibitive. Numerous techniques have been described as phrenic nerve sparing for shoulder analgesia. However, there is limited published data regarding effectiveness in anaesthesia for awake shoulder and clavicular surgery.
Methods We describe a case of a 64-year-old male undergoing brachial plexus exploration with open reduction and internal fixation for clavicle non-union. Following an injury 10 months previously, he presented with medial cord symptoms; sensory deficit predominately in the ulnar nerve distribution and hand weakness. Significant comorbidities included severe COPD with a FEV1 <27%.

A low volume phrenic nerve sparing interscalene block with superficial cervical plexus block (5 ml of 0.5% Bupivaicaine with Adrenaline for each) was performed under ultrasound guidance. The skin and subcutaneous layers were infiltrated with 10 ml of 1% Xylocaine with Adrenaline as a field block.
Results Using a direct approach to the clavicle, the non-union was excised and fracture ends debrided. The inferior periosteum was carefully elevated off the clavicle to protect the brachial plexus. There was an intraoperative improvement in ulnar nerve symptoms observed when the lateral clavicle was reduced. There was no evidence of clinically significant phrenic nerve involvement; oxygen saturations were stable and the patient remained comfortable with no respiratory symptoms.



Abstract 192 Figure 1

Conclusions Low volume regional anaesthetic techniques can facilitate awake shoulder and clavicular surgery without clinically significant phrenic nerve involvement in selected patients.

193 SUPRA-INGUINAL ILIAC FASCIA BLOCK AS SOLE ANESTHETIC TECHNIQUE FOR FEMORAL NAILING SURGERY

F Teixeira*, D Gonçalves, C Peixoto De Sousa, AP Pereira, C Santos. *Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal*

10.1136/rapm-2021-ESRA.193

Background and Aims Regional anesthesia, which includes peripheral nerve blocks, contributes to a multimodal analgesic approach. Iliac fascia block is an alternative or complementary analgesic technique for knee, thigh and hip surgery.
Methods 93-year-old man, ASA IV, with history of hypocoagulated atrial fibrillation, NYHA Class III heart failure, benign prostatic hypertrophy, hypertension, diabetes, dementia and dyslipidemia scheduled for femoral intramedullary nailing.

Given the patient's comorbidities and general condition, with his possible intolerance to the hemodynamic rebound produced by general or spinal anesthesia, the team decided to resort to iliac fascia block as an anesthetic technique.

Caregiver's consent to anesthesia was obtained.

To perform the block, a suprainguinal ecoguided approach was used. A linear probe was placed immediately below the antero-superior iliac spine (ASIS). The ASIS was identified and the probe placed transversely and rotated towards the umbilicus. An out of plane technique and a 50 mm needle were used and 20 mL of 1.5% mepivacaine and 20 mL of 0.375% ropivacaine were injected into the fascial illiaca.

The block was tested after 40', with loss of sensitivity and muscle strength in the area of the LCFN and FN. The surgery began 50' after the block. 15' and 25' into surgery, 30 mg and 70 mg of propofol were administered, respectively, due to patient agitation.
Results The surgery lasted 60' and there were no complications or episodes of hemodynamic instability.
Conclusions The anesthetic approach used may be another option in hemodynamically unstable patients in which the most common anesthetic techniques incur an important hemodynamic rebound.

194 THE EFFECT OF FEMORAL NERVE BLOCK VERSUS ADDUCTOR CANAL BLOCK ON THE QUALITY OF EARLY RECOVERY AFTER REVISION TOTAL KNEE ARTHROPLASTY, A RETROSPECTIVE STUDY

A AlJa'bari*. *DMF Hospital, Riyadh, Saudi Arabia*

10.1136/rapm-2021-ESRA.194

Background and Aims Multimodal pain analgesia strategies are common in perioperative management of total knee arthroplasty (TKA), although the role of adductor canal blocks (ACB) versus femoral nerve block on early postoperative recovery for revision knee surgery is not investigated. The purpose of this study is to independently evaluate the effect of ACB on short-term postoperative outcomes including (1) length of stay (LOS), (2) postoperative narcotic utilization, and (3) function with physical therapy in revision TKA.
Methods We retrospectively identified a cohort study of consecutive 40 patients from January 2019 to July 2019 who had undergone unilateral revision TKA using a single-shot ACB (19 patients) vs femoral nerve block (21 patients) under spinal anesthesia (hyperbaric 0.5% Marcaine 2.5 ml and 20 microgram fentanyl) in addition to a standardized multimodal pain analgesia protocol. These 2 groups were compared using independent sample t-tests with primary end points of interest being distance ambulated after surgery, and inpatient narcotic use.
Results Quadriceps strength was better preserved in adductor group than in femoral group. Walking meters and going

upstairs were better results in adductor group. IV morphine consumption within the first 48 hours period were less in adductor group comparing to femoral group.

Conclusions Adductor nerve block showed better early recovery in revision TKA when comparing to femoral nerve block (FNB).

195 INTERMEDIATE CERVICAL PLEXUS BLOCK FOR INTERNAL JUGULAR VEIN CATHETERIZATION IN ONCOLOGY PATIENTS. A PROSPECTIVE, RANDOMIZED STUDY

[1]F Sifaki*, [1]S Bagntasarian, [1]G Pistiolas, [1]P Christidis, [2]E Liolios, [1]E Koraki. *[1]Georgios Papanikolaou, General Hospital of Thessaloniki, Thessaloniki, Greece; [2]Lewisham and Greenwich NHS Trust, London, UK*

10.1136/rapm-2021-ESRA.195

Background and Aims Internal Jugular Vein Catheterization (IJVC) in oncology patients can be challenging, as most of these patients have undergone multiple painful procedures and fear of pain. This study aims to determine whether intermediate cervical plexus block (ICPB) is superior to conventional local anesthesia in terms of satisfaction of the patient for IJVC.

Methods 30 oncology patients, ASA III, were randomly divided into two groups. In Group A (n=18), ICPB with lidocaine 2% (5 ml) was administered to the patients, 5 minutes before the placement of the central venous catheter (CVC). In Group B (n=12), conventional local anesthesia with lidocaine 2% (5 ml) was administered at the site of the catheterization, 5 minutes before the placement of CVC. The procedure in both groups was ultrasound-guided. The duration, complications and VAS score of the procedure along with patient's satisfaction of the procedure were recorded. Patient's vital signs were recorded throughout the procedure.

Results No complications were reported in both Groups. The mean duration of the procedure was not statistically significant between the two groups. VAS scores and Satisfaction Scores were found to be statistically significant between the two groups.

Conclusions In this study, the performance of ICPB in oncology patients undergoing IJVC was found to provide superior analgesia and comfort to the patients when compared to conventional local anesthesia. To the authors' concern there are no studies exploring the superiority of ICPB as a means of analgesia to patients undergoing IJVC. Certainly, more studies should be performed for further confirmation of these findings.

196 INNOVATIVE AND HI-FIDELITY SIMULATOR FOR FASCIAL PLANE BLOCKS

[1]P Fusco*, [2]GM Petroni, [2]S Tullj, [2]V Arcangeli, [2]G Balestra, [2]F Marinangeli. *[1]Ospedale San Salvatore, L'Aquila, Italy; [2]University of L'Aquila, L'Aquila, Italy*

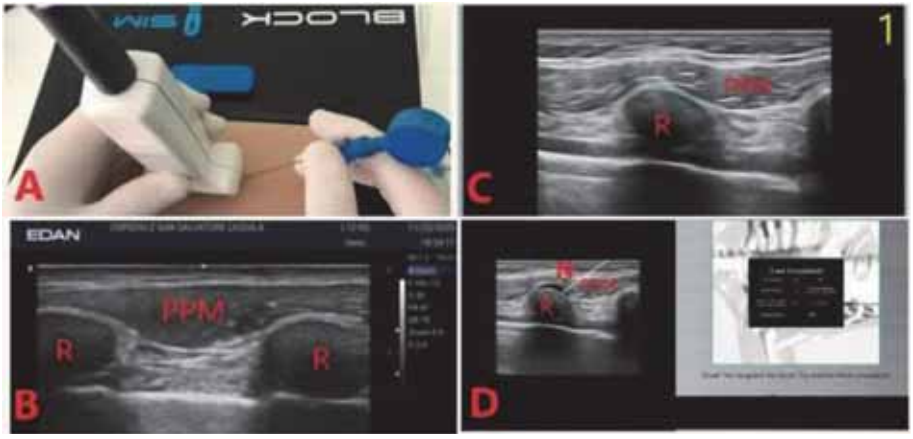
10.1136/rapm-2021-ESRA.196

Background and Aims Ultrasound guided regional anesthesia (UGRA) is an invasive procedure that involves complex motor skills.[1] As ultrasound-guided regional anesthesia (UGRA) represents the gold standard for performing regional blocks, there is a need for learning the technical skills associated with this technique.[2,3]

Methods We developed a innovative and high-fidelity system simulator for ultrasound-guided fascia blocks based on real ultrasound images, named Block Sim™, made by Accurate.

Results Block Sim allows us to practice on: anterior thoracic wall blocks [PECS I, PECS II, serratus plane block and parasternal block (figure 1)], paraneuraxial nerve blocks (Paravertebral block and erector spine plane block (ESP), and abdominal wall blocks (transversus abdominis plane block (TAP), quadratus lumborum block (QLB I e II). Thanks to the ultrasound probe software, this new simulation system allows the physician to view real ultrasound images. Users can move the ultrasound probe in different directions on the available insert and observe a coherent real-time modification of the scene. Users can also perform a simulated injection of the local anesthetic, using an external syringe, when the tip of the needle is inside of the fascia.The user can practice and develop competency using simulation scenarios based on real clinical images and, at the end of the procedure, an indicative global score will be given to the user based on his performance.

Conclusions We believe that the use of simulators is very important, first of all for patient safety, and for anesthetists who can finally make mistakes to learn.



Abstract 196 Figure 1 B real Ultrasound images C,D BlockSim' s images

197 DYNAMIC HIP SCREW SURGERY UNDER PERIPHERAL NERVE BLOCKADE ONLY

D Bendel*, C Broe, A Pal, T Edwards, T Packer, B Bellew. *St Mary's Hospital, Imperial College Healthcare NHS Trust, London, UK*

10.1136/rapm-2021-ESRA.197

Background and Aims We present the management of an elderly ASA 4 female with a left-sided fractured neck of femur. Comorbidities included stable angina, asthma and COPD. Acutely, a superimposed chest infection precipitated respiratory distress and hypoxaemia. Clopidogrel, stopped the day before, precluded neuraxial anaesthesia. The patient's Surgical Outcome Risk Tool score for mortality within 30 days was 15%. Following multi-disciplinary input, a decision to operate under regional anaesthesia was made.

Methods The femoral, obturator, lateral cutaneous femoral nerve and sciatic nerves were successfully blocked, and a dynamic hip screw was inserted with minimal risk to the patient. The patient followed an uncomplicated intraoperative course.

Results Post-operatively, the patient remained comfortable. Following a period of transnasal humidified rapid-insufflation ventilatory exchange in recovery and intensive care review, the patient was transferred to the ward under the joint care of the orthogeriatricians and orthopaedics. She remained comfortable on oral analgesics on review the following day.

Conclusions This case demonstrates that NOF surgery can be done under peripheral nerve blockade only. It is apparent to us that there may be several subsets of high risk patients in whom this strategy is preferable to central neuraxial blockade or general anaesthesia, and we expect this to become increasingly common in the future.

198 FASCIAL PLANE BLOCKS IN TOTAL ABDOMINAL HYSTERECTOMY: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

[1]G-H Bai*, [1]M-C Tsai, [2]T-Y Hung, [3]W-H Hou. *[1]School of Medicine, College of Medicine, Taipei Medical University, Taipei City, Taiwan, Province of China; [2]Department of Anesthesiology, Taipei Mackay Memorial Hospital, Taipei City, Taiwan, Province of China; [3]Department of Physical Medicine and Rehabilitation, Center of Evidence-based Medicine, Taipei Medical University Hospital, Taipei City, Taiwan, Province of China*

10.1136/rapm-2021-ESRA.198

Background and Aims Fascial plane blocks can provide effective analgesia for abdominal surgeries. However, different randomized controlled trials (RCTs) showed controversial results in total abdominal hysterectomy and there were limited data directly comparing the techniques. We conducted a network meta-analysis of RCTs to investigate the effectiveness of transversus abdominis plane (TAP) block, quadratus lumborum (QL) block and erector spine plane (ESP) block in patients with total abdominal hysterectomy.

Methods We searched PubMed, Embase, Cochrane Library, and CINAHL from inception to June 2021. Random-effects network meta-analyses were performed for comparing the fascial plane blocks. The primary outcome was 24 hours morphine equivalent consumption and the secondary outcome included time to first rescue analgesia, pain scores and rates of nausea and vomiting.

Results Eighteen studies were included in the current meta-analysis. Quality assessment revealed that only 11 of 18 RCTs had some concerns regarding overall risk of bias. The results showed quadratus lumborum block was the best intervention for morphine consumption reduction at 24 h and resting pain scores. Transversus abdominis plane block was also effective in reducing opiate consumption and resting pain scores. However, no techniques were associated with a reduced incidence of postoperative nausea and vomiting. TAP block subgroup analyses revealed that location and timing of plane block may impact the effectiveness of 24 h opioid consumption reduction.

Conclusions Fascial plane blocks are effective analgesic techniques in total abdominal hysterectomy. However, there are insufficient data for to draw definitive conclusions, further studies are required for QL and ESP blocks.

Abstract 198 Table 1

	24h opioid consumption MD (95% CI)	Pain scores at rest at 24h MD (95% CI)	Incidence of nausea and vomiting Odds ratio (95% CI)
ESP block vs control	5.29 (-0.55, 11.13)	-0.2 (-1.41, 1.01)	6.46 (0.65, 64.12)
QL block vs control	9.58 (1.00, 18.15)	1.52 (0.74, 2.29)	3.24 (0.25, 42.46)
TAP block vs control	5.18 (1.68, 8.69)	0.78 (0.39, 1.18)	1.76 (0.79, 3.93)

199 LESS INVASIVE, MORE EFFECTIVE: SINGLE PUNCTURE COMBINED LUMBAR PLEXUS AND TRANSMUSCULAR QUADRATUS LUMBORUM BLOCKS FOR LONG LASTING UNILATERAL VASCULAR SURGERY PROCEDURES IN FRAGILE PATIENTS

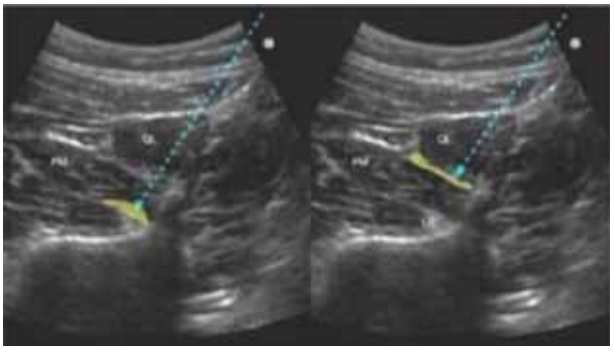
A Strumia*, M Bernardinetti, F Costa, G Pascarella, E Tomaselli, S Rizzo, LM Remore, F Spinelli, FE Agro. *Campus Bio Medico University of Rome, Rome, Italy*

10.1136/rapm-2021-ESRA.199

Background and Aims Peripheral vascular surgery patients commonly present multiple diseases and receive anticoagulants or antiplatelet drugs. Nonetheless, revascularization procedures may last many hours. Thus the risk of a long-lasting general anesthesia may increase while neuraxial blocks may expose patients to an augmented risk of bleeding [1]. Peripheral blocks last longer and guarantee hemodynamic control but may not be adequate for procedures involving the iliac artery.

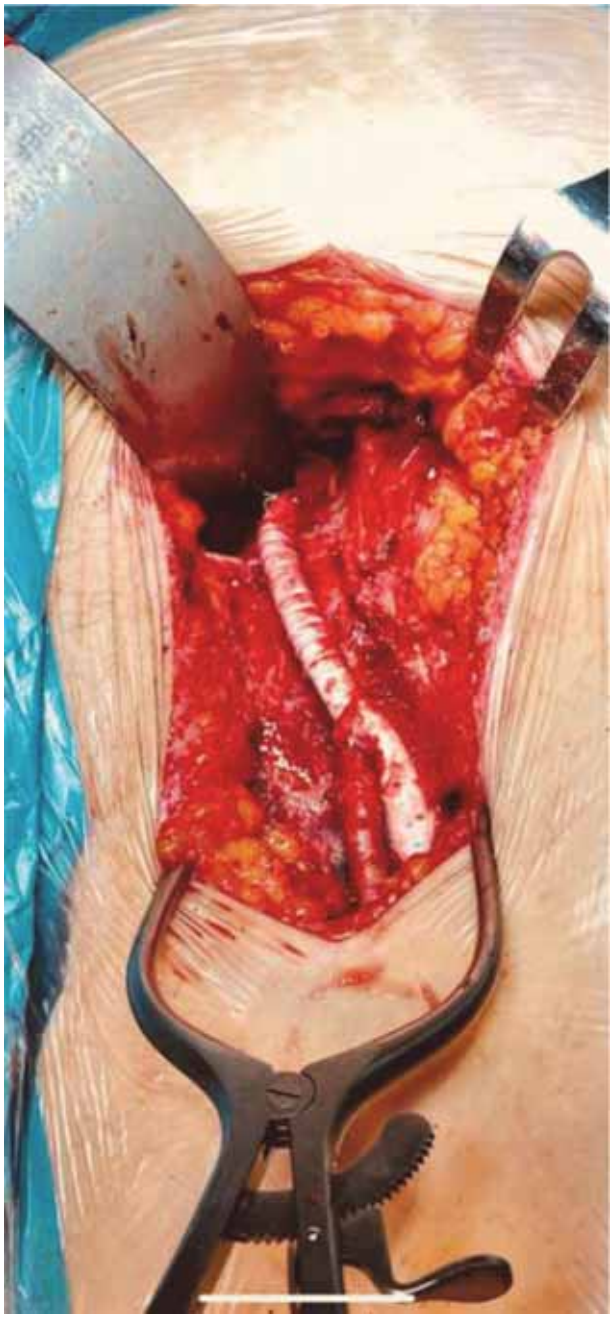
We present a case of a patient, who underwent revision of an iliac-femoral bypass under a combination of lumbar plexus and quadratus lumborum blocks.

Methods Female 70 y.o., ASA III. Chronic legs ischemia, diabetes, multiple bypass and left toe amputation,



Abstract 199 Figure 1

hypertension, blindness, ischemic cardiopathy, moderate aorta stenosis. Scheduled for revision of iliac-femoral bypass of the left leg. expected to last 3 to 6 hours.General anaesthesia and neuraxial anaesthesia weren't the best options, due to patient multimorbidity and aorta's stenosis.With patient's consent, we performed an ultrasound plus nerve stimulation guided lumbar plexus block with Shamrock approach [2] (Stimuplex ultra 360 – 100 mm – Bbraun) with 30 m of 0,375% ropivacaine; subsequently the needle was retracted and further 20 ml of the same mixture were deposited in the plane between psoas and quadratus lomborum muscles. Weak sedation with propofol TCI 0,6 µg/ml was administered.



Abstract 199 Figure 2

Results Surgery was carried out in 4 hours with complete surgical anesthesia and hemodynamic stability. After one hour in recovery room, patient was dismissed to the ward.
Conclusions Shamrock approach allowed the successful combination of lumbar plexus and transmuscular quadratus lomborum block

200 MOTOR SPARING NERVE BLOCKS FOR TOTAL KNEE ARTHROPALSTY (TKA)- IS IT WORTH THE EFFORT?

F Moosa*, N Sadavarte, N Bedforth. *Nottingham University Hospitals NHS Trust, Nottingham, UK*

10.1136/rapm-2021-ESRA.200

Background and Aims Anaesthesia and post-operative analgesia for patients undergoing total knee arthroplasty (TKA) has evolved over the last 20 years. Our aim was to carry out a quality improvement project to assess the benefit of motor sparing nerve blocks which includes the IPACK and low femoral triangle blocks[1]. We aimed to assess post-operative pain scores and analgesic requirements[2].
Methods We carried out a retrospective analysis of patients undergoing TKA including 46 patients after seeking approval from the local audit committee. We used medical notes to obtain patient characteristics, method of anaesthesia and analgesia provision, opiate consumption, and pain scores.
Results 100% of patients had a spinal anaesthetic with 1 patient requiring conversion to GA. 41% of patients had a combined IPACK and low femoral triangle block. The remainder received LAI by the surgeon. The mean request for first opiate dose was earlier by 20 min in the block group. Opiate consumption was significantly lower in the first 24 hours by 21 mg OME. 90% had no to mild pain at 24 hours in the block group compared to 63% in the LIA group. Pain scores at 48 hours were similar in both groups. A multimodal approach to analgesia was used for all patients.
Conclusions Motor sparing nerve blocks for patients undergoing TKA is beneficial in the first 24 hours with improved pain scores, reduced opiate consumption as well as surgeon satisfaction. We have implemented recommendations to add these to our ERAS pathway and aim to train anaesthetists in performing these blocks for all TKA patients.

201 'STOP BEFORE YOU BLOCK': RE-AUDIT OF COMPLIANCE AND BREAKING DOWN BARRIERS TO IMPLEMENTATION

K Malone*, A Newman-Marks, M Molyneux. *University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK*

10.1136/rapm-2021-ESRA.201

Background and Aims Stop Before You Block (SBYB)[1] is an established initiative to prevent wrong-sided regional anaesthesia (RA). Despite this, compliance with SBYB has been poor in our institution and a recent wrong-sided block ('A Never Event') prompted a re-audit of local processes.
Methods We prospectively examined all unilateral RA performed in a six-week period starting in May 2021. Data on SBYB compliance and risk factors for failing to SBYB were sought. An anonymous online survey was sent out to all anaesthetists regarding SBYB to collect qualitative opinion and

Stop Before You Block Audit

Chrissie Gardner <Chrissie.Gardner@uhbw.nhs.uk>
Wed 30/06/2021 14:51
To: Katie Malone <km15126@bristol.ac.uk>
Cc: Mat Molyneux <Mat.Molyneux@uhbw.nhs.uk>
Dear Katie

Your audit, **Stop Before You Block**, has been fully registered on our Audit, Management and Tracking (AMaT) system.

Your project reference is : SURANAES/CA/2021-22/03/SBYB

Many thanks for registering this important work with the Trust.

BW Chrissie

C. Gardner

Ms. Chrissie Gardner
Clinical Audit Facilitator
Surgery Head and Neck
Quality Department
Trust Headquarters
07983231908

Abstract 201 Figure 1

Abstract 201 Table 1 SBYB compliance and risk factors for failing to SBYB

Audit Criteria	July 2019	May/June 2021
SBYB occurred	43%	82%
WHO Sign In completed	100%	100%
Surgical site marking visible	100%	93%
Patient turned/moved	29%	21%
Distractions present	0%	11%

suggestions for improved SBYB compliance. Local audit committee authorised and registered this work as not needing ethics committee approval.

Results Twenty-eight regional nerve blocks were observed. Risk factors present included surgical site marking not being visible, repositioning of patients and additional distractions (table 1). Although SBYB compliance improved to 82%, in two cases without SBYB there were no risk factors present. Of the 29 survey results received, all agreed a physical reminder needed to be introduced, with posters on ultrasound machines achieving the most favourable response followed by a physical barrier on the syringe.

Conclusions We identified improved compliance in our re-audit, but nearly a fifth of blocks occurred without SBYB. With risk factors for failing to SBYB prevalent including distraction, we suggest a non-user dependent step is needed to improve compliance. We believe this could be achieved if needle manufacturers incorporate a pre-packaged fail-safe barrier into their syringe design or RA needle sheaths.

202 BILATERAL SUBPECTORAL INTERFASCIAL PLANE BLOCK CATHETERS FOR STERNAL FRACTURES POST CPR

[1,2]C Broe*, [1]S Mehta, [1]B Bellew. *[1]St. Mary's Hospital, London, UK; [2]Vancouver General Hospital, Vancouver, Canada*

10.1136/rapm-2021-ESRA.202

Background and Aims The use of ultrasound to identify fascial tissue layers has led to an increasing number of novel techniques for analgesia of the chest wall. Subpectoral interfascial plane (SIP) blockade is a technique described by Fajardo et al. for ventilation weaning in rib fractures.

Methods A 61-year-old female was admitted to the intensive care unit post cardiac arrest due to major haemorrhage from a degloving scalp laceration. Return of cardiac output was achieved after one cycle of CPR and extubated within 24 hours. Pulmonary rehab proved difficult due to pain from multiple anterior rib & sternal fractures. Bilateral sternal catheters were inserted day 2 of her admission with loading dose of 40 ml 0.25% bupivacaine (1:400,000 adrenaline). Bupivacine 0.125% local anaesthetic infusions were set at 5 ml/hour with 6 hourly boluses of 20 ml 0.25% bupivacaine prescribed as required.

Results A 61-year-old female was admitted to the intensive care unit post cardiac arrest due to major haemorrhage from a degloving scalp laceration. Return of cardiac output was achieved after one cycle of CPR and extubated within 24 hours. Pulmonary rehab proved difficult due to pain from multiple anterior rib & sternal fractures. Bilateral sternal catheters were inserted day 2 of her admission with a loading dose of 40 ml 0.25% bupivacaine (1:400,000 adrenaline). Bupivacine 0.125% local anaesthetic infusions were set at 5 ml/hour with 6 hourly boluses of 20 ml 0.25% bupivacaine prescribed as required.



Abstract 202 Figure 1

Conclusions This case supports the debate that repeated intermittent boluses are required to maintain analgesic efficacy for fascial plane blocks versus continuous local anaesthetic infusion.

203 A SNAPSHOT SURVEY OF PERIPHERAL NERVE BLOCK USAGE AT A TERTIARY LEVEL CENTRE IN ENGLAND

[1]M Moody*, [2]A Spyridoulias, [2]A Vats. *[1]York and Scarborough Teaching Hospitals NHS Foundation Trust, York, UK; [2]Leeds Teaching Hospitals Trust, Leeds, UK*

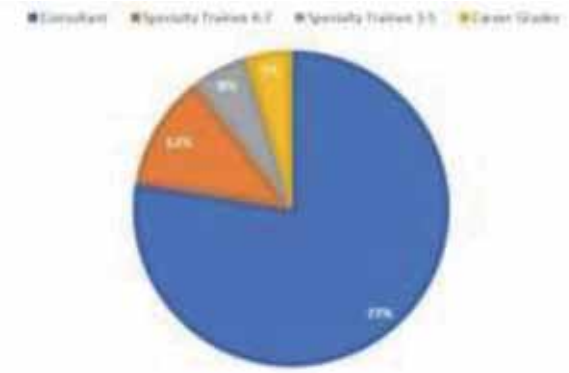
10.1136/rapm-2021-ESRA.203

Background and Aims Leeds Teaching Hospitals Trust (LTHT) is one of the largest teaching hospitals in Europe providing local and specialist services to a million patients every year. We aimed to assess the clinical practice of peripheral nerve blocks (PNB) in our department by conducting a snapshot survey of its usage over a two-week period.

Methods Using an electronic survey form, we collected anonymised information from anaesthetists about the number and type of blocks, the theatre and hospital site, and the recipe used for each block. Theatre lists and operations were then analysed for this time period for the potential PNBs that could have been done for patients. We contacted consultants for them to share their expert local anaesthetic recipes for blocks performed in their regular practice. All data for this audit were collated using Microsoft Excel®.

Results We estimated 439 PNB could have potentially been performed however only 175 blocks were reported during this period. The majority of blocks were performed by consultants. Some responses suggested the need for additional training. We estimate approximately 9,219 PNBs are performed at Leeds every year. Figures 1–3 show detailed breakdown of our data collected including a 'theatre map' for PNB.

Conclusions LTHT provides excellent training opportunities for a variety of PNB. We appreciate there may have been a degree of under reporting by staff in this survey, but we will explore if there are any barriers in performing PNB for anaesthetists at Leeds. Creating a PNB database will facilitate safe clinical practice and support training in regional anaesthesia.



Abstract 203 Figure 1 Grade of anaesthetist performing nerve blocks (85 responses)

Peripheral Nerve *Blocks*	Blocks reported in survey	Estimated potential *PNB*	Annual estimate
Lower Limb	89	175	3675
Upper Limb	69	158	3318
Ophthalmic	11	70	1470
Truncal	5	25	525
Cervical Plexus	1	11	231
Total	**175**	**439**	**9219**

Abstract 203 Figure 2 Types of peripheral nerve blocks reported and estimates. Comparing the theatre activity of data collection period and the year leading to it gave as a multiplication factor of 21 for annual estimates

Peripheral nerve block	Theatre locations	Local anaesthetic recipe
Upper Limb Blocks e.g. Axillary brachial plexus block	LGI Hand unit 31, 312 and 316	2% Xylocaine with adrenaline 15-20 mls
Lower Limb Blocks e.g. Fascia Iliaca block	LGI 32 and 315	0.375% levo-bupivacaine 20-30 mls
Truncal Blocks e.g. Paravertebral block	SJUH Chancellor theatre 5	0.5% levo-bupivacaine; 15-20 mls
Ophthalmic Blocks e.g. Sub tenons block	SJUH Chancellor Theatre 1	(1:1) 2% Lidocaine and 0.5% levo-bupivacaine; 3-5 mls
Cervical Plexus Blocks e.g. Superficial cervical plexus block	SJUH theatre 6	0.25% levo-bupivacaine; 10-15 mls

Abstract 203 Figure 3 Representative example of the theatre map created for peripheral nerve blocks and local anaesthetic recipes for a typical Monday at Leeds Teaching Hospitals NHS Trust

204 BILATERAL RECTUS SHEATH BLOCK AS THE SOLE PERIOPERATIVE ANESTHETIC TECHNIQUE FOR OPEN SURGICAL GASTROSTOMY TO A PATIENT WITH DIFFICULT AIRWAY

[1]F Sifaki*, [1]S Bagntasarian, [1]P Patsepas, [2]O Ioannidis, [1]E Koraki. *[1]Georgios Papanikolaou, General Hospital of Thessaloniki, Thessaloniki, Greece; [2]Aristotle University of Thessaloniki, Thessaloniki, Greece*

10.1136/rapm-2021-ESRA.204

Background and Aims Rectus sheath block (RSB) is a trunk block indicated for postoperative analgesia in minor surgical interventions. This case report describes the performance of RSB as the sole perioperative anesthetic technique to a patient with a difficult airway undergoing open surgical gastrostomy.

Methods We present the case of a 76-year-old, male patient undergoing open surgical gastrostomy so that enteral nutrition could be accomplished. The patient suffered from maxillofacial cancer. He had undergone a major maxillofacial surgery and 32 cycles of radiotherapy to the head and neck area. His airway was characterized as difficult, as he presented with a mouth opening of 1cm and the structures of the upper airway were deformed. Our goal was to avoid general anesthesia and endotracheal intubation. We performed a bilateral RSB as the sole perioperative anesthetic technique with ultrasound guidance at T8 level, administering ropivacaine 0,5% and dexmedetomidine. When anesthesia of the surgical field was confirmed, the surgical procedure started and was completed without complications, with the patient remaining hemodynamically stable.

Results The bilateral RSB succesfully offered intraoperative anesthesia as well as sufficient postoperative analgesia to the patient.

Conclusions Trunk blocks are considered to be one of the cornerstones of modern anesthesia practices and can help the anesthesiologist provide a safe and stable anesthesia to high-risk patients. In our case, the performance of bilateral RSB to a patient with difficult airway undergoing open surgical gastrostomy, helped to completely avoid general anesthesia and also contributed to the patient's post-operative analgesia, increasing his satisfaction.

205 POTENTIAL PITFALLS OF PERIPHERAL NERVE BLOCKS IN PATIENTS WITH MUSCULAR DYSTROPHY: A REPORT OF TWO CLINICAL CASES

[1]J Pinho*, [2]D Pinho, [2]L Coimbra. *[1]Francisco Gentil Portuguese Oncology Institute of Lisbon, Department of Anesthesiology, Lisbon, Portugal; [2]Vila Nova de Gaia/Espinho Hospital Center, Department of Anesthesiology, Vila Nova de Gaia, Portugal*

10.1136/rapm-2021-ESRA.205

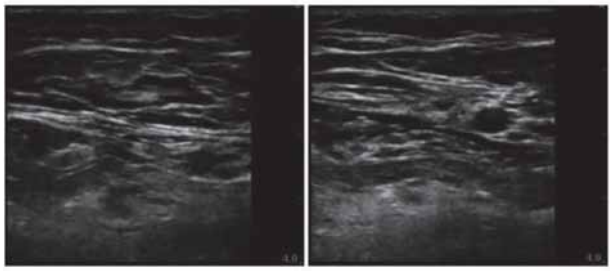
Background and Aims Muscular dystrophies are genetic disorders characterized by progressive muscular degeneration. Recommendations for the anesthetic management of these patients frequently include a preference for regional anesthesia and analgesia. Although case reports exist of peripheral nerve blocks in patients with muscular dystrophy, exceptionally few mention important difficulties that may be encountered. We aim to highlight these potential pitfalls.

Methods A thirteen-year-old boy with a diagnosis of Duchenne muscular dystrophy presented for equinovarus foot correction. He had tetraparesis and mild nocturnal hypoventilation. Intravenous anesthesia with target-controlled propofol and remifentanil infusions was combined with ultrasound guided popliteal sciatic and femoral nerve blocks.

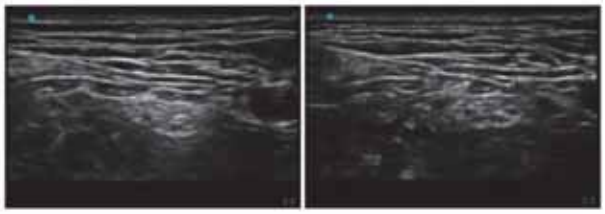
A thirty-year-old man with a diagnosis of myotonic muscular dystrophy presented for patellar fracture and ligament reconstruction. He had an intellectual disability, stable hypoventilation syndrome and dysphagia. Ketamine sedation and a subarachnoid block were followed by ultrasound guided popliteal sciatic and femoral nerve blocks, and intraoperative soothing music.

Results Adequate analgesia was obtained without the use of long-acting or postoperative opioids. In the first case, altered muscular echostructure hampered identification of the adductor canal and femoral nerve. Patellar response to nerve stimulation was tenuous even when discomfort was elicited on injection. In the second case, sonographic visualization was unimpeded and nerve stimulation was not used to avoid triggering myotonia. Only light sedation was necessary.

Conclusions Although regional anesthesia is of benefit for patients with muscular dystrophy, potential pitfalls include altered muscular echostructure, a decreased response to or the need to avoid nerve stimulation, and intellectual disability. Expert help should be considered if difficulties are encountered.



Abstract 205 Figure 1



Abstract 205 Figure 2

206 PECTORAL NERVE AND PARASTERNAL BLOCK COMBINATION IN BREAST CANCER SURGERY: SUBCUTANEOUS MASTECTOMY WITH RECONSTRUCTION UNDER REGIONAL ANESTHESIA AND SEDATION. A CASE STUDY

F Marrone*, S Paventi, M Tomei, M Bosco. *ASL ROMA 1 – Ospedale Santo Spirito, Roma, Italy*

10.1136/rapm-2021-ESRA.206

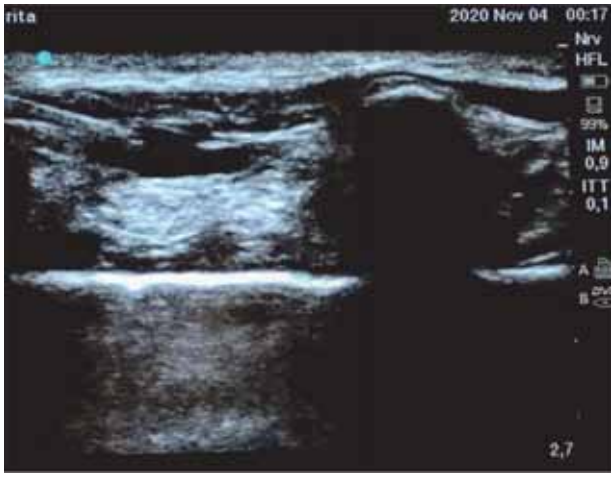
Background and Aims US-guided pectoral nerve block may provide anaesthesia of lateral area of thorax, dermatomes T2-T6. US-guided parasternal block may provide anaesthesia of medial area of breast. A combination of these blocks and sedation may be used in mastectomy especially in high risk patients.

Methods Patient aged-70, BMI 20; breast cancer (5cm triple-negative Ki50%). Primary chemioterapy. Internal jugular vein thrombosis. Hypertension. Smoking. Anemia. ASA3. Subcutaneous mastectomy, sentinel lymph-node biopsy, reconstruction. After valid informed consent, anatomy and needle's tip correctly viewed, aseptically, US-PECS2 block was performed, 80-mm echogenic needle; *0.5% ropivacaine* 20 ml were injected. US-PsB, second-fourth intercostal spaces, was performed; 50-mm needle; *0.375% ropivacaine* 4 ml injected for each block. No complications. Pneumothorax excluded by LUS. Patient received IV midazolam 2 mg + fentanyl 50mcg; ketamine initial bolus 30 mg (0,5 mg/kg) then boluses, 90 mg in 2 hours, to induce and maintain light sleep with arousability. IV lydocaine 40 mg, clonidine 75mcg, dexamethasone 8 mg at beginning of surgery. IV lydocaine 2% 1 ml h^{-1} was provided for 2 hours after initial bolus. Acetaminophen 1g before awake. Spontaneous breathing and supplemental oxygen 40%.

Results Monitored Anesthesia Care (MAC) was provided. Surgery began 15 minutes after MAC, 30 minutes after blockades placement. Surgery lasted 145 minutes, patient vital signs stable. No supplemental opioids or additional local



Abstract 206 Figure 1



Abstract 206 Figure 2



Abstract 206 Figure 3

anesthetics required during surgery. No pain (movement/rest). No morphine required. No peri-operative complications recorded.

Conclusions We performed US-guided inter-fascial plane blocks with high efficacy and safety. Our patient was successfully surgically treated. Regional anesthesia allowed early recovery, reduced postoperative opioid/non-opioid analgesics consumption together with early home discharge and cost reduction.

207 IMPLEMENTATION OF TRAINING IN ULTRASOUND GUIDED REGIONAL ANAESTHETIC 'PLAN A' NERVE BLOCKS DURING THE COVID PANDEMIC – TRAINING MUST GO ON!

F Moosa*, N Sadavarte, N Pinnamaneni, D Luff, A Hassan, N Bedforth. *Nottingham University Hospitals NHS Trust, Nottingham, UK*

10.1136/rapm-2021-ESRA.207

Background and Aims There has been a significant impact on anaesthetic teaching and training within the UK owing to the COVID-19 pandemic. Most of the teaching needs are met using virtual methods. Hands on skills such as regional anaesthesia are not suitable for a virtual teaching format. Therefore, we aimed to continue and provide regional anaesthesia training in a large tertiary teaching hospital in a COVID-safe manner.

Methods We implemented training of 'Plan A' blocks[1]. This included dedicated theatre space, ultrasound equipment and use of HDMI technology for projection. The training was delivered in small groups in a safe and socially distanced manner. Information about the delivery of content, participant satisfaction and confidence in block performance were collected using a survey. All teaching was delivered by a Consultant and trainee with interest in regional anaesthesia. Approval was obtained form the local audit department.

Results Data was collated after a four-month cycle of teaching. Attendees ranged from core trainees (67%) to junior registrars (33%). 95% participants found the content, hands on experience and presenters' knowledge to be excellent. 86% of participants felt they had better confidence in their block skills after the training. Overall satisfaction with delivery of the training was recorded as excellent in 95% of candidates.

Conclusions Continuing regional anaesthesia training in the COVID-19 pandemic has been beneficial for trainees in terms of improvement in skills and to boost their morale. This has been particularly relevant as there has been a drive to reduce aerosol generating procedures and improve safety for anaesthetists and theatre staff[2].

208 DISTAL NERVE BLOCKS FOR UPPER LIMB SURGERY: HIGH QUALITY, LOW VOLUMES

C Lopes*, D Zuzarte, M Chedas. *Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal*

10.1136/rapm-2021-ESRA.208

Background and Aims Through this clinical case we aim to raise awareness of the existence of highly effective peripheral nerve blocks that allow to minimize the volume of local anesthetic, thus reducing the associated complications.

Methods A 20 year-old ASA I man was admitted for urgent reconstructive plastic surgery after left hand flexor tendon injury and right forearm extensor digitorium injury.

To offer anesthesia of the whole hand, we decided to perform a left axillary block. The right-limb wound was expected to be superficial and thus manageable under subcutaneous anesthetic infiltration.

When initiating the intervention on the right wound it was obvious that subcutaneous anesthesia was insufficient as the injury was deeper than predicted.

Faced with the fact that we had almost reached the toxic dose and that we were avoiding approaching the airway, we decided to perform an ultrasound guided distal-arm radial block, as the involved structures depended on radial sensory innervation.

Results A total amount of 3 ml of local anesthetic was used.

The patient experienced complete anesthesia of the radial nerve territory, and surgery was successfully achieved. No complications were reported

Conclusions This approach reminds us that that, similar to the distal-arm radial block, there are numerous distal blocks that can be performed. While allowing a volume sparing technique, these blocks are both easy and safe to perform, offering high quality anesthesia and analgesia.

209 INJECTING PRESSURES DURING REGIONAL ANAESTHESIA. CAN PRACTITIONERS PREDICT SAFETY OBJECTIVELY?

[1]D White*, [1]P Young, [1]B Fox, [1]J Stimpson, [2]S Southey, [1]R Heij. *[1]The Queen Elizabeth Hospital King's Lynn NHS Foundation Trust, King's Lynn, UK; [2]Catena Consulting, London, UK*

10.1136/rapm-2021-ESRA.209

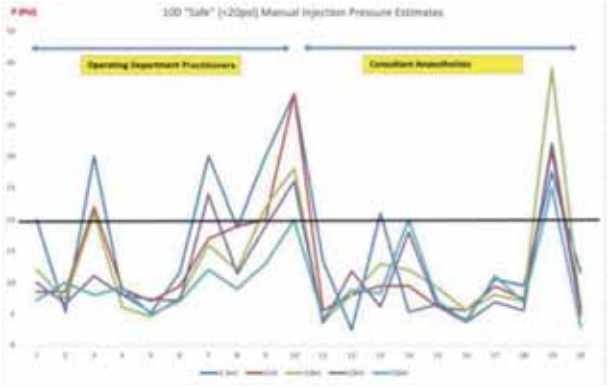
Background and Aims Nerve injury is a rare but well-known complication of regional anaesthesia and may arise from high pressure administration of local anaesthetic directly into nerve fascicles.

Safe injection pressures (< 20psi) [1,2] are subjective to estimate with manual injection, and this task is often delegated to skilled assistants. Pressure-limiting injection devices such as SAFIRA® (Medovate, UK) have been designed to reduce this risk.

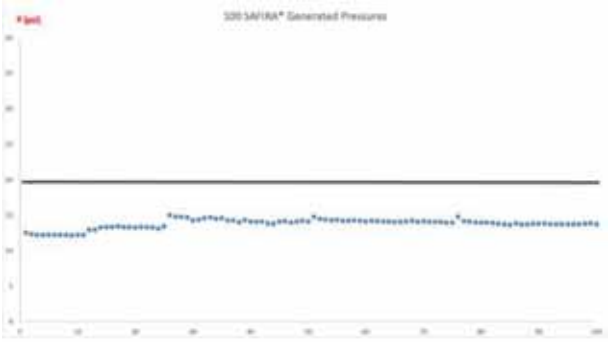
This study measures injection pressures deemed 'safe' by experts and compares them with that of SAFIRA®.

Methods Following IRB approval and with consent, ten skilled Operating Department Practitioners (ODPs) and ten Anaesthetists were recruited to inject 0.9% Saline at the 'highest pressure they thought safe' using a series of syringes (2.5 ml, 5 ml, 10 ml, 20 ml and 50 ml) attached to a Fluke 700GO6® pressure transducer (Fluke Corp, WA, USA). One hundred measurements were recorded.

We then attached the SAFIRA® device (fitted with a 20 ml syringe) to the pressure transducer and measured the machine-limited pressure 100 times for comparison.



Abstract 209 Figure 1



Abstract 209 Figure 2



Abstract 209 Figure 3

Results In 21/100 manual injections, estimated 'safe' pressure was exceeded, with the highest measured at 44psi.

Though the data was skewed by a few individuals, 50% of ODPs and 30% of Anaesthetists injected at pressures ≥20psi at least once (at all syringe sizes).

Cut-off pressures from SAFIRA® were consistently below 20psi.

Conclusions Practitioners best estimates of safe manual injection pressure is inaccurate. In contrast, a calibrated and engineered solution such as SAFIRA® does not require subjective user estimation.

210 APPLICATION OF PERIPHERAL NERVE BLOCK ON A PATIENT WITH MULTIPLE SCLEROSIS

F Özdemir, Ü Yaman, ÜA Türkmen, S Soylu*. *T.C Sbü Gaziosmanpaşa Education and Research Hospital, Istanbul, Turkey*

10.1136/rapm-2021-ESRA.210

Background and Aims Multiple Sclerosis (MS) is an autoimmune disease of the Central Nervous System (CNS) In our case, we present our anesthesia management applied on a MS patient. Our patient was 47 years old, 167 cm tall, 75 kg female and has been diagnosed with MS for 20 years. She had a left ankle fracture and had lower extremity surgery.

Methods After visualizing the sciatic nerve in sub-gluteal region with a linear US probe in lateral decubid position, the neurostimulator was started at 2 Hz frequency at stimulation level of 0.8 mA with 0.1 ms intervals. When motor response was seen, the stimulation level was reduced to 0.4 mA. When motor response disappeared, 20 ml of 0.5% Bupivacaine hydrochloride (100 mg) was administered around the sciatic nerve with an 80 mm block needle. Afterwards, the patient was put in supine position.15 ml of 0.5% Bupivacaine (75 mg) was administered around the femoral nerve. Motor and sensory tests were applied 30 minutes after the procedure. Her vitals remained stable throughout the surgical operation. She was discharged to the orthopedic service.

Results When a nondepolarizing muscle relaxant is used, resistance or sensitivity has been observed as a result of proliferation of extra-connective cholinergic receptors due to upper motor neuron plaques (3). Most of the limited studies, support US-guided peripheral nerve blocks in MS and report that

this method should not be considered as a contraindication (4).

Conclusions PSB can be safely applied without increasing morbidity and avoiding possible complications that may arise from the results of other anesthesia approaches.

Postoperative pain management

211 PAIN MANAGEMENT AFTER COMPLEX SPINE SURGERY: A SYSTEMATIC REVIEW AND PROCEDURE-SPECIFIC POSTOPERATIVE PAIN MANAGEMENT (PROSPECT) RECOMMENDATIONS

[1]P Waelkens*, [2]E Alsabbagh, [3]A Sauter, [4]G Joshi, [2]H Beloeil. *[1]University Hospitals Leuven, Leuven, Belgium; [2]CHU Rennes, Rennes, France; [3]University of Oslo, Oslo, Norway; [4]University of Texas Southwestern Medical Center, Dallas, USA*

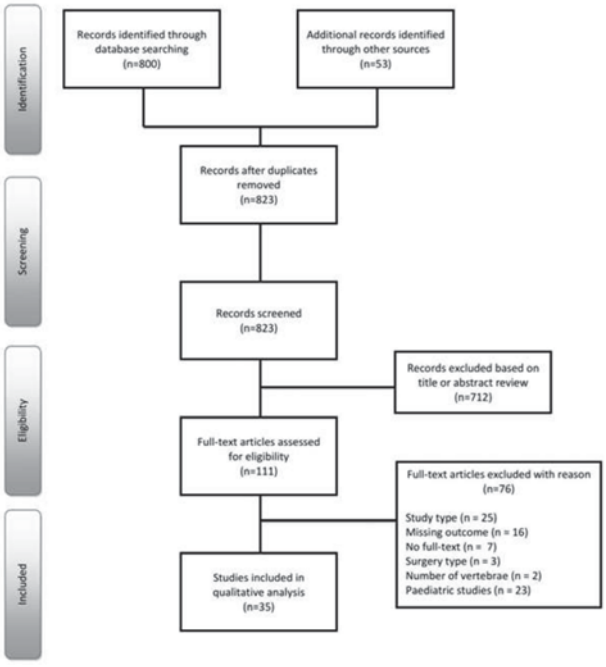
10.1136/rapm-2021-ESRA.211

Background and Aims Complex spinal procedures are associated with intense pain in the postoperative period. Adequate perioperative pain management has been shown to correlate with improved outcomes including early ambulation and discharge. We aimed to evaluate the available literature and develop recommendations for optimal pain management after complex spine surgery.

Methods A systematic review using the PROSPECT methodology was undertaken. RCTs and systematic reviews published in the English language from January 2008 to April 2020 assessing postoperative pain after complex spine surgery using analgesic, anaesthetic or surgical interventions were identified from MEDLINE, EMBASE and Cochrane Databases.

Results Out of 111 eligible studies identified, 31 RCTs and 4 systematic reviews met the inclusion criteria. Preoperative and intraoperative interventions that improved postoperative pain were paracetamol, COX-2 specific-inhibitors or NSAIDs, intravenous ketamine infusion and regional analgesia techniques including epidural analgesia using local anaesthetics with or without opioids. Limited evidence was found for local wound infiltration, intrathecal and epidural opioids, erector spinae plane block, thoracolumbar interfacial plane block, intravenous lidocaine, dexmedetomidine and gabapentin.

Conclusions The analgesic regimen should include preoperative or intraoperative paracetamol and COX-2 specific inhibitors or NSAIDs, continued postoperatively with opioids used as rescue analgesics. Other recommendations are intraoperative ketamine and epidural analgesia using local anaesthetics with or without opioids. Although there is procedure-specific evidence in favour of intraoperative methadone, it is not recommended as it was compared with shorter-acting opioids and due to its limited safety profile. Further qualitative RCTs are required to confirm the efficacy and safety of these recommended analgesics on postoperative pain relief.



Abstract 211 Figure 1

212 IMPACT OF INTRATHECAL DIAMORPHINE IN ENHANCED RECOVERY FOR COLORECTAL SURGERY; OPEN AND LAPAROSCOPIC

J Luyt*, D Wagstaff, WL Yap. *Countess of Chester Hospital, Chester, UK*

10.1136/rapm-2021-ESRA.212

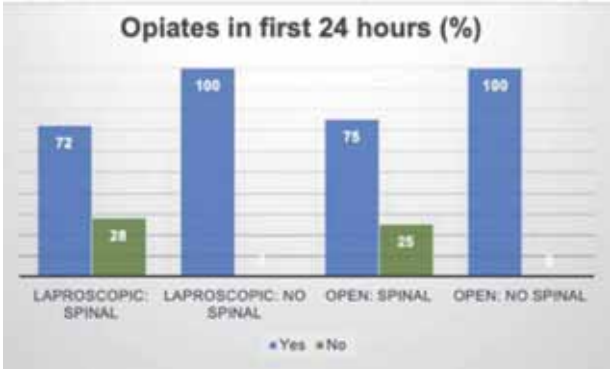
Background and Aims There is currently a paucity of evidence in the utility of intrathecal diamorphine for resectional bowel surgery. We audited our departmental practice for perioperative analgesia in the provisions of anaesthesia services for bowel resections.

We looked at the use of a neuraxial block with intrathecal diamorphine, to determine if it has a positive impact on enhanced recovery. Specifically; post-operative opiate requirements, eating and drinking, and mobilising within 24 hours after surgery.

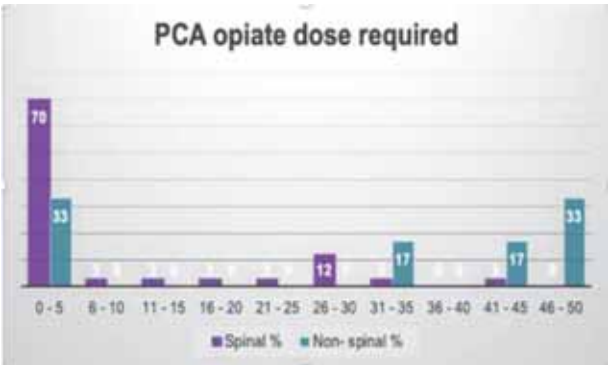
Methods A cohort of randomised patients were selected as per Perioperative Quality Improvement Project (PQIP) data collection protocol from June 2018 to June 2019, 48 patients were eligible. Data was collected from anaesthetic charts, electronic prescribing, and PQIP database. Criteria for data collection included intra- and post-operative analgesia; drinking, eating and mobilising within the first 24 hours of surgery.

Results 77% (n=37) of patients received intrathecal diamorphine perioperatively.

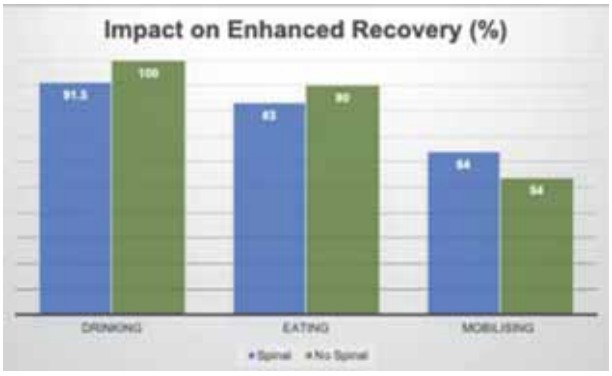
Patient controlled analgesia (PCA) morphine consumption is higher on average, 44 mg: 22 mg, in non-spinal patients.



Abstract 212 Figure 1



Abstract 212 Figure 2



Abstract 212 Figure 3

Conclusions We demonstrated that intrathecal diamorphine reduced post-operative opiate requirements and facilitated earlier mobilisation.

We concluded that the use of intrathecal diamorphine in combination with multimodal analgesia in colorectal surgery is safe and is comparable, if not marginally superior, to PCA in our institution.

We have also shown that despite a wide range of intrathecal diamorphine dosage (0.5–1 mg), there were no post-operative complications which is in keeping with anecdotal experience. Therefore, we feel that intrathecal diamorphine for perioperative analgesia for resectional bowel surgery is a safe and viable technique.

213 PAIN MANAGEMENT AFTER LAMINECTOMY: A SYSTEMATIC REVIEW AND PROCEDURE-SPECIFIC POST-OPERATIVE PAIN MANAGEMENT (PROSPECT) RECOMMENDATIONS

[1]L Peene*, [2]P Le Cacheux, [3,4]AR Sauter, [5]GP Joshi, [2]H Beloeil. [1]*University Hospitals Leuven, Leuven, Belgium*; [2]*CHU Rennes, Rennes, France*; [3]*Oslo University Hospital, Oslo, Norway*; [4]*Inselspital, Bern University Hospital, Bern, Switzerland*; [5]*University of Texas Southwestern Medical Center, Dallas, USA*

10.1136/rapm-2021-ESRA.213

Background and Aims With lumbar laminectomy increasingly being performed on an outpatient basis, optimal pain management is critical to avoid post-operative delay in discharge and readmission. [1, 4] The aim of this review was to evaluate the available literature and develop recommendations for optimal pain management after one- or two-level lumbar laminectomy.

Methods A systematic review utilizing the PROcedure-SPECific Post-operative Pain ManagemenT (PROSPECT) methodology was undertaken [5]. Randomised controlled trials (RCTs) published in the English language from 1 January 2008 until 31 March 2020 – assessing post-operative pain using analgesic, anaesthetic and surgical interventions – were identified from MEDLINE, EMBASE and Cochrane Databases.

Results Out of 65 eligible studies identified, 39 RCTs met the inclusion criteria. The analgesic regimen for lumbar laminectomy should include paracetamol and a non-steroidal anti-inflammatory drug (NSAID) or cyclooxygenase (COX)-2 selective inhibitor administered preoperatively or intraoperatively and continued post-operatively, with post-operative opioids for rescue analgesia. In addition, surgical wound instillation or infiltration with local anaesthetics prior to wound closure is recommended (table 1). Some interventions – gabapentinoids and intrathecal opioid administration – although effective, carry significant risks and consequently were omitted from the recommendations. Other interventions were also not recommended because there was insufficient, inconsistent or lack of evidence (table 2).

Abstract 213 Table 1 Overall recommendations for perioperative pain management in patients undergoing lumbar laminectomy

Preoperative and intraoperative recommendations
Oral or IV paracetamol (Grade D)
Oral or IV NSAIDs/COX-2-specific inhibitors (Grade A)
Surgical wound instillation or infiltration with local anaesthetic (Grade A)
Post-operative recommendations
Oral or IV paracetamol (Grade D)
Oral or IV NSAIDs/COX-2-specific inhibitors (Grade A)
Opioids as rescue medication (Grade D)

COX-2, cyclooxygenase-2; IV, intravenous; NSAIDs, non-steroidal anti-inflammatory drugs

Table 2 Analgesic interventions that are not recommended for pain management in patients undergoing lumbar laminectomy

Intervention	Reason for not recommending
Dexamethasone	Limited procedure-specific evidence
Oral gabapentin/pregabalin	Significant risk for adverse effects
Intrathecal opioids	Significant risk for adverse effects
Epidural analgesia	Limited procedure-specific evidence and risk for adverse effects
Paravertebral block	Limited procedure-specific evidence
Surgical perineural infiltration	Limited procedure-specific evidence
Surgical wound local infiltration	Limited procedure-specific evidence
Corticosteroids	Limited procedure-specific evidence
Intravenous magnesium	Lack of procedure-specific evidence
Transdermal fentanyl	Limited procedure-specific evidence and risk for adverse effects

Abstract 213 Table 2 Analgesic interventions that are not recommended for pain management in patients undergoing lumbar laminectomy

Preoperative and intraoperative recommendations
Oral or IV paracetamol (Grade D)
Oral or IV NSAIDs/COX-2-specific inhibitors (Grade A)
Surgical wound instillation or infiltration with local anaesthetic (Grade A)
Post-operative recommendations
Oral or IV paracetamol (Grade D)
Oral or IV NSAIDs/COX-2-specific inhibitors (Grade A)
Opioids as rescue medication (Grade D)

COX-2, cyclooxygenase-2; IV, intravenous; NSAIDs, non-steroidal anti-inflammatory drugs

Table 2 Analgesic interventions that are not recommended for pain management in patients undergoing lumbar laminectomy

Intervention	Reason for not recommending
Dexamethasone	Limited procedure-specific evidence
Oral gabapentin/pregabalin	Significant risk for adverse effects
Intrathecal opioids	Significant risk for adverse effects
Epidural analgesia	Limited procedure-specific evidence and risk for adverse effects
Paravertebral block	Limited procedure-specific evidence
Surgical perineural infiltration	Limited procedure-specific evidence
Surgical wound local infiltration	Limited procedure-specific evidence
Corticosteroids	Limited procedure-specific evidence
Intravenous magnesium	Lack of procedure-specific evidence
Transdermal fentanyl	Limited procedure-specific evidence and risk for adverse effects

Conclusions Perioperative pain management for lumbar laminectomy should include paracetamol and NSAID- or COX-2-specific inhibitor, continued into the post-operative period, as well as intraoperative surgical wound instillation or infiltration. Opioids should be used as rescue medication post-operatively. Future studies are necessary to evaluate the efficacy of our recommendations.

214 VIRTUAL REALITY HYPNOSIS ON COLD PAIN PERCEPTION IN HEALTHY VOLUNTEERS

[1]C Terzulli*, [2]C Chauvin, [3]C Champagnol Di-Liberti, [3]S Faisan, [4]A Dufour, [1]M Melchior, [3]L Goffin, [5]D Graff, [3]E Laroche, [6]E Salvat, [1]P Poisbeau. *[1]Institut des Neurosciences Cellulaires et Intégratives, Strasbourg, France; [2]Hôpital de Hautepierre, Strabourg, France; [3]ICUBE, Strasbourg, France; [4]Centre d'Investigation Neurocognitives et Neurophysiologiques, Strasbourg, France; [5]Clinique Rhéna, Strasbourg, France; [6]CETD; Hôpital de Hautepierre, Strabourg, France*

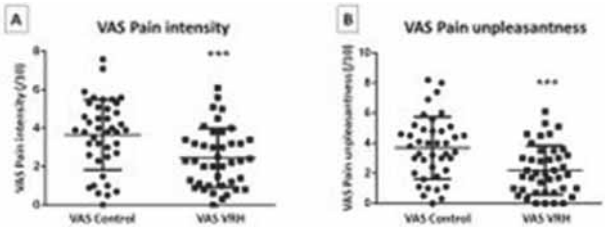
10.1136/rapm-2021-ESRA.214

Background and Aims Over 200 millions of surgeries are performed each year, these may lead to postoperative pain mainly managed with opioid prescription [1]. It is recommended to decrease the use of opioids by adding at least one non-pharmacological pain management modality in the treatment [2]. Virtual Reality and hypnosis are examples of such.

The aim of this study was to measure the pain intensity and unpleasantness perception at rest and during virtual reality hypnosis (VRH) in healthy volunteers.

Abstract 214 Table 1 Demographic data of the 41 healthy volunteers included

	Sex (Male, %)	Age (years)	Education (years)	Stanford score (/12)	STAI Trait (/80)	STAI State CTRL (/80)	STAI State VRH (/80)
Tot / moy	53	41,28	4,80	5,97	36,85	28,17	22,43
SD		13,43	2,09	3,01	8,61	6,58	4,64



Abstract 214 Figure 2



Abstract 214 Figure 1

Methods With Ethics Committee agreement (CPP-ILE-DE-FRANCE III, approval date 04/02/2020), healthy volunteers were prospectively included to receive nociceptive cold stimulations at rest, without VRH (Control condition) and during VRH with HypnoVR*software (Oculus Rift® headset, Oculus VR) (VRH condition). Three intensities (Visual Analog Scale (VAS) = 0/10, 2/10, 4/10) of cold stimulations were applied 3 times each (stimulation duration: 20 seconds, separated by 1 minute) on participant's wrist with a thermode. Intensities were chosen beforehand by applying various cold intensities that subjects scored on a VAS. Maximal pain intensity and unpleasantness perception were collected after the end of each condition and then compared.

Results A total of 41 healthy volunteers were analyzed (demographic data: table 1). There is a significant decrease in pain average intensity and unpleasantness perception in VRH compared to control group (2,46±1,59 vs 3,66±1,84; p<.0001 and 3,06±2,06 vs 2,21±1,70; p<0,0001 respectively) (figure 1).

Conclusions VRH (HypnoVR*) managed to decrease cold pain intensity (-33%) and unpleasantness (-40%) perception in healthy volunteers. These results need to be confirmed in clinical setting.

215 OPIOID CONSUMPTION AND NEUROPATHIC PAIN IN ADJUVANT ANAESTHESIA WITH DEXMEDETOMIDINE AND LIDOCAINE

[1]L Andjelković Juvan, [1]A Hostnik*, [2,3]I Potočnik. *[1]University Medical Center Ljubljana, Ljubljana, Slovenia; [2]Institute of Oncology, Ljubljana, Ljubljana, Slovenia; [3]Medical Faculty, University of Ljubljana, Ljubljana, Slovenia*

10.1136/rapm-2021-ESRA.215

Background and Aims Combination of opioid analgesics and analgesics with other mechanisms of action has synergistic analgesic effect and therefore the consumption of opioid analgesics could be decreased. It is known that dexmedetomidine and lidocaine both have opioid sparing effects, but the influence of dexmedetomidine in laparoscopic intestine resections has not been observed yet. In this study we investigated reduction in opioid consumption in patients receiving additional lidocaine or dexmedetomidine.

Methods Within the study we observed: (i) fentanyl consumption, (ii) consumption of piritramide on the first and the second postoperative day, and (iii) cognitive function before and after the operation and neuropathic pain two months after the operation. 59 participants were randomly allocated into three groups. The anaesthesia type in the control group (CG) was continuous propofol infusion and fentanyl boluses. Continuous intravenous infusion of dexmedetomidine (0.5 µg/kg/h) and lidocaine (1.5 mg/kg/h) was added to dexmedetomidine (DG) and lidocaine group (LG), respectively.

Results There was no reduction in fentanyl consumption among the groups. We noted significantly lower consumption of piritramide in LG compared with CG on the first postoperative day (p=0.019), and in LG compared with DG on the second postoperative day (p=0.003). There were no differences in changes in cognitive function before and after the surgery and appearance of neuropathic pain two months after the surgery.

Conclusions Lidocaine and dexmedetomidine reduced intraoperative propofol consumption but failed to decrease fentanyl demand. Lidocaine reduced piritramide consumption postoperatively.

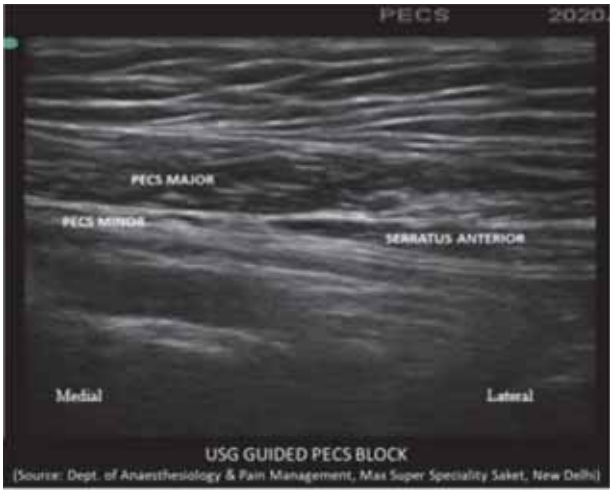
216 COMPARING THE EFFICACY AND SAFETY OF USG GUIDED MODIFIED PECTORAL BLOCK VS. ERECTOR SPINAE BLOCK FOR POSTOPERATIVE PAIN MANAGEMENT IN PATIENTS UNDERGOING MODIFIED RADICAL MASTECTOMY

[1]A Abraham*, [2]P Mehta. *[1]Max Super Speciality Hospital, Delhi, India; [2]Max Super Speciality Hospital, New Delhi, India*

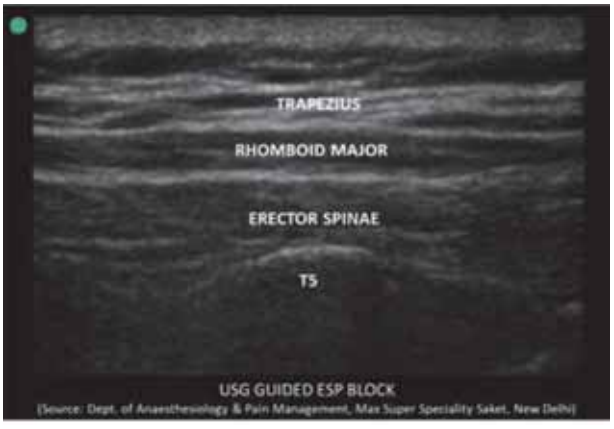
10.1136/rapm-2021-ESRA.216

Background and Aims Breast cancer accounts for 25–32% of all female cancers in India[1]. Modified radical mastectomy (MRM), a common surgical procedure, comprises 31% of all breast surgeries performed[2]. A postoperative plan incorporating regional nerve blocks provide efficient analgesia, early mobilization, recovery, and prevention of chronic pain[3].

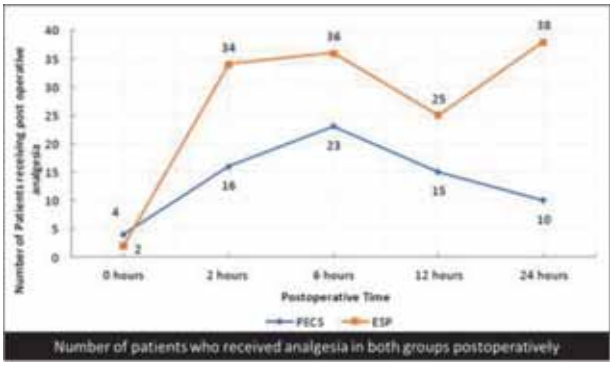
This study aims to compare the efficacy and safety of modified pectoral nerve (PECS) block and Erector Spinae Plane (ESP) block for pain management in patients undergoing MRM.



Abstract 216 Figure 1



Abstract 216 Figure 2



Abstract 216 Figure 3

Methods This study was registered with the Clinical Trials Registry of India (CTRI/2019/06/019656) following approval from Max Healthcare Ethics Committee.

80 adult female patients (ASA grades I&II) undergoing modified radical mastectomy were randomly allocated into two groups to receive PECS block and ESP block with 30 ml of 0.375% Levobupivacaine, after induction of anaesthesia. Fentanyl was administered for postoperative pain relief via PCA pump.

Outcomes such as Numerical Rating Scale (NRS) scores to assess pain, time to first rescue analgesia, intraoperative and postoperative fentanyl requirement, incidence of PONV, patient satisfaction etc. were statistically analysed.

Results Patients given modified PECS block experienced significantly better quality of analgesia and perceived the block to be more satisfactory with respect to pain relief and ability to sleep ($p < 0.001$). With PECS block, patients showed significantly lower mean NRS scores at 24-hours postoperatively (1.18 ± 1.13 vs 2.65 ± 0.98)($p<0.001$) and total fentanyl consumed was considerably lesser (61.25 ± 41.58 mcg vs 183.75 ± 51.13 mcg)($p<0.001$).

Conclusions We found that modified PECS block provided superior postoperative analgesia than ESP block in patients undergoing MRM without any adverse effects.

217 EFFECTIVENESS OF TRANSVERSUS ABDOMINIS PLANE (TAP) BLOCKS IN AMBULATORY LAPAROSCOPIC AND ROBOTIC NEPHRECTOMIES

E Lin*, J Serafin, A Vickers, B Simon, R Twersky. *Memorial Sloan Kettering Cancer Center, Josie Robertson Surgery Center, New York, USA*

10.1136/rapm-2021-ESRA.217

Background and Aims Ultrasound-guided (USG) Transversus Abdominis Plane (TAP) blocks are fascial plane blocks widely used because of their technical ease and analgesic implications in abdominal surgery.[1] However, only a few small-scale TAP studies in laparoscopic nephrectomies for tumor removal exist, none in an outpatient setting.[2] We assessed the impact of TAP on pain, PONV and other clinical outcomes when included in an ERAS pathway for extended ambulatory nephrectomies.

Methods We performed a retrospective chart review of 209 ambulatory surgery patients who underwent partial laparoscopic and robotic nephrectomies using an ERAS protocol from 09/2016–12/2019. Preoperative TAP blocks were performed bilaterally with 20 ml of 0.25% bupivacaine or ropivacaine, 50 mcg clonidine and 2 mg dexamethasone. We assessed the association between preoperative administration USG TAP (51%) vs. no block (49%) on postoperative outcomes: intraoperative fentanyl, postoperative opioid consumption using morphine milligram equivalent units (MME), PONV rate and hours to first ambulation.

Abstract 217 Table 1 Patient demographics and surgical details by block receipt

Characteristic	No TAP, N = 102[1]	TAP, N = 107[1]	p-value[2]
Age	58 (49, 67)	61 (52, 68)	0.3
Female	43 (42%)	35 (33%)	0.2
ASA Score			0.5
≥3	45 (44%)	53 (50%)	
BMI	28.2 (25.0, 31.8)	28.8 (26.1, 33.6)	0.3
Apfel Score			0.3
0-2	59 (58%)	72 (67%)	
3	34 (33%)	30 (28%)	
4	9 (8.8%)	5 (4.7%)	
Surgery type			0.5
Nephrectomy Partial Lap	33 (32%)	40 (37%)	
Nephrectomy Partial w Robot	69 (68%)	67 (63%)	
Operative Time (mins)	146 (117, 180)	152 (116, 198)	0.3
Surgeon-administered local anesthetic			0.007
Bupivacaine	56 (55%)	48 (45%)	
Exparel	8 (7.8%)	1 (0.9%)	
Exparel, Bupivacaine	2 (2.0%)	1 (0.9%)	
None	36 (35%)	57 (53%)	
Intraoperative MME	47 (38, 57)	40 (30, 50)	0.061
Intraoperative use of acetaminophen	96 (94%)	97 (91%)	0.5
Hours to First Ambulation	5.7 (4.2, 8.2)	5.4 (4.6, 7.7)	0.8
Unknown	44	22	

[1] Statistics presented: median (IQR); n (%)
[2] Statistical tests performed: Wilcoxon rank-sum test; chi-square test of independence; Fisher's exact test
MME=morphine milligram equivalent

Results Our results demonstrated a trend toward decreased intraoperative MME requirements in the TAP group vs no TAP ($p=0.061$). Patients receiving a TAP also required less postoperative narcotic ($p=0.043$). After adjusting for Apfel Score, age and operative time, the need for PONV rescue medication although not significant trended 8.6% higher in those without a TAP (95% CI -2.7%, 19%; $p=0.11$).

Conclusions We found evidence that US guided bilateral TAP blocks are associated with a reduced need for postoperative narcotics in ambulatory laparoscopic and robotic nephrectomies with a trend toward decreased intraoperative MME requirements. ERAS pathways should consider including TAP blocks, even for these minimally invasive surgeries.

218 LET'S TALK ABOUT RECTUS SHEATH CATHETERS. A RETROSPECTIVE AUDIT OF ANALGESIC TECHNIQUES USED IN EMERGENCY LAPAROTOMY

JE Bordoni*, S Siew, C Buffery, M Goulden. *Liverpool University Hospitals NHS Foundation Trust, Liverpool, UK*

10.1136/rapm-2021-ESRA.218

Background and Aims Pain following emergency laparotomy can be difficult to manage and there is little evidence to guide best practice. We assessed current practice by reviewing analgesic modalities used within our department, including rectus sheath catheters (RSC).

Methods This audit was authorized by local committee as not requiring ethical approval. Data collection was retrospective including all patients undergoing emergency laparotomy,

Abstract 218 Table 1

Age	≥ 18 years
Indication	expedited, emergency or urgent laparotomy (NCEPOD definitions). Primary procedure only
Cognition	Able to consent , Able to use PCA
Pregnancy	Not Pregnant
Renal	eGFR >30
Hepatic	PT <[illegible] INR<2.3, Bilirubin <3mg/dL or 50μmol/L

Abstract 218 Table 2

n=[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Demographics		
Age Median (years)	72.5 (IQR: 58.0-76.8)	63 (IQR: 52.5-69)
Sex Male (n)	[illegible]	[illegible]
Sex Female (n)	[illegible]	[illegible]
ASA average	[illegible]	[illegible]
Outcomes		
Opiate consumption at 72h (i.v. MorphE Equiv) (mg)	93.5 (S.D. 76.3)	125.4 (S.D. 105.7)
Intraoperative analgesia given		
Paracetamol (n)	[illegible]	[illegible]
Ketamine (n)	[illegible]	[illegible]
MgSO4 (n)	[illegible]	[illegible]
Post-opiate PCA average		
1 hours	[illegible]	[illegible]
24 Hours	[illegible]	[illegible]
72 Hours	[illegible]	[illegible]

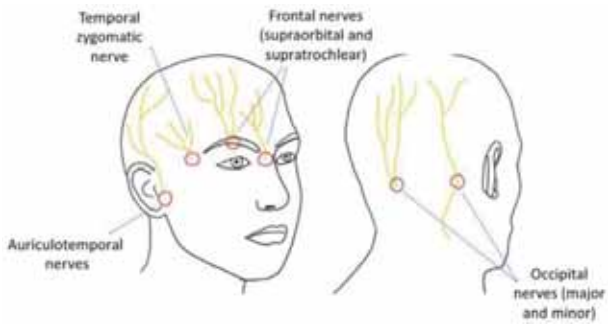
meeting local inclusion criteria for RSC at the Royal Liverpool University Hospital (table 1), September 2019 – March 2020.
Results 61 patients were included. 31 (50.8%) patients had RSC with 0.2% ropivicaine infusions running at an average 7.97 mls/h (S.D. 1.45) for a median 3 days. Median age was higher in RSC vs no RSC (72.5 vs 63 years). Patients with no RSC received alternative analgesic techniques including; spinal anaesthesia (1), transverse abdominis plane blocks (13) and IV lidocaine infusion (4). Despite this we noted a lower opioid requirement 72h post-operatively in RSC patients vs no RSC (mean 93.5 mg (S.D. 76.3) vs 125.4 mg (S.D. 105.7)), with lower average pain scores noted at 1, 24 and 72 hours in the RSC group (table 2). Ketamine use was more frequent in the no RCS group (20% vs 6.5%). 59 (96.7%) received an opioid PCA post-operatively.
Conclusions Lower opioid requirements associated with RSC is consistent with other studies including a 2019 Cochrane review. The infrequent use of spinal techniques (1.6%) may reflect concerns regarding safety in the emergency setting. Our results support available evidence, and suggest RSCs should be considered in emergency laparotomy

219 THE CHALLENGE OF OPIOID-FREE ANESTHESIA IN NEUROSURGERY: AN OBSERVATIONAL STUDY

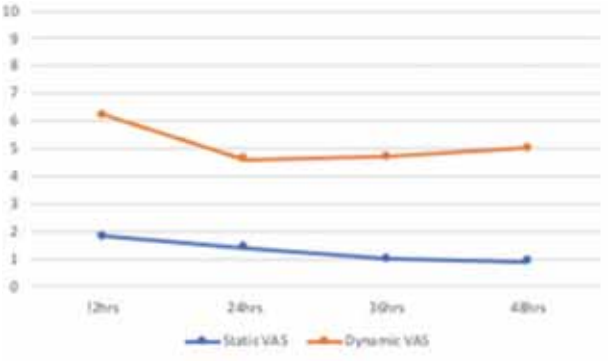
R López Herrero*, B Sánchez Quirós, D Velasco Villanueva. *Hospital Clínico Universitario, Valladolid, Spain*

10.1136/rapm-2021-ESRA.219

Background and Aims The use of opioids in the management of acute perioperative pain is very effective, but their use entails a series of adverse effects. Using OFA we avoid adverse effects. There are different studies (1) that indicate that the intra and postoperative use of opioids in patients with a tumor process could contribute to tumor progression.
Methods A retrospective observational study of patients over 18 years of age who were scheduled for elective craniectomy for a period of six months. This study was approved by the



Abstract 219 Figure 1



Abstract 219 Figure 2

local Ethics Committee (IP 20-1802). Anesthesia was induced with propofol, midazolam, and rocuronium. Maintenance was established with propofol. We make a scalp block (frontal, auriculotemporal, zygomaticotemporal, occipital nerves) with 0,3% ropivacaine and 1% lidocaine, using 2,5 ml for each of the nerves. VAS values were recorded at the end of the intervention after waking up the patient and morphine doses required during the first 24 postoperative hours.
Results 46 patients were recruited, 58,7% men and 41,3% women, mean age 58,65%. 76% of the patients underwent supratentorial craniectomy and 24% underwent infratentorial craniectomy. VAS 0 after extubation in 100% of patients. 75% of the patients didn´t require postoperative morphine. 26% required postoperative morphine (mean dose of 4,1 mg in 24 hours). No patient presented complications secondary to the block.
Conclusions Although our study has limitations, there were no complications after the scalp block. We can conclude that due to the low rate of complications and the low postoperative consumption of opioids, we can use scalp block for neurosurgical.

220 COMPARISON OF PATIENT CONTROLLED VERSUS CONTINUOUS EPIDURAL ANALGESIA IN ADULT SURGICAL PATIENTS: A SYSTEMATIC REVIEW

[1]G van Samkar*, [2]YR Tan, [1]H Hermanns, [1]B Preckel, [3]F van Etten, [1]M Hollmann, [1]M Stevens. *[1]Amsterdam UMC, Location AMC, University of Amsterdam, Dept. of Anesthesiology, Amsterdam, Netherlands; [2]Singapore General Hospital, Dept of Anesthesiology, Singapore, Singapore; [3]Amsterdam UMC, Location AMC, University of Amsterdam, Medical Library AMC, Amsterdam, Netherlands*

10.1136/rapm-2021-ESRA.220

Background and Aims Advantages of PCEA over CEA have been demonstrated in obstetric patients. Whether similar benefit applies to surgical patients is unclear.

Aim: To assess possible advantages of patient controlled epidural analgesia (PCEA) over continuous epidural analgesia (CEA) in surgical patients

Methods Embase, PubMed and Cochrane library were searched, enabling systematic review of studies comparing PCEA and CEA in adult surgical patients (PROSPERO: CRD42018106644). Study quality was assessed using Cochrane Risk-of-Bias tool (RoB2). Primary outcome: pain score on postoperative day one (POD1). Secondary outcomes: 24 or 48 hour epidural or intravenous total analgesic dose, manual top-ups and patient satisfaction

Results Eleven trials (ten RCTs, one cohort-analysis, 1687 patients) with high heterogeneity of study characteristics were identified with a high to intermediate risk of bias. Three studies showed reduced pain scores on POD1 in PCEA compared to CEA patients (36–42%, $P<0.05$). Seven studies found comparable pain scores between groups, one study a higher pain score in PCEA patients. PCEA-use reduced epidural medication (28% to 76% reduction, $P<0.01$) in seven studies. Two studies found lower top-up frequency and higher analgesic satisfaction in PCEA; PCEA patients used less intravenous morphine (0.16 vs 3.45 mg per patient, $P<0.05$) in one study.

Conclusions Regarding pain scores, rescue systemic analgesics and patient satisfaction, PCEA in surgical patients had limited advantages over CEA. PCEA reduced the amount of epidural medication and top-up frequency. On the basis of current available evidence, we cannot conclude that PCEA offers major benefits over CEA in surgical patients.

221 IMPACT OF THE ERECTOR SPINAE PLANE BLOCK ON THE POSTOPERATIVE PAIN OF LUMBAR SPINAL STENOSIS SURGERY. A SINGLE BLIND RCT- A 70% PATIENT'S INTERIM ANALYSIS

[1]S Van Migem*, [1]N Parisi, [1]L Van Der Essen, [1]V Marneffe, [2]H-M Dehbi, [1]G Samouri. [1]*Clinique Saint-Pierre Ottignies, Ottignies-Louvain-la-Neuve, Belgium*; [2]*UCL, London, UK*

10.1136/rapm-2021-ESRA.221

Background and Aims The erector spinae plane (ESP) block was described in 2016 by Forero et al. It involves the injection of local anesthetic into the interfascial plane, deep to erector spinae muscle, allowing the blockade of the dorsal and ventral rami of the thoracic spinal nerves. It was initially proposed for analgesia of costal fractures, pulmonary lobectomy and thoracic vertebrae. The ESP block (ESPB) could probably be extended to a large number of surgical procedures.

Methods After ethical commitee approval and informed consent, 80 patients were included in this prospective, single blind, monocentric RCT for lombar spinal stenosis surgery (LSSS) under general anesthesia: 40 patients with ESPB, 40 patients with local infiltration (LI) by the surgeon. The current interim reporting is based on 28 patients in ESPB and 28 in LI. Piritramide consumption was followed. The ESPB was realized on T12 and ultrasound-guided (chirocaine 0.25%+ epinephrine 1:200.000 4 mg/kg). The control group was injected at the same concentration by the surgeon. Complementary analgesia was realized with Patient Controlled Analgesia (Piritramide), paracetamol and ketorolac.

Results After performing a T-test to compare the means of piritramide consumption at day 1, we did not find any significant difference between the 2 groups (ESPB 12.9 mg versus LI 14.7 mg, $p=0.55$). A Mann-Withney U-test was also performed and did not show any difference.

Conclusions After collecting data from 70% of the population, we cannot conclude that there is a benefit of ESPB over LI by the surgeon.

222 THE USE OF REGIONAL ANAESTHESIA AND IDENTIFYING COMPARTMENT SYNDROME: A CASE REPORT

C Hopkins*, C Broe, B Bellew. *Imperial College Healthcare NHS Trust, London, UK*

10.1136/rapm-2021-ESRA.222

Background and Aims Acute compartment syndrome is a surgical emergency, and must be identified promptly in order to limit potential complications. The use of regional anaesthesia remains controversial for patients who are at higher risk of developing compartment syndrome due to concerns that the cardinal symptoms may be masked, and diagnosis subsequently delayed. This is a case report of a clinical situation which opposes this theory.

Methods A 31 year old male presented to a major trauma centre following a road traffic accident. Radiological imaging showed he had sustained multiple injuries, including a closed right tibia and fibula fracture and an extensive left calf laceration which required operative management. A lumbar epidural was inserted for intra-operative and postoperative analgesia, prior to the patient undergoing IM nail fixation of the right tibial fracture and exploration of the left leg laceration under general anaesthesia.

Results The lumbar epidural provided good analgesia which was maintained with a continuous infusion of 0.125% levobupivacaine and 2mcg/ml fentanyl. Fourteen hours postoperatively, this patient developed severe right lower limb pain. Intra-compartmental pressures were measured at this stage, where it was noted that anterior compartment pressures were abnormal and the patient underwent urgent fasciotomy under general anaesthesia. Operative findings at this time were consistent with a diagnosis of compartment syndrome, with maintained viable muscle tissue present on examination.

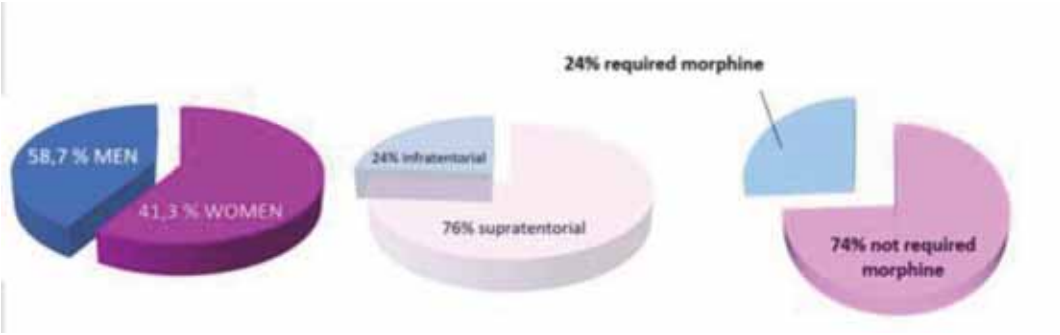
Conclusions This case demonstrates support for alternative theories that regional anaesthetic techniques using low concentrations may provide effective analgesia without the risk of masking the presentation of acute compartment syndrome.

223 POST OPERATIVE PAIN MANAGEMENT FOR HIP FRACTURE SURGERY, A NEW PROTOCOL EVALUATION

[1,2]H Ahmed*, [3]G Deloughry, [3]K Joyce, [3]B O'Donnell, [3]F Loughnane. [1]*Faculty of Medicine, Cairo University, Cairo, Egypt*; [2]*Leeds Teaching Hospitals, Leeds, UK*; [3]*Cork University Hospital, Cork, Ireland*

10.1136/rapm-2021-ESRA.223

Background and Aims Hip fracture surgeries represent a significant burden on the healthcare system. Delirium could affect up to 61% of patients with hip fracture, and is associated with delayed recovery, higher morbidity and poor cognitive function.(1)



Abstract 223 Figure 1 Average pain scores

We hypothesize that adequate post-operative pain management using continuous supra-inguinal fascia illiaca catheter (SIFC) will reduce incidence of dementia in hip fracture patients.

Methods We evaluated a new protocol for post-operative pain management in hip fracture surgeries in a tertiary referral, Level 1 equivalent trauma centre. Upon theatre arrival, peri-capsular injection 10 ml lignocaine 2% followed by threading of supra-inguinal fascia illiaca catheter (SIFC) under ultrasound guidance. Continuous bupivacaine 0.2% infusion was started postoperatively at rate of 5 ml/hr for 48 hrs.

Pain was assessed 10 min after peri-capsular injection during positioning for spinal anaesthesia (lateral position) on a scale 0–10. and every 12 hrs postoperatively for 48 hrs. Delirium was assessed upon theatre admission and every 12 hrs for 48 hrs using CAM ICU.

Results Twenty patients who had hip fracture surgery were successfully followed up, two patients were excluded because catheter was slipped in the first 24 hours.The incidence of new onset delirium was found to be 10% (2/20), there was 58% reduction in the incidence of delirium among traumatic hip fracture patients when compared to the literature (24%).[1,2] The Morphine Milligrams Equivalent (MME) in the first 24 hrs are 34±27, while in the second 24 hrs 32 ±25.

Conclusions Implementation of supra-inguinal fascia illiaca continuous block could reduce incidence of delirium in hip fracture population by up to 58%.

224 SAFETY AND EFFICACY OF SUFENTANIL SUBLINGUAL TABLET SYSTEM (SSTS) FOR POSTOPERATIVE PAIN (POP) RELIEF AFTER OFF-PUMP CORONARY ARTERY BYPASS SURGERY (OPCABG)

A Laudani*, R Gammaldi. *AOU San Giovanni di Dio e Ruggi d'Aragona, Salerno, Italy*

10.1136/rapm-2021-ESRA.224

Background and Aims POP in cardiac surgery is often overlooked, being moderate to severe in up to 75% of patients. Moreover, 35% of patients report persistent thoracic pain one year post surgery. SSTS is a handheld PCA device that delivers a fixed dose of 15 mcg sufentanil tablets on a PRN basis. We evaluated clinical application of SSTS for POP relief after OPCABG, assessing effectiveness, safety, and patient satisfaction.

Methods Observational case series on 20 patients who underwent OPCABG. POP was managed by the exclusive use of SSTS. Prior to the end of surgery, paracetamol 1 g, sufentanil 0.15–0.2 mcg/kg, ondansetron 4 mg were administered. Efficacy was assessed by patient reports of pain intensity on numerical rating scale (NRS). Safety assessments included vital signs. Patient satisfaction was assessed via the Patient Global Assessment (PGA) of method of pain control, with 'success' defined as the proportion of patients responding 'good' or 'excellent'.

Results Average patient age was 61 years, BMI was 26.6. Mean number of doses was 20 (range 8–52) over 72 hours, with inter-dosing intervals of 159 minutes. Median NRS was 1 (range 0–4) at rest, and 2 (range 0–6) during movement. No desaturation (SpO2 < 92%) was found. PGA scores showed a success rate of 91%. Neither harvesting nor cannulation of the radial artery of the dominant limb limited the use of SSTS.



Abstract 224 Figure 1

Conclusions SSTS has proved an effective and safe device for POP relief after OPCABG. To the best of our knowledge, this is the first report of SSTS use in OPCABG patients.

225 CONTINUOUS ULTRASOUND-GUIDED RECTUS-SHEATH BLOCK FOR MIDLINE LAPAROTOMY: AN EFFECTIVE POSTOPERATIVE PAIN MANAGEMENT TECHNIQUE – CASE SERIES

C Pinto, F Matias*. *Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal*

10.1136/rapm-2021-ESRA.225

Background and Aims Epidural analgesia, though the gold standard of post-operative pain management for laparotomies, is associated with limitations and is contraindicated in many patients. Continuous rectus sheath (RS) block can provide alternative analgesia after midline laparotomy.
Methods We report 5 cases in which continuous local anesthetic infusion through ultrasound-guided (USG) RS catheters showed effective postoperative pain management for midline laparotomy.The multimodal approach for postoperative analgesia for all 5 patients was: paracetamol 1g 8/8h, ketorolac 30 mg 12/12h or metamizole 2g 8/8h and ropivacaine 0,2% through DIB system (5,2 ml/h) through a bilateral percutaneous USG RS catheter during 72h. Tramadol 100 mg as rescue analgesia.
Results Patient´s pain intensity assessed by numerical rating scale during first 72h and the number of times necessary to administer rescue analgesia was also recorded (see table 1).
Conclusions With this case series, the authors showed that bilateral percutaneous USG RS catheter as part of a multimodal analgesia regime seems to provided effective post-operative analgesia for midline laparotomy with minimal or no opioid needs.



Abstract 225 Figure 1

Abstract 225 Table 1

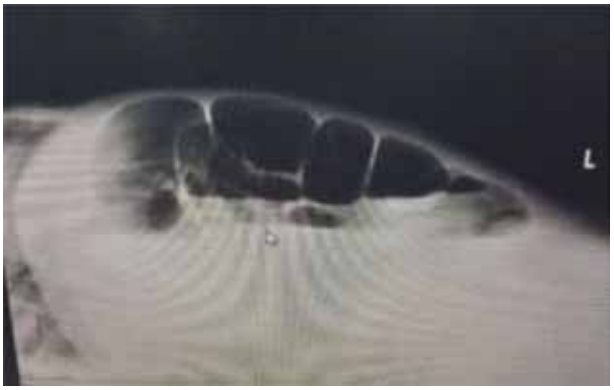
Pain Scores (0-10)	Case 1	Case 2	Case 3	Case 4	Case 5
Worst pain	4	5	3	3	4
Medium pain	1	1	1	1	1
Rescue analgesia					
Administration times	0	1	0	0	2

226 USG GUIDED TAP BLOCK FOR POST OPERATIVE ANALGESIA IN CHILDREN WITH COVID INFECTION UNDERGOING LAPAROTOMY

A Praniarda*. *Brawijaya University, Malang, Indonesia*

10.1136/rapm-2021-ESRA.226

Background and Aims The COVID-19 infection that broke out in the past year had a major impact on pediatric surgery. The urgency of surgical management and asymptomatic symptom in pediatric patients to the risk of multiorgan inflammatory syndrome makes anesthesiologists consider safe and optimal anesthetic techniques.
Methods 9-year-old with 18 kg bodyweight was complained of abdominal pain, diagnose with peritonitis and planned for laparotomy. Patients underwent with general anesthesia intubation. Drugs for induction include fentanyl 40mcg, ketamine 20 mg, and atracurium 10 mg intravenously. Hemodynamics during surgery was stable and after surgery, the patient performed TAP block of Ropivacaine 0.2% and Clonidine 30mcg with total volume 5 ml each side for post operative analgesia.
Results Patient was operated in COVID-19 operating room which intubation use aerosol box to prevent aerosol contacted



Abstract 226 Figure 1



Abstract 226 Figure 2

to operating room personnel. Maintenance with isoflurane and after surgery risk of pain score of 5–7 so the patient performed Transversus Abdominis Block of 0.2% ropivacaine and Clonidine 30mcg with 5 ml for each side. Transversus abdominis plane block is a regional technique, ultrasound guidance has increased the safety and efficacy of blocks. Ultrasonography allows real-time visualization of anatomical structures, guides the blocking procedure, and shows the spread of the local anaesthetic solution. A more rapid onset of block using less local anaesthetic solution is particularly attractive for paediatrics where most blocks are sited in anaesthetized patients.

Conclusions Intraoperative management including induction, intubation, and extubation should be considered to reduce viral exposure. Postoperative management includes optimal hemodynamic and adequate analgesic monitoring. Regional techniques provide excellent postoperative analgesia in pediatric.

227 REGIONAL METHODS OF PAIN RELIEF IN CHILDREN WITH CEREBRAL PALSY IN HIP SURGERIES

[1]V Evreinov*, [2]T Zhirova. *[1]Federal State Budgetary Institution 'National Ilizarov Medical Research Centre for Traumatology and Ortopaedics' Ministry Healthcare, Kurgan, Russian Federation; [2]State-funded Healthcare Institution of Sverdlovsk region 'Center for specialized types of medical care 'Ural Institute of Traumatology and orthopedics named after V. D. Chaklin, Yekaterinburg, Russian Federation*

10.1136/rapm-2021-ESRA.227

Background and Aims Prolonged epidural analgesia (PEA) is effective in surgeries done for spastic hip dislocation in children with cerebral palsy and severe forms of motor dysfunction: IV-V levels according to Gross Motor Function Classification System (GMFSC). Sometimes PEA becomes impossible due to anatomic peculiarities and contraindications. The purpose of this study is to compare different methods of regional analgesia and sedation in children with cerebral palsy for hip surgeries combined with muscle-tendon plasty.

Methods One hundred and one children were included into prospective randomized study, which was approved by local Ethics Committee. Patients received general anesthesia supplemented: PEA and analgo-sedation with fentanyl (group EAA, 32 patients); PEA and sedation with benzodiazepines (group EABS, 37 patients); prolonged femoral nerve block with single ischial nerve blockade (group PCABS, 32 patients). Intensity of pain according to r-FLACC scale, degree of agitation and sedation according to RASS scale, depth of sedation according to Ramsay were evaluated after waking-up, in 6 hours after surgery and on 1 POD. We calculated prescription of NSAIDs and opioids. ANOVA, χ^2 were used.

Results Paracetamol was prescribed to 15 patients (47%) in group EAA, 32 (86.5%) in group EABS, 31 (97%) in group PCABS ($p<0.001$). Patients EABS and PCABS did not need opioids. There were no differences between groups according to scales r-FLACC, RASS and Ramsay ($p>0.05$).

Conclusions PEA, prolonged femoral nerve analgesia together with single ischial nerve blockade in combination with NSAIDs are equally effective in hip surgeries in children with cerebral palsy. Sedation with benzodiazepines decreases the need for narcotic analgesics.



Abstract 227 Figure 1

228 OPIOID SPARING ANAESTHESIA AND ANALGESIA TECHNIQUES; A QUALITY IMPROVEMENT PROJECT

D Liotiri*, N Attaway, S Soobhug, W Caddye. *Brighton and Sussex University Hospitals NHS Trust, Brighton, UK*

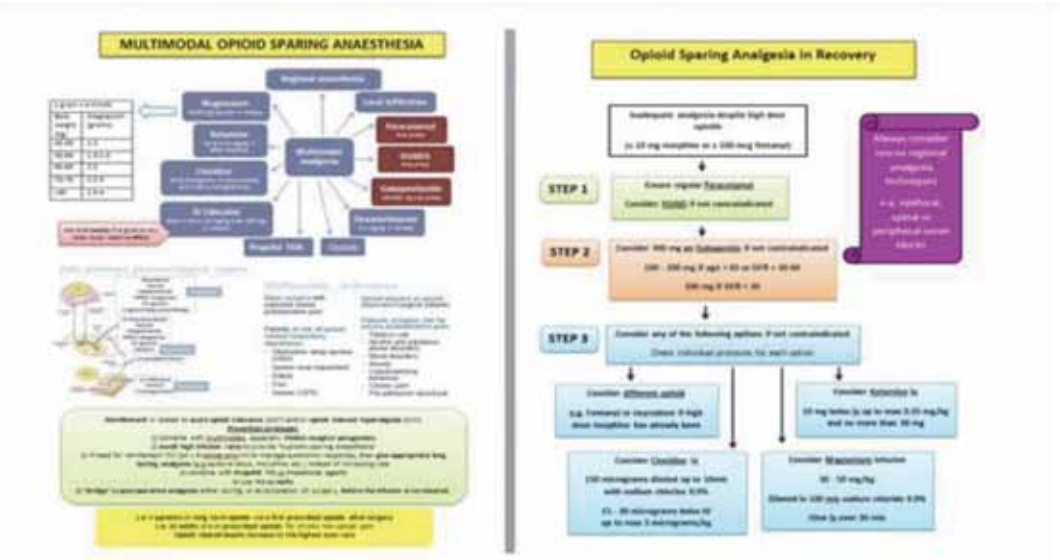
10.1136/rapm-2021-ESRA.228

Background and Aims Overreliance on opioids to treat postoperative pain and increased availability of opioids in the community have contributed to the opioid epidemic (1). For many patients, the source of initial exposure to opioids is the perioperative period. The aim of this project was to identify local practice and introduce ways to minimise opioids during anaesthesia and recovery.

Methods We conducted a two-week snapshot audit in November 2019 at Brighton and Sussex University Hospitals (BSUH) (UK). The audit was registered with BSUH anaesthetic department Audit and Quality Improvement. Ethics approval was not required. We collected data on opioid use in four theatres and recovery. We also conducted a literature search to identify best available evidence on non-opioid adjuncts.

Results Median opioid use in each theatre and recovery are presented in table 1. In recovery, 1 in 3 patients required more than 10 mg intravenous morphine equivalents (IVME), and more than 1 in 10 patients received more than 20 mg IVME. We compiled evidence-based opioid sparing anaesthesia and analgesia guides for use in theatres and recovery (Figure 1).

Conclusions Although there are no standards to compare with, we believe that these results indicate high opioid use during anaesthesia and recovery. The risk of opioid dependence and side effects that may adversely affect surgical outcomes should be taken into account before prescribing opioids. There is a



Abstract 228 Figure 1

Abstract 228 Table 1 Opioid use in theatres and recovery during the first two weeks of November 2019. IVME=IV morphine equivalents, n=number of patients, median=median opioid use, PACU=post anaesthesia care unit

BSUH AREA	IVME (mg)	n	Median (min-max) (mg)
Theatre 1 (orthopaedic trauma)	555.5	30	20 (2.5-38)
Theatre 2 (complex ENT)	225.5	16	10 (5-30)
Theatre 4 (Emergencies)	806.5	43	20 (5-40)
Theatre 5 (Major gynaecology and general oncology surgery)	260.5	16	12.5 (5-30)
PACU	870	85	8 (2-45.4)

plethora of non-opioid adjuncts which may facilitate opioid-free or opioid-light anaesthesia and analgesia. Further work is required to investigate if anaesthesia and recovery opioid sparing protocols can improve patient outcomes.

229 INSTITUTIONAL ENHANCED RECOVERY PROGRAM QUALITY PAIN AUDIT

P-J Windal*, S Coppens. *UZ Leuven, Leuven, Belgium*

10.1136/rapm-2021-ESRA.229

Background and Aims Pain remains a major complaint in the immediate post-operative phase. Despite enhanced recovery protocols (ERP) and procedure specific pain therapy up to 80% of patients experience significant uncontrolled pain. Aim of this quality control pain audit was assessing pain intensity in institutional developed multimodal perioperative care pathways. Analyses of efficacy locoregional analgesia, management and protocol adherence. Determine possible improvements of guidelines and procedures

Methods Prospective data were collected on 118 patients undergoing six types of surgery. Pain scores were evaluated on postoperative care unit (PACU) and first five days following surgery. Primary outcome was worst recorded pain score. Secondary outcomes included median pain on ward, incidence of postoperative nausea and vomiting, time to first mobilization. Following procedures were included: minimal invasive cardiac surgery, video assisted thoracic surgery, esophageal resection, total knee arthroplasty, laparoscopic colorectal surgery and robotic prostatectomy.

Results Numeric Rating Scale higher then three was observed in 89% of study population. At PACU esophageal resection showed worst pain scores despite neuraxial analgesia (Median: 7, IQR 5-8). Total knee arthoplasty resulted in worst pain scores on ward following surgery (median: 7, IQR 5-8). Disappointingly only 25% of patients received pain medication following institutional ERP guidelines. Current ERP-guideline are similar to ERAS guidelines found in literature.

Conclusions Multimodal pain therapy should become standard of care. Constant evaluation of pain guidelines are necessary. Audits and evaluation of protocol adherence next to clear guidelines and managing patient information, expectations are pivotal.

230 CLONIDINE AS AN ADJUNCT TO LEVOBUPIVACAINE FOR PUDENDAL BLOCK DURING PROCTOLOGICAL SURGERY: A PROSPECTIVE, RANDOMISED, PILOT STUDY

M Gambassi*, M Suball, M Bortes, P Kapessidou. *CHU Saint Pierre, Brussels, Belgium*

10.1136/rapm-2021-ESRA.230

Background and Aims Proctological surgery is associated with high-score postoperative pain (VAS>5) [1].

Pudendal block reduces pain and allows a faster return to normal activity [2].

Clonidine has been suggested to improve the quality and duration of peripheral blocks [3 4].

This study investigates whether adding clonidine to levobupivacaine in proctological surgery reduces postoperative consumption of analgesics.

Methods After local ethics committee approval and signed informed consent, adults ASA I/II, scheduled for proctologic

surgery under general anesthesia, were enrolled in a prospective, randomized, double-blind, single-centre, pilot study [NCT04530903].

Group. 1 received an ultrasound-pudendal block using 75µg of clonidine per side; group.2 0.5 ml of NaCl 0.9% per side; both groups received 10 ml of levobupivacaine 0,25%.

Primary outcome: total consumption of tramadol in PACU. Secondary outcomes: time between block and first analgesic demand; tramadol request within 24h; postoperative pain; satisfaction.

Continuous data were compared via T-test or Wilcoxon signed-rank test; means±st.deviation or medians are reported. For count data, Pearson Chi-Squared test was performed to compare proportions. $P<0.05$ was considered significant.

Results Demographics and surgical data were comparable between groups. The groups were not statistically different for the primary outcome (group.1:100 mg; group.2:450 mg; $P=0.1677$).

55.6% of group.2 requested tramadol in PACU ($P=0.09677$) compared to 12.5% of group.1.

Within 24h, group.1 required more Tramadol ($P=0.05$).

VAS longitudinal analysis showed a group-time effect with significantly higher pain within 24h in group.1 ($P=0.0477$).

Satisfaction was not statically different between groups.

Conclusions Adding clonidine to levobupivacaine in pudendal block did not improve postoperative analgesia.

A large-scale study is needed to further support these results.

231 INFECTION AFTER KNEE ARTROPLASTY, DO WE KNOW ALL RISK FACTORS?

B Sánchez Quirós*, LH Rocio, PH María Asunción. *Hospital Clinico Universitario de Valladolid, Valladolid, Spain*

10.1136/rapm-2021-ESRA.231

Background and Aims Non-steroidal anti-inflammatory drugs (NSAIDs) inhibit cycloxygenasa and it causes granulocytic function suppressio (1). These effects could be found in relation to the increased incidence of infections and higher risk of bleeding (2).

Aim of this study was a descriptive analysis of risk factors for total knee arthroplasty, in order to evaluate the relationship between NSAIDs and perioperative infection (4).

Abstract 231 Table 1 Variables collected

Allergies
Personal history
Surgical history
Treatment with NSAIDs before and after the intervention
Septic / aseptic replacement
Joint liquid microbiology
Microbiology knee prosthesis
Antibiotic treatment
Administration of tranexamic acid
Type of anesthesia
Analytical parameters: Hb, leukocytes, platelets, PCR

Methods A descriptive observational study in 25 patients medical records who were scheduled for total knee arthroplasty in University Hospital of Valladolid. The following variables were collected (table 1). The study was aprobed by Hospital Clínico

Abstract 231 Table 2 Baseline clinical epidemiological characteristics of the sample

	n/N (%)
Female	17/25 (68%)
Diabetes Mellitus	7/25 (28%)
Hypertension	11/25 (44%)
Dyslipidemia	10/250(40%)
Cardiopaty	10/25 (40%)
Obesity	4/25 (16%)
Periarticular infiltration	4/25 (16%)
Intraoperative administration of tranexamic acid	16/25 (64%)
Locoregional anesthesia	23/25 (92%)

Abstract 231 Table 3 Distribution of risk factors in both groups (septic/aseptic)

		ASEPTIC		SEPTIC	
		n	Percentage	n	Percentage
Gender	Men	7	50,0%	1	9,1%
	Female	7	50,0%	10	90,9%
Allergies	NO	11	78,6%	10	90,9%
	YES	3	21,4%	1	9,1%
Diabetes Mellitus	NO	10	71,4%	8	72,7%
	YES	4	28,6%	3	27,3%
Hypertension	NO	8	57,1%	6	54,5%
	YES	6	42,9%	5	45,5%
Dyslipidemia	NO	10	71,4%	7	63,6%
	YES	4	28,6%	4	36,4%
Cardiopaty	NO	8	57,1%	7	63,6%
	YES	6	42,9%	4	36,4%
Obesity	NO	12	85,7%	9	81,8%
	YES	2	14,3%	2	18,2%
Periarticular Infiltration	NO	12	85,7%	9	81,8%
	YES	2	14,3%	2	18,2%
Tranexamic acid	NO	3	21,4%	6	54,5%
	YES	11	78,6%	5	45,5%
Anesthesia	General	0	0,0%	2	18,2%
	Intradural	14	100,0%	9	81,8%

Universitario de Valladolid with number (CEIm PI 19/1438). All patients signed the inform consent to enter the study.

Results Statistically significant differences were found in the rate of infection with respect to sex; being more frequent the infections in the feminine sex (p=0.042). Marginally significant differences were found between the taking of NSAIDs and infection of the prosthesis (p=0.1) although there was no statistical significance between the taking of NSAIDs and the analytical parameters of infection. This study demonstrates that periarticular infiltration does not increase the risk of infection (p <0.05)

Conclusions The use of NSAIDs has been associated with an immunosuppressive effect that leads to an increased risk of infection in total knee arthroplasty, so its use in the preoperative period should be limited. Female gender is other significative risk factor too. Our retrospective study has shown relationship between AINEs use and infection after knee arthroplasty.No increased risk of bleeding with AINEs in this sample.

232 CONTINUOUS ERECTOR SPINAE PLANE BLOCK FOR POSTOPERATIVE ANALGESIA AS AN ALTERNATIVE TO EPIDURAL CATHETER IN THORACIC SURGERY FOR PATIENTS WITH EMPYEMA: A CASE SERIES

C Simon*, N Parisi, G Samouri. *Clinique Saint-Pierre, Ottignies, Belgium*

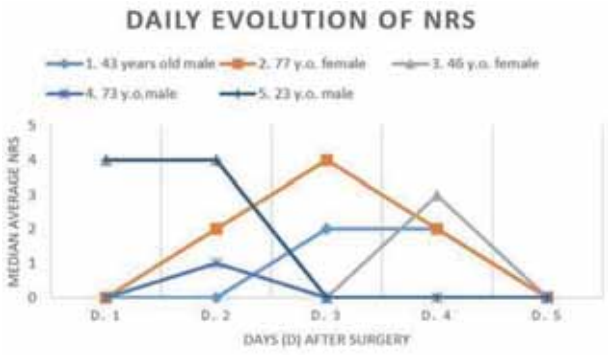
10.1136/rapm-2021-ESRA.232

Background and Aims We present a case series of five patients undergoing video-assisted thoracoscopic surgery for empyema. In this infectious state, we chose to perform a continuous ESP because of the relative contraindication of epidural catheter. We performed it to prevent and relieve the thoracic pain but also to limit the opioids consumption and their side effects in our frailty patients.

Methods The plan was general anaesthesia combined with a continuous unilateral ESP block. Postoperative analgesia was achieved by continuous infusion + bolus of L-Bupivacaine 0.125%. Complementary analgesia was done with paracetamol and when possible NSAID. Patients received iv doses of piritramide in the recovery room, but no patient-controlled analgesia or other intravenous opioids was administered subsequently.

Results Most of the patients maintained a Numeric pain Rating Scale (NRS) between 0 and 3.

We removed the catheters the same day than the pleural drains, usually at day 4. In the postoperative period, no side effects (motor blockade, urinary retention or hypotension) were noticed and patients attested high satisfaction scores. We emphasize the fact that none of them requested additional opioids.



Abstract 232 Figure 1

Conclusions In cases of empyema, the ESP catheter combined with multimodal analgesia seems to be a safe and effective alternative to epidural analgesia for VATS surgery. This technique, easy to perform, allows an early mobilization of the patient regarding the low pain scores and the absence of side effects. Prospective randomized trials are needed to confirm the benefits of the ESPB compared to epidural or paravertebral bloc.

233 PECS II BLOCK FOR ONCOLOGIC BREAST SURGERY DURING PREGNANCY: A PATIENT-CENTERED CASE REPORT

[1]J Pinho*, [2]J Moita, [1]N Veiga. *[1]Francisco Gentil Portuguese Oncology Institute of Lisbon, Department of Anesthesiology, Lisbon, Portugal; [2]Setúbal Hospital Center, Department of Anesthesiology, Setúbal, Portugal*

10.1136/rapm-2021-ESRA.233

Background and Aims Anesthesia and analgesia for surgery during pregnancy has focused on avoiding teratogenic drugs, preserving intrauterine homeostasis, and decreasing the risk of preterm labor. Data on the use of regional techniques and on patient preferences are still scarce. Based on a clinical case, we aimed to explore the patient experience of analgesia for oncologic breast surgery during pregnancy.

Methods A 19-weeks-pregnant 40-year-old woman with a diagnosis of breast cancer presented for mastectomy and sentinel lymph node biopsy. After discussion with the patient, an analgesia plan of post-induction pectoral type-2 block, acetaminophen, low-dose morphine, and postoperative acetaminophen, tramadol and *prn* metamizole was chosen. Acetaminophen and *prn* metamizole were prescribed home. Patient experience was elicited during the perioperative care and in a semi-structured interview at four-months.

Results On the first postoperative day, the patient reported only mild pain on movement and declined analgesia except for one administration of acetaminophen. After discharge, she reported significant pain on the surgical drain site. Until drain removal on the fourth postoperative day, she took acetaminophen and one *prn* metamizole. The main themes identified in the patient experience were a prioritization of fetal wellbeing, a concern for the effect of analgesic drugs on the fetus, and apprehension regarding nausea and sedation.

Conclusions Outcomes commonly measured in medical research are ultimately surrogates for outcomes that are more relevant to patients. This case suggests that a decreased need

Abstract 233 Table 1

Central questions	Main themes identified
• "How did you expect postoperative pain and analgesia would be?" • "How was your experience of postoperative pain and analgesia?" • "How would your ideal experience have been?" • "What should our goals be in the treatment of postoperative pain in pregnant women?" • "How should these goals be prioritized?"	• Prioritization of fetal wellbeing over analgesia • Concern for the impact of analgesic drugs on the fetus • Valorization of the absence of nausea and sedation

for analgesics may be more important to some patients than the absence of pain. Selected single-shot regional techniques are potentially useful in attaining this outcome.

234 CONTINUOUS ERECTOR SPINAE PLANE BLOCK FOR PAIN MANAGEMENT IN OPEN RESECTION OF LOCALLY RECURRENT RENAL CELL CARCINOMA – A CASE-REPORT

[1]AP Pereira*, [2]C Lobo, [1]F Teixeira, [1]R Abrunhosa. *[1]Centro Hospitalar de Trás-os-Montes e Alto Douro, Vila Real, Portugal; [2]Hospital das Forças Armadas – Pólo Porto, Porto, Portugal*

10.1136/rapm-2021-ESRA.234

Background and Aims Main issues in postoperative pain management for patients with single kidney include drug dose adjustment and further damage avoidance. Originally described for thoracic analgesia[1], the erector spinae plane block (ESPB) can provide abdominal somatic and visceral analgesia[2,3] and circumvent limitations in these patients. We describe the successful use of a continuous ESPB to provide effective perioperative analgesia for renal fossa surgery.

Methods A 79-year-old woman, ASA III, who underwent right nephrectomy due to renal cell carcinoma 4 years before, presented to the operating room for an open resection of renal-bed carcinoma recurrence (subhepatic and abdominal wall).

Following general anaesthesia induction, an ultrasound-guided ipsilateral ESPB at T9 level (with 20 ml ropivacaine 0,5%) was performed and a catheter was inserted under ultrasound vision. During surgery IV dexamethasone 4 mg, fentanyl 0,05 mg, paracetamol 1g and tramadol 50 mg were administered.

For postoperative pain management we elected IV paracetamol and a ropivacaine 0,2% ESPB patient-controlled-analgesia device.

Results Patient underwent surgery uneventfully (mean arterial pressure 68–75 mmHg and heart rate 55–68/min). She was comfortable after the procedure and safely discharged from anesthesia care. The catheter was used for 2 days and pain was described as 'none' (at rest) or 'mild' (at movement) during vigilance. No rescue opioid was administered. Patient was satisfied with the approach and no postoperative complications were observed.

Conclusions The ESPB appears to be a useful alternative to epidural, paravertebral block or IV strategies for pain management in moderately aggressive retroperitoneal surgeries, with optimal safety profile and extent of sensitive coverage.

235 EIGHT MG OF EPIDURAL MORPHINE: HOW MUCH SHOULD WE WORRY?

R Rodrigues Oliveira, A Vasconcelos Pereira*, R Mendes de Carvalho, M Azevedo Coutinho. *Hospital Vila Franca de Xira, Vila Franca de Xira, Portugal*

10.1136/rapm-2021-ESRA.235

Background and Aims Currently, administering a bolus of 2 to 3 mg of epidural morphine for cesarean section postoperative pain management is widely recommended. Assuming that by using higher doses the increased side effects incidence will outweight any possible benefits in analgesic outcome, there is actually a lack of literature reporting higher dose regimens. We present a case of a patient who accidentally received a dose of 8 mg.

Methods A twenty-six-year-old, ASA II female underwent a cesarean section under epidural block due to fetopelvic disproportion. The epidural catheter was previously placed and used for labor analgesia. At the end of the surgery, a bolus of 8 mg of epidural morphine was mistakenly administered instead of 2 mg.

The patient was kept in the postoperative care unit for 18 hours and subsequently transferred to the ward. Ondansetron 4 mg 8/8h was prescribed for nausea and vomiting prophylaxis.

Results During the 24h after the administration, adverse effects such as sedation, nausea, vomiting, pruritus, or urinary retention did not occur. She had no ventilatory depression and was hemodynamically stable throughout the day. Analgesia was optimal without the need of rescue analgesics.

Conclusions Despite the need of adequate monitoring, administering an higher dose of epidural morphine provided optimal analgesia without any adverse effects and allowed for an otherwise normal postoperative period. More studies might be needed in order to determine the actual safety of higher dose epidural morphine and its possible benefits for selected cases.

Author index

The number next to the author indicates the page number, not the abstract number.

Abd El Azeem EMohamed, A28
Abdel-Ghaffar M, A28
Abraham A, A113
Abrahams H, A31
Abraitis V, A61
Abrunhosa R, A123
Abu Khudair H, A41
Adhyapak N, A90
Agrawal D, A21
Agrò FE, A27, A37, A91, A92
Agro FE, A103
Aguilar Godoy J, A6
Aguilar J, A4
Ahmed H, A116
Ahmed Walash I, A68
Aishwarya L, A17
Akbay D, A15
Al-Ani T, A56, A88
Al-Touny SA, A28, A65
Albrecht E, A23, A30
AlJa'bari A, A70, A101
Allan A, A25
Almeida C, A20
Almeida CR, A57
Almeida J, A20
Almeida Pires A, A32
Almeida R, A41
Almeida Silva ARSantos, A37
Alonso A, A4
Alonso Chico A, A6
Alsabbagh E, A110
Alves B, A57
Alves Martins TR, A37, A59, A94
Alves P, A28
Amorim A, A4, A20
Andjelković Juvan L, A113
Andrisani G, A27
Andruškevičs M, A83
Angelucci F, A11, A38, A39, A42
Antinolfi V, A91, A92
Antunes P, A20
Aoyama Y, A81
Apoorva P, A90
Arampatzidou F, A59
Arcangeli V, A102
Arish BT, A13
Arndt C, A50
Ashken T, A99
Aslam Z, A29
Atalay C, A54
Attaway N, A119
Aypa N, A84, A95
Azevedo Coutinho M, A123
Aziz G, A93

Bagntasarian S, A1, A102, A106
Bai G-H, A103
Balestra G, A102
Barbosa H, A60
Barisin S, A95
Barouk D, A51, A93
Barragán B, A40
Barsa M, A73
Bartlett A, A46
Baskaran A, A87
Bedforth N, A71, A104, A108
Beker T, A93
Bell D, A40
Bell S, A62
Bellew B, A103, A105, A116
Beloeil H, A110, A111
Bendel D, A103
Benison E, A83
Bernardinetti M, A103
Bettencourt Abreu J, A20
Billstrand M, A50
Bimbashi A, A63
Biondo G, A91
Blanco Aceituno J, A6
Blanco J, A4
Bloc S, A51, A93
Bonaiti S, A45
Bonet B, A42
Bordoni JE, A70, A114
Bortes M, A120
Bosco M, A80, A107
Boussofara M, A83
Bove T, A67
Bowness J, A74
Branco M, A86
Breia Pereira V, A37
Bright M, A94
Brill S, A40
Broe C, A103, A105, A116
Bruschi G, A45
Bucciero M, A51, A93
Buchser E, A38
Buffery C, A114
Burckett-St Laurent D, A74
Buschman R, A38
Butler A, A52
Butori R, A53

Cachemaille M, A30
Caddye W, A119
Caldeira M, A4
Calodney A, A38
Cantin L, A38
Caramelo S, A37
Cardoso JM, A36
Carneiro Moreira S, A34
Carrão A, A55, A59
Carvalho M, A47
Carvalho R, A47
Carvalho S, A55, A59
Castanheira C, A55, A59
Castro Nunes J, A19
Cataldo R, A37
Caulfield H, A56
Celniku M, A38, A39
Ceni N, A63
Ceni R, A63
Chamandi S, A34
Chami M, A49
Champagnol Di-Liberti C, A112
Chan S, A18
Chauvin C, A112
Chedas M, A86, A108
Chen T, A85
Cheng Y, A76
Chong MSF, A79
Choo W-S, A25
Christidis P, A1, A102
Christofis C, A98
Chung E, A69
Ciaschi W, A11, A38, A39, A42
Çiçek İ, A100
Cimilli G, A54
Claudia A, A19
Cleland J, A96
Coşarcan SK, A15
Coimbra L, A107
Colombo A, A45
Comuzzi M, A67
Coppens S, A18, A120
Corbella C, A58
Correia AF, A63
Correia D, A4
Correia M, A32
Costa D, A28
Costa F, A27, A37, A91, A92, A103
Court E, A46
Cozowicz C, A64
Creyf P, A85
Cruz G, A19
Cunha Gomes Santos HM, A94
Cunha M, A16
D S, A87
Darshan R, A81
Das A, A13
Dasgupta K, A29
Davis K, A94
De la Gala F, A4
De la Gala Garcia F, A6
de Pádua Resende Filho' D, A99
Dean S, A29
Dehbi H-M, A116
Del Buono R, A27, A92
Delgado Marquez JC, A9
Deloughry G, A116
DelPizzo KR, A64
Denisova T, A58, A63
Dennis S, A46
Devlin A, A50
Dexter F, A24
Di Carlo M, A38
Di Matteo FM, A27
Dias S, A28
Dick J, A56
Diwan R, A70
Dmytriiev D, A100
Doğan AT, A15
Dobrić M, A93
Doirado M, A93
Dondapati S, A91
Doniņa S, A25
Dostbil A, A54
Dottore B, A67
Doumouras A, A97
Dsouza S, A48
Dufour A, A112
Dupoiron D, A40
Durán J, A41
Duzel V, A95

Edwards T, A103
Ee A, A23
Eeltink C, A40
El Taher E, A65
El-Boghdadly K, A23
Eldabe S, A38

Elhamdi M, A83
Ellison A, A99
Emirkadi H, A100
Erçelen Ö, A15
Ergonenc T, A10
Erskine R, A34
Ersoy A, A51
Erturk T, A51
Esperança P, A17
Evreinov V, A119

Faisan S, A112
Fajardo-Pérez M, A10
Farhoud E, A41
Ferrari M, A40
Ferraz I, A55, A59
Fils J-F, A75
Finnity J, A34
Font Gual A, A21
Fox B, A43, A109
Frattolillo G, A92
Freire P, A86
Freitas J, A61
Fuertes I, A4
Fuertes-Arenal I, A6
Fusco P, A11, A38, A39, A42, A102
Fyrfiris N, A38

Gacio M, A28
Gallucio F, A10
Gama K, A20
Gambassi M, A120
Gammaldi R, A117
Ganbaatar U, A36
Garcia-Hernandez S, A4, A6
Garg A, A35
Gargano F, A27, A37, A91, A92
Genç C, A5
Genç Moralar D, A82
Georgiou M, A18
Ghidan A, A41
Ghira M, A55, A59
Ghouibi C, A83
Gil de Bernabé Sala MA, A21
Glazov E, A100
Goffin L, A112
Gomes A, A19
Gomes Santos HMCunha, A37
Gonçalves D, A36, A37, A80, A98, A101
Gonvers E, A23
Gorecha M, A29, A34
Goswami D, A16
Goto T, A3, A43
Goulden M, A114
Gouveia H, A33, A61
Gouwy J, A3
Graça R, A98
Graf Zupcic S, A95
Graff D, A112
Grape S, A23
Group PROSPECTWorking, A1
Grunow N, A38
Gulamani A, A26
Güleç S, A97
Gunay MC, A97
Güner T, A51
Gunji K, A81
Guntz E, A3, A75
Gupta S, A7
Gustafson Y, A92
Güven BB, A51

Hall AP, A101
Hallit S, A34
Hamoodi Z, A101
Hapugoda M, A85
Hariharasudan B, A13
Hassan A, A77, A108
Hatheway J, A38
Heij R, A109
Hennebry E, A46
Heredia Carqués C, A21
Hermanns H, A115
Hernandez Rodriguez G, A9
Higham H, A74
Higuero F, A4
Higuero-Cantonero F, A6
Hindle E, A54
Ho SX, A25
Hollmann M, A115
Hopkins C, A116
Hosny M, A65
Hostnik A, A113
Hou W-H, A103
Hulgur M, A96
Hulgur MD, A101
Hung T-Y, A103
Hyung B, A97

Ince I, A10, A54
Intini S, A67
Ioannidis O, A106
Iureva T, A90

J B, A87
Jain R, A14
James A, A93
James R, A18
Jargalsaikhan N, A36
Jaya AAGPS, A30, A71
Jeandin T, A30
Jesus Correia M, A32
Joshi G, A110
Joshi GP, A111
Jović M, A88
Joyce K, A116

K AS, A72
Kadoya Y, A86
Kamal W, A15
Kamar S, A34
Kanojiya V, A14
Kapessidou P, A120
Kapoulas K, A98
Karras G, A58, A59
Kasali K, A54
Kashaeva L, A32, A58
Kashyap R, A16
Kawaguchi M, A86
Kaya C, A5
Kendigelen P, A65
Keough J, A70
Kerur R, A90
Khaku M, A56
Khandelwal R, A18
Khanna K, A25
Kiamiloglou B, A58, A59
Kikuchi M, A3
Kim H, A31
Kim H-J, A31
Kim YJ, A31
Koga M, A3
Koh WU, A31
Koraki E, A1, A102, A106
Koureas A, A98
Koutsis V, A59
Krzconavičiūtė S, A61
Kulec R, A77
Kumar A, A72
Kumar B, A72
Kumar DA, A75
Kumar DS, A75
Kumari DP, A75
Kumari P, A72
Kyselova I, A69

Ladenhauf HN, A64
Lalmand M, A53
Lamei M, A65
Laroche E, A112
Laudani A, A117
Le Cacheux P, A111
Le Sache F, A51, A93
Lean LL, A25
Ledo LAM, A61
Lee Y, A97
Lejarraga P, A4, A6
Lenoir N, A53
Leunen I, A2
Lim JWL, A76
Lima CGaio, A78
Lin E, A114
Lindgren B-M, A92
Liolios E, A102
Liotiri D, A10, A119
Liu J, A64
Lobo C, A89, A123
Longo F, A46
Lopes C, A32, A108
López E, A4
López Herrero R, A115
Lopez Perez E, A6
Loughnan A, A50
Loughnane F, A116
Luís M, A33
Lucas MPS, A61
Luff D, A71, A108
Luyt J, A110

MacGregor A, A44
Maggiore A, A75
Maliamanis D, A98
Malone K, A104
Mamaja B, A25, A83
Mandour Y, A56
Mane R, A7, A90
Mane RS, A17, A81
Mantzoros I, A1
Marchandise C, A85
María Asunción PH, A121
Mariapia S, A27
Marinangeli F, A11, A38, A39, A42, A102
Marneffe V, A116
Marrone F, A80, A107
Martins AC, A86
Martins I, A63
Martins Pereira AP, A50
Martins TRA, A61
Martuscelli M, A46
Mascia B, A40, A45

Author index

Mathew D, A11, A78
Matias F, A118
Matos-Puig R, A31
Mazzocchi M, A40, A45
Mcdaniel A, A77
McGrath J, A48
McMonagle M, A70
McNaughton D, A79
Mehta P, A113
Mehta S, A105
Melchior M, A112
Melemeni A, A38
Melo J, A4
Melo L, A63
Memtsoudis SG, A64
Mendes de Carvalho R, A123
Meroi F, A67
Merzoug M, A51, A93
Michaelides S, A98
Miguelez P, A98
Miranda L, A28
Mitić R, A88
Mizuno Y, A3, A43
Mocanu I, A3
Mohamedally S, A43
Moita J, A122
Mojoli F, A40, A45
Molla L, A40
Molyneux M, A104
Monge E, A58
Montenegro Ledo LA, A37, A59, A94
Moody M, A105
Moody T, A57
Moosa F, A71, A104, A108
Morais D, A89
Moreno Giménez G, A21
Morimoto Y, A3
Mossad E, A69
Moura F, A6, A19
Moura Vieira M de Sá Rodrigues, A50
Moutinho Teixeira FJ, A50
Mukherjee D, A13
Murphy R, A88
Mustafa Y, A54

Naudin C, A51, A93
Nazir M, A26
Nejdlova M, A57
Neri I, A34
Newman-Marks A, A104
Ng CY, A101
Ng EEL, A25
Nikouli E, A58, A59
Noble A, A74
Nogueira AS, A62
Nunes Ferreira M, A28
Nunes S, A33
Nystad D, A10

O'Donnell B, A116
Oiwa A, A19
Okonkwo I, A70
Oku S, A43
Oleshchenko I, A90
Oliveira J, A28
Oliveira M, A17
Olofsson B, A92
Onay M, A97
Ong CHJ, A25
Orel V, A69
Oreshnikov E, A32, A58, A63
Oreshnikova S, A32, A58, A63
Orfanou C, A38
Ovezov A, A53, A54, A55
Özdemir F, A109
Özkan S, A36
Ozmen O, A54
Ozoliņa A, A83
Ozyurt T, A97

P G, A87
Pack E, A73
Packer T, A103
Pais M, A29
Paiva M, A60
Pal A, A103
Palha Ribeiro A, A47, A75
Pantanelli C, A37
Parisi N, A49, A85, A116, A122
Park S, A77
Pascarella G, A27, A91, A92, A103
Paskaleva R, A21
Passador D, A40
Patch J, A62
Patel S, A21, A24, A79
Pather S, A3
Patil M, A90
Patil MC, A17, A81
Patrício Sampaio JC, A50
Patsepas P, A106
Pattni V, A62
Paventi S, A80, A107
Pavlova Y, A69
Paz Sebastian M, A48
Peene L, A111
Peixoto De Sousa C, A37, A101
Pejčić N, A88
Peksoz U, A54
Pellegrini A, A45
Pereira AP, A36, A37, A101, A123
Pereira C, A16, A78
Pereira EC, A37, A59, A94
Pereira S, A33
Perez MF, A54
Petersen G, A40
Petroni GM, A102
Piliego C, A92
Pilling R, A79
Pina P, A75
Pinho D, A107
Pinho J, A107, A122
Pinnamaneni N, A71, A108
Pinto C, A62, A78, A118
Pistiolas G, A102
Poeran J, A64
Poisbeau P, A112
Potočnik I, A113
Pourveur A, A3
Praniarda A, A118
Preckel B, A115
Preza K, A40
Pryambodho P, A30

Qadir Zeeshan A, A90
Quemeneur C, A93
Qureshi A, A52, A57

R K, A16
Ragni G, A40
Rahil O, A69
Rahmi R, A8
Rakusa M, A40
Ramos S, A63
Ranjan RV, A13
Ravi R, A70
Reardon D, A94
Rebêlo I, A28
Rebelo P, A16, A62
Rees T, A23
Rego J, A6
Rehman A, A26
Reinolds Pereira S, A61
Reis A, A41
Reis I, A4
Remore LM, A27, A37, A92, A103
Renard M, A3
Resende F, A28
Ribeiro N, A19
Riccardi F, A40
Riccetti A, A46
Rizzello G, A91
Rizzo S, A91, A92, A103
Ročāns RP, A25, A83
Rocio LH, A121
Rodrigues I, A94
Rodrigues LV, A75
Rodrigues Oliveira R, A35, A41, A123
Rodrigues R, A61
Rodríguez Prieto M, A21
Roofthooft E, A1
Roriz D, A36, A80
Rosales A, A84, A95
Roy A, A13
Ryan D, A40

Sá S, A63
Sá Vieira M, A80
Saad A, A47
Sadana N, A88
Sadavarte N, A71, A85, A104, A108
Sahin AS, A36
Sahin T, A54
Saito Y, A81
Sakai N, A77
Sakakibara S, A81
Sakura S, A81
Salazar-Zamorano CH, A10
Salvat E, A112
Samouri G, A85, A116, A122
Sampaio C, A36, A80, A98
Sanches Lucas MP, A59
Sánchez Quirós B, A115, A121
Sanha M, A60
Santa Bárbara R, A35
Santos Almeida Silva AR, A59, A94
Santos C, A101
Santos RF, A6, A19
Santos Sousa G, A20
Saraiva A, A28
Sarhan MD, A35
Sauter A, A110
Sauter AR, A111
Scaduto V, A92
Schmartz D, A53
Schofield S, A40
Schwalbert AM, A99
Sebastiani C, A27
Segaran S, A13
Segura Grau E, A17
Şehirlioğlu S, A82

Sell A, A48
Senderovich H, A41
Serafin J, A114
Serra S, A28
Seth P, A97
Shabbir Z, A26
Shanmuganathan S, A48, A73
Sharma S, A97
Shifman E, A53, A54, A55
Shiiter B, A36
Shiramoto H, A3
Siafaka I, A38, A62
Siew S, A70, A114
Sifaki F, A1, A102, A106
Silva ARSA, A61
Silva I, A63
Silva M, A4
Silva R, A34
Silva RL, A6, A19
Simon B, A114
Simon C, A122
Simurina T, A95
Singh A, A91
Singh J, A101
Singh M, A91
Sinha C, A72
Sinha DC, A75
Slangen R, A38
Soares M, A78
Soni S, A13
Soobhug S, A119
Sousa C, A80, A98
Sousa GS, A12, A17
Sousa J, A32
Southey S, A109
Soylu S, A82, A109
Spinelli F, A103
Spyridoulias A, A105
Stella A, A45
Stevens M, A115
Stimpson J, A109
Strumia A, A27, A37, A91, A92, A103
Suball M, A120
Sudani T, A77
Sukmono RB, A8, A71
Sultan W, A35, A68
Suntharanathan L, A50
Suzuka T, A86

Tan J, A25
Tan YR, A115
Tanaka N, A86
Tantri AR, A30, A71
Taruishi C, A77
Tavares da Silva BAguiar, A35
Teixeira F, A36, A37, A80, A98, A101, A123
Temizyürek A, A36
Terzulli C, A112
Thanawala V, A85
Theodoraki K, A1, A38, A62
Thieren S, A2
Thompson H, A99
Thomsen L, A93
Tian C, A97
Tokita H, A84
Tomaselli E, A46, A103
Tomei M, A80, A107
Tong D, A50
Tonković D, A95
Torresani F, A45
Tsai M-C, A103
Tsaroucha A, A38
Tullj S, A11, A38, A102
Türkmen Ü Aygen, A82
Türkmen ÜA, A109
Tutuncu AC, A65
Twersky R, A114

Unneby A, A92
Upryamova E, A53, A54, A55

Valdes-Vilchesa LF, A10
Vamshi C, A75
Van de Velde M, A1
Van Der Essen L, A116
Van der Linden P, A53
van Etten F, A115
Van Migem S, A116
van Samkar G, A115
Vannieuwenhove O, A3
Vasconcelos L, A47
Vasconcelos Pereira A, A35, A41, A123
Vasiljeva E, A58, A63
Vats A, A105
Vaz A, A12
Veef E, A1
Vega Sanchez VE, A58
Veiga N, A122
Vela R, A4
Vela-Pascual R, A6
Velasco L, A4, A6
Velasco Villanueva D, A115
Velickovic I, A88
Velli G, A94
Venkatesh V, A52
Vermeylen K, A2
Vetrugno L, A67
Vickers A, A114
Vieira L, A57
Vilhena I, A63
Vinceljek B, A93
Vukelić Slavić J, A93

Waelkens P, A110
Wagstaff D, A110
Wegrzyn J, A30
White D, A109
White L, A94
Williams D, A42
Wilson LA, A64
Windal P-J, A120
Wong MH, A11, A78
Woodworth G, A74
Worthington J, A25
Wu J, A44

Xynis E, A18

Yılmaz EP, A54
Yamak Altınpulluk E, A54
Yamak Altinpulluk E, A10
Yamamoto H, A81
Yaman Ü, A109
Yaman F, A97
Yap WL, A110
Yiapana C, A98
Yoshimatsu A, A3
Yoshimura M, A3
Young P, A109

Zanbak Mutlu OP, A65
Zapatero García S, A6
Zapatero S, A4
Zhirova T, A119
Zhong H, A64
Zuccarini F, A75
Župčić M, A95
Zuzarte D, A32, A108