two months of antiviral treatment, she developed symmetrical polyarthritis, with pain and edema in the wrists, elbows, shoulders and metacarpophalangeal joints, associated with prolonged morning stiffness. The musculoskeletal examination was notable for active synovitis of the proximal phalangeal joints, metacarpophalangeal joints, wrists, elbows. Distal interphalangeal joints were spared. She had no musculoskeletal symptoms prior to antiviral therapy. Review of systems was otherwise unremarkable. X-ray showed no remarkable findings. Ultrasonography of the hands revealed diffuse synovitis as well as tenosynovitis of the ulnar extensor tendons in both wrists. Laboratory results revealed a normal C-reactive protein, elevated liver enzymes: ALAT (alanin-aminotransferase) 119,ASAT (aspartat-aminotransferase) 66, Gamma-GT 203 and undetectable cryoglobulins. Anti-CCP was 21 IU/ml (negative < 20 IU/ml), antinuclear antibodies were positive 1280 (negative<160), rheumatoid factor was 192 (normal < 30 IU/ml).

A diagnosis of rheumatoid arthritis (RA) was made on the basis of clinical and ultra-sonographic evidence as well as Rheumatoid Factor (RF) and anti-cyclic citrullinated peptide (anti-CCP) antibody positivity. Moreover, an autoimmune thyroiditis was found that evolved into hypothyroidism treated with thyroxine.

Results: The patient developed a sustained virological response as evidenced by persistent undetectable HCV RNA and normal aminotransferase activities. Upon completion of a 12-week course of antiviral therapy, The rheumatoid syndrome disappeared after cessation of IFN therapy. By that time, antinuclear antibodies were in a titre of 1 /180, rheumatoid factor and Anti-CCP were negative.

Conclusion: The present case suggests that biological agents, affecting the cytokine network, may work as triggering factors for the development of RA in previously predisposed individuals. Screening for RF and anti-CCP may be considered before treating with IFN. In addition, a close surveillance for the occurrence of autoimmune phenomena during and after treatment should be worthy, for early diagnosis and adequate clinical management.

References:

[1] *DARICE YANG*, *DANIEL ARKFELD* and *TSE-LING FONG Treatment* for *Chronic Hepatitis C Infection*. *Development* of *Anti-CCP-positive Rheumatoid Arthritis Following Pegylated Interferon*-alpha. J Rheumatol 2010;37;1777Volume 37, no. 8. 2a

[2] Okanoue T, Sakamoto S, Itoh Y, Minami M, Yasui K, Sakamoto M, et al. Side effects of high-dose interferon therapy for chronic hepatitis C. J Hepatol 1996;25:283-91.

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THURSDAY, 04 JUNE 2020

HPR Measuring health (development and measurement properties of PROs, tests, devices)

THU0607-HPR COMPARISON OF THE PATIENT REPORTED PHYSICAL ACTIVITY LEVEL ACCORDING TO KINESIOPHOBIA PRESENCE IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

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Background: Many factors such as poor functional or emotional status might play a role in participating physical activity for people with rheumatic diseases. There is a lack for evidence regarding to the effect of kinesiophobia presence on the physical activity levels of axSpA patients.

Objectives: The primary objective was to compare the patient reported physical activity levels in axSpA patients with kinesiophobia and those without. Evaluating disease related and physical characteristics, quality of life and emotional status according to presence of kinesiophobia were also aimed.

Methods: One-hundred forty-eight consecutive axSpA patient were allocated to Kinesiophobia+ group (n: 90, 66% males) or Kinesiophobia- group (n: 58, 64% males). The presence of kinesiophobia was defined as having a score of >37 in Tampa Scale for Kinesiophobia. All patients were evaluated regarding to physical characteristics (age, body-mass index), functional status (Bath Ankylosing Spondylitis Functional Index), disease activity (Bath Ankylosing Spondylitis Disease Activity Index), spinal mobility (Bath Ankylosing Spondylitis Metrology Index), patient reported physical activity (International Physical Activity Questionnaire Short Form), emotional status (Hospital Anxiety and Depression Scale), and quality of life (Assessment of SpondyloArthritis International Society Health Index).

Results: Physical characteristics and spinal mobility were similar in patients with and without kinesiophobia (p>0.05, Table). Disease activity, function, quality of life, depression and anxiety scores were poorer in Kinesiophobia+ group compared to Kinesiophobia- group (p<0.05, Table). Patient reported physical activity level was found to be lower in patients with kinesiophobia (p<0.05, Table).

Table. Comparison of groups according to kinesiophobia presence

	Kinesiophobia+ Group (n: 90) Median (IQR 25/75)	Kinesiophobia- Group (n: 58) Median (IQR 25/75)	p*
Physical Characteristics			
Age (years)	41.0 (37.0/52.0)	44.0 (36.0/53.0)	0.850
Body-Mass Index (kg/m^2)	26.8 (24.6/30.1)	26.0 (22.7/29.0)	0.364
Disease Related Characteristics			
BASDAI (score)	2.7 (1.3/4.6)	1.8 (0.6/3.5)	**0.036**
BASMI (score)	3.3 (1.9/5.0)	2.7 (1.6/3.5)	0.114
BASFI (score)	2.5 (1.2/4.4)	1.2 (0.5/2.7)	**0.003**
Patient Reported Physical Activity Level			
IPAQ (MET/week)	505.5 (169.0/1653.0)	858.0 (330.0/2772.0)	**0.042**
Quality of Life			
ASAS-HI (score)	7.0 (5.0/9.1)	4.0 (2.0/7.9)	**0.001**
Emotional Status			
HAD Anxiety (score)	7.0 (4.0/9.0)	5.0 (3.0/8.0)	**0.006**
HAD Depression (score)	7.0 (4.0/10.0)	3.0 (1.0/7.0)	**0.001**
Fear of Movement			
TAMPA (score)	41.0 (39.0/44.0)	34.0 (31.0/36.0)	**p<0.001**

*Mann-Whitney U Test, IQR 25/75: Interquartile range 25/75, BASDAI: Bath Ankylosing Spondylitis Disease Activity Index, BASMI: Bath Ankylosing Spondylitis Metrology Index, BASFI: Bath Ankylosing Spondylitis Functional Index, IPAQ: International Physical Activity Questionnaire Short Form, HAD: Hospital Anxiety and Depression Scale, ASAS-HI: Assessment of SpondyloArthritis International Society Health Index, TAMPA: The Tampa Scale for Kinesiophobia, p<0.05.

Conclusion: It seems that the presence of kinesiophobia may have a negative impact on patient reported physical activity level, and disease related parameters. However, it is also possible that kinesiophobia might occur as result of poor disease activity or disability. Strategies such as patient education should be included in axSpA management for preventing kinesiophobia development or improving kinesiophobia related consequences.

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THU0608-HPR VALIDITY OF SIX MINUTE STEPPER TEST IN EVALUATION OF FUNCTIONAL EXERCISE CAPACITY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: In most patients with ankylosing spondylitis (AS), exercise capacity decreases due to pulmonary dysfunction, chest wall restriction and peripheral muscle weakness. The six-minute walk test (6MWT) is a validated simple field, hence frequently used to evaluate exercise capacity. However, 6MWT has some limitations, especially the fact that it requires a corridor of at least 30 meters long to perform this test which can limit its use in some centers. Shorter corridors force patients to turn more frequently, slowing down the pace of walking that reduces potential walking distance. To overcome technical and spatial limitations, 6-minute stepper test (6MST) has been proposed to evaluate exercise capacity. In the literature 6MST has been suggested for a variety of diseases. Since, it requires only a limited amount of space and equipment and is feasible, easy to perform, well tolerated.

Objectives: In the literature, there is no study in which 6MST is used to evaluate exercise capacities of patients with AS. Therefore, the aim of this study was to evaluate validity of 6MST in AS population in comparison to 6MWT.

Methods: 6MWT and 6MST were performed in 51 patients with AS (52.26±13.33 years, 30F/21M). Demographic and clinical characteristics were recorded. Functional exercise capacity was evaluated using 6MWT and 6MST. The total distance of 6MWT was compared to the total number of steps of 6MST. Before, during and after 6MWT and 6MST, heart rate (HR), oxygen saturation (SpO_2), breathing frequency (BF), blood pressure (BP), dyspnea and fatigue were assessed using modified Borg scale.

Results: The number of steps on the 6MST was significantly correlated with the distance of the 6MWT (r=0.61, p<0.0001). Dyspnea (p=0.04) and leg fatigue (p<0.0001) was significantly higher in 6MST than in 6MWT. HR, SpO_2, BF, BP and fatigue were similar in both 6MST and 6MWT.

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Conclusion: The 6MST is a valid test to evaluate exercise capacity in patients with AS. It is also an appropriate alternative to the 6MWT for determining exercise capacity when the 6MWT is not feasible due to technical restrictions. The 6MST can be proposed as a new exercise capacity evaluation tool in AS, as it is valid, reliable, portable and inexpensive.

References:

[1] van der Esch, Martin, et al. Respiratory muscle performance as a possible determinant of exercise capacity in patients with ankylosing spondylitis. Australian Journal of Physiotherapy, 2004;50(1):41-46.
[2] ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories. ATS statement: guidelines for the six-minute walk test. Am J Respir Crit Care Med. 2002;166(1):111–117.
[3] Grosbois JM, Riquier C, Chehere B, et al. Six-minute stepper test: a valid clinical exercise tolerance test for COPD patients. Int J Chron Obstruct Pulmon Dis. 2016;11:657–663.

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THU0609-HPR RESPONSIVENESS OF THE DISABILITIES OF THE ARM, SHOULDER AND HAND (DASH) AND THE UPPER EXTREMITY FUNCTIONAL INDEX (UEFI) IN PATIENTS WITH POSTTRAUMATIC ELBOW STIFFNESS

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Background: There are many patient-rated outcome measures to assess the subjective component of function in musculoskeletal disorders of elbow. The first step of functional assessment is to select the instrument, which is sufficiently responsive. Although the disabilities of the arm, shoulder and hand (DASH) and the upper extremity functional index (UEFI) are widely used in reporting outcomes in upper extremity function, the responsiveness of these two scales has not been investigated in elbow disorders.

Objectives: This study aimed to compare and report the responsiveness of the DASH and the UEFI in patients with posttraumatic elbow stiffness.

Methods: Fifty-seven patients with posttraumatic elbow stiffness (32 women; mean age, 44.54 ± 6.51 years) were included. All patients completed the DASH and UEFI at baseline and after a six-week intervention, which was a structured exercise program. Patients who improved (much improved and slightly improved) and those who unimproved were defined using a 5-point global rating chance scale (GROC). Responsiveness was assessed using effect size and standardized response mean (SRM). ES has observed the mean change scores divided by the standard deviation of the initial score. SRM was calculated for the improved group and the unimproved group, dividing the mean change scores by the standard deviation of mean change scores. Similar to effect size, SRM values and ES values of 0.20, 0.50 and 0.80 were considered small, moderate or large, respectively.

Results: Forty-eight patients (84.21%) were classified improved and 9 patients (15.79%) were classified unimproved according to the GROC. Effect sizes and SRMs were large (greater than 1.00) for participants who were “much improved” or “slightly improved” on the GROC for both the DASH and UEFI. For groups of participants who improved on the GROC, effect sizes and SRMS were ranged from 1.87 to 2.09 and 2.13 to 2.56 for the DASH, and 1.59 to 2.16 and 1.65 to 2.29 for the UEFI, respectively (Table 1).

Table 1. Mean baseline scores, change scores, effect size and standardized response mean for improved and unimproved patients

Global Rating of Change	Improved (n=48)		Unimproved (n=9)
	Much Improved (n=27)	Slightly Improved (n=21)	No Change (n=9)
	Mean (SD)	Mean (SD)	Mean (SD)
The disabilities of the arm, shoulder and hand			
Baseline	43.41 (14.22)	42.66 (13.41)	44.21 (7.24)
After 6-week	13.65 (11.60)	17.51 (8.91)	39.72 (6.81)
Change	-29.75 (11.61)	-25.14 (11.77)	-4.48 (3.26)
ES	2.09	1.87	0.61
SRM	2.56	2.13	1.37
The upper extremity functional index			
Baseline	42.00 (10.15)	42.76 (15.75)	39.75 (9.85)
After 6-week	64.00 (10.53)	67.47 (11.47)	47.00 (5.39)
Change	22.00 (9.60)	24.71 (14.96)	7.25 (6.47)
ES	2.16	1.56	0.73
SRM	2.29	1.65	1.12

Abbreviations: ES, Effect Size; SD, Standard Deviation; SRM, Standardised Response Mean.

Conclusion: These findings showed that for patients receiving physiotherapy for the management of elbow stiffness, both the DASH and the UEFI are similarly responsive to change in symptoms and disability and similarly able to discriminate between patients who improved or unimproved.

References:

[1] Hudak PL, Amadio PC, Bombardier C. Development of an upper extremity outcome measure: the DASH (disabilities of the arm, shoulder and hand). The Upper Extremity Collaborative Group (UECG). American journal of industrial medicine. 1996;29(6):602-8.
[2] Stratford PW, Binkley JM, Stratford DM. Development and initial validation of the upper extremity functional index. Physiotherapy Canada. 2001;53(4):259-67.
[3] Smith MV, Calfee RP, Baumgarten KM, Brophy RH, Wright RW. Upper extremity-specific measures of disability and outcomes in orthopaedic surgery. The Journal of bone and joint surgery American volume. 2012;94(3): 277-85.

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THU0610-HPR PREDICTION EQUATION FOR MUSCLE MASS OVERESTIMATES MUSCLE MASS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid Arthritis (RA) is a chronic, progressive, inflammatory autoimmune disease characterized by systemic manifestations. Often is observed in RA patients changes in body composition, such as reduced muscle mass (sarcopenia) with stable or increased fat mass (FM) [1]. Total-body skeletal muscle mass (SMM), specifically appendicular skeletal muscle, is a key diagnostic feature for the assessment of geriatric syndromes associated with skeletal muscle wasting, such as sarcopenia [2]. Estimation of SMM can be accomplished by a variety of methods, but the majority that considered the gold standard for this purpose are high cost. Due high cost, this methods are unfeasible in population studies and increases the difficulty of use in different clinical contexts. Predictive equations have been developed for estimation of whole-body skeletal muscle mass on the basis of anthropometric data, which can be collected in a more affordable manner, in an attempt to make SMM calculation easier and enable its use in epidemiological research and in clinical settings [3]. However, these equations were not developed for RA populations.

Objectives: To compare the anthropometric equation that estimate SMM with body composition measurements derived from DXA in RA patients.

Methods: Ninety patients diagnosed with RA according to ACR/EULAR criteria were recruited. Body composition was assessed by total body dual-energy x-ray absorptiometry (DXA) for measurement of appendicular lean mass index (ALMI, kg/m2). The prediction equation for muscle mass proposed by Lee et al (variables included: body weight, height, age, sex and race) was used to generate estimates of SMM, stratified by BMI. Frequency analysis, independent student’s t test and intraclass correlation coefficients (ICC) were performed. Statistical significance was considered as $p<0.05$

Results: Of the 90 patients analyzed, most were women (86.7%; 78/91), with mean age of 56.5±7.3 and median disease duration time of 8.5 (3-18) years. The mean of BMI was 27.39±5.14. Thirty (33.3%) RA patients had normal weight, forty patients (44.4%) were overweight and twenty patients (22.2%) were obese. In normal weight patients, just like overweight and obese patients, the estimates of SMM obtained by Lee equation were higher than those obtained by DXA measurements(Obese: Lee 10.66±1.19 vs DXA 7.10±0.73; Overweight: Lee 8.63±0.99 vs DXA 6.57±0.82; Normal weight: Lee 7.14±0.85vs DXA 6.03±0.71; $p<0.05$). The Lee equation estimates showed ICC of 0.78 (0.66 - 0.85) with DXA measurements. When stratified by BMI, Lee equation showed ICC of 0.87 (0.72 - 0.94) for normal weight, 0.83 (0.68 - 0.91) for overweight and 0.77 (0.42 - 0.90) for obese with DXA.

Conclusion: The muscle mass index by Lee equation overestimates the muscle mass in overweight or obese RA patients compared to DXA. Thus, sarcopenic RA patients may be wrongly classified as normal by the equation. This is probably related to the obese cachexia that these patients often present. More studies are necessary to analysis to better prediction equations for muscle mass in RA patients.

References:

[1] Smolen JS et al. Nat Rev Dis Prim. 2018;4:18001; [2] Kim J et al. Am J Clin Nutr 2002; 76: 378–83.; [3] Lee RC et al. Am J Clin Nutr 2000;72:796-803.

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