majority of respondents (64.5%) reported a high degree of presenteeism with an average level of 31.8%. On the other hand, absenteeism was uncommon, with just 7.3% of respondents reporting it. %. Presenteeism was associated with higher CSI score (0.049), increased disease activity (0.0007), disease duration (0.0072) and age (0.0019) (Table 1).

Conclusion: CS disease activity and age were the factor most significantly associated with presenteeism-related productivity loss in RA patients. our findings have implications for health policy and emphasize the significance of identifying high-risk RA patients by monitoring CS as an indicator of presenteeism and severe disease activity.

REFERENCES:

[1] Reilly MC, Zbrozek AS, Dukes EM. The validity and reproducibility of a work productivity and activity impairment instrument. Pharmacoeconomics 1993;**4**:353–365.

[2] Salaffi F, Di Carlo M, Vojinovic J, Tincani A, Sulli A, Soldano S, Andreoli L, Dall'Ara F, Ionescu R, Simić Pašalić K, Balčune I, Ferraz-Amaro I, Tlustochowicz M, Butrimienė I, Punceviciene E, Toroptsova N, Grazio S, Morović-Vergles J, Masaryk P, Otsa K, Bernardes M, Boyadzhieva V, Cutolo M. Validity of the rheumatoid arthritis impact of disease (RAID) score and definition of cut-off points for disease activity states in a population-based European cohort of patients with rheumatoid arthritis. Joint Bone Spine. 2018 May;85(3):317-322.

[3] Sakai R, Tanaka E, Inoue E, Sato M, Tanaka M, Ikari K, Yamanaka H, Harigai M. Association between patient-reported outcomes and impairments in work and activity in patients with rheumatoid arthritis in clinical remission: a retrospective analysis using the IORRA database. Mod Rheumatol. 2022 Sep 12:roac105. doi: 10.1093/mr/roac105. Epub ahead of print. PMID: 36094815.

Table 1. Multiple Regression Equation: Coefficients, Standard Errors and p values

Independent variables	Coefficient	Std. Error	t	P
(Constant)	*39.8907*			
mRDCI comorbidity score	0.1049	0.1609	0.652	0.5153
DASS-21	0.06935	0.08491	0.817	0.4151
CSI score	2.8830	1.2640	1.994	0.0498
ROAD score	0.8098	1.3899	0.583	0.5609
RAID score	4.4737	1.2903	3.467	0.0007
Kihon score	-0.3921	0.5589	-0.702	0.4838
Age, yrs	-0.6624	0.2100	-3.155	0.0019
Disease duration	-0.03542	0.01303	-2.719	0.0072

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POS0993-HPR NAILFOLD VIDEOCAPILLAROSCOPIC CHANGES IN PATIENTS WITH RHEUMATOID ARTHRITIS AND PSORIATIC ARTHROPATHY ON ANTI-TNF-ALPHA THERAPY

Keywords: Disease-modifying drugs (DMARDs), Rheumatoid arthritis, Psoriatic arthritis

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Background: It is known that systemic inflammation in rheumatic diseases was associated with microvascular involvement that can determine the severity and prognosis of the disease [1]. Videocapillaroscopy is an easy and non-invasive method with high sensitivity and specificity, that allows the study "in vivo" of nailfold capillaries.

Objectives: To assess the changes in capillary morphology in rheumatoid arthritis and psoriatic arthritis patients after anti-TNF-alpha treatment using nailfold videocapillaroscopy.

Methods: We performed a retrospective study on 80 patients (rheumatoid arthritis (RA) – 30 patients, psoriatic arthritis (PsA) – 31 patients and a control lot – 19 healthy subjects). Inclusion criteria: patients with high disease activity with RA (who met the EULAR/ACR 2010 criteria), and patients with PsA (who met CASPAR criteria). Exclusion criteria: age under 18 years old, Raynaud's syndrome, history of smoking or alcoholism, patients with history of biological treatment. Patients received anti-TNF-alpha therapy (Infliximab – 33.3% of RA patients and 25.8% PsA patients, Adalimumab - 36.7 % of RA patients and 38.7% of PsA patients, Etanercept- 33.3% of RA patients and 35.5% of PsA patients). In the RA group, 86% of the patients were females, and the mean age of the group was 42 ± 12. In the PsA group, 57% of the patients were females and the mean age of the group was 46 ± 19. We used a videocapillaroscope (VideoCap 3.0) with a magnification of 200x before (T0) and after 6 months of anti-TNF-alpha treatment (T1). We analyzed the capillaroscopic abnormalities such as bushy, tortuous capillaries, dilated capillaries, megacapillaries, hemorrhages, angiogenesis and avascular areas.

Results: We observed a significant correlation between the use of anti-TNF agents and improved. capillary density in RA patients (p=0.00001) and PsA patients (p=0.00002). Moreover, significant correlation was observed between the improvement of avascular areas and Adalimumab use in both groups (p=0.001). We also observed a significant correlation between the lack of angiogenesis and six months use of anti-TNF agents in RA group (p=0.00001) and PsA group (0.00003). A significant correlation was observed between the use of Infliximab and the lack of dilated capillaries (p=0.00005) in the RA group and the use of Etanercept (p=0.00001) and Infliximab (p=0.00001) in the PsA group. Also, strong correlation was observed between the lack of giant capillaries at 6 months and the use of TNF-alpha inhibitors in RA group (p=0.00003) and PsA group (p=0.00001). Significant correlation was found between the lack of hemorrhages and the use of 6 months of Adalimumab and Etanercept in the RA (p=0.00003) and the use of Adalimumab, Etanercept and Infliximab in the PsA (p=0.00001). No significant correlations were observed between videocapillaroscopic changes and age and sex. Also, no significant correlations were observed between the use of TNF-alpha inhibitors and elongated, tortuous and ramified capillaries in both groups.

Conclusion: According to our findings, after six months of anti-TNF treatment we observed a decrease in the incidence of dilated/giant capillaries, angiogenesis, hemorrhages and avascular areas in RA and PsA patients. Nailfold capillaroscopy could be useful in monitoring the efficacy of the biological treatment in patients with inflammatory arthritis.

REFERENCE:

[1] Cutolo M, Sulli A, Secchi ME, Paolino S, Pizzorni C. Nailfold capillaroscopy is useful for the diagnosis and follow-up of autoimmune rheumatic diseases. A future tool for the analysis of microvascular heart involvement? Rheumatology (Oxford). 2006 Oct;45 Suppl 4:iv43-6. doi: 10.1093/rheumatology/kel310. PMID: 16980724.

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POS0994-HPR CONVERGENT VALIDITY OF SIX MINUTE STEPPER TEST TO EVALUATE FUNCTIONAL EXERCISE CAPACITY IN PATIENTS WITH SYSTEMIC SCLEROSIS

Keywords: Systemic sclerosis, Physical therapy/physiotherapy, Validation

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Background: Exercise capacity is impaired in systemic sclerosis (Ssc) patients due to respiratory and cardiovascular involvements, muscle weakness, arthritis/arthralgia, and joint contractures. Various tests are employed to assess submaximal and maximal exercise capacity in Ssc. Maximal exercise tests, the gold standard for assessing exercise capacity, are challenging since they require expensive equipment and qualified personnel. The 6-minute walk test (6MWT) is a commonly used submaximal field exercise test to assess functional exercise capacity and is shown to be associated with the prognosis in SSc patients. The 6-minute stepper test (6MST) is a low-cost, space-friendly submaximal field test that has been demonstrated to be valid, reliable, and sensitive in assessing exercise capacity in various diseases.

Objectives: No research hasn't been done on the validity of 6MST in Ssc patients. Given that it mimics stair climbing, the 6MST may be more helpful in evaluating lower extremity functions in Ssc. Therefore, the aims of this study were (1) to assess the convergent validity of the 6MST in Ssc; and (2) to compare physiological responses, dyspnea and fatigue perception obtained in 6MST and 6MWT.

Methods: Thirty female patients with Ssc (52.13+11.83 years) were enrolled. Demographic and clinical characteristics were recorded. 6MST was performed twice (6MST-1 and 6MST-2) to eliminate learning effect and because the hydraulic jacks become more flexible after they have warmed up. The 6MST-2 was performed after a resting time of at least 20 minutes after 6MST-1. The 6MWT was carried out three hours after the 6MST-2 to minimize fatigue on outcomes. To test the convergent validity of the 6MST, correlation between the 6MWT and 6MST-2 was assessed. In addition, the association between 6MST and the level of physical activity, dyspnea and fatigue severity in Ssc patients was investigated. International Physical Activity Questionnaire (IPAQ), modified British Medical Research

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Council Questionnaire (mMRC) dyspnea scale, Fatigue Severity Scale (FSS) were used to assess physical activity, dyspnea and fatigue severity, respectively. The heart rate (HR), peripheral oxygen saturation (SpO_2), blood pressure (BP), modified Borg scale score for dyspnea, general and leg fatigue were recorded before and after 6MWT and 6MST. Changes between their final and initial values (Δ) for HR, SpO_2, BP, and modified Borg score were calculated.

Results: The number of steps in 6MST-2 was significantly higher than 6MST-1 ($p<0.001$). The number of steps in the 6MST-2 was significantly correlated with the distance walked in the 6MWT ($r=0.616$, $p<0.0001$). Additionally, significant correlations were observed between 6MST-2 and mMRC dyspnea scale score ($r=-0.733$, $p<0.0001$), FSS score ($r=-0.575$, $p\leq0.001$), IPAQ score ($r=0.330$, $p<0.05$). ΔBP, Δdyspnea, Δgeneral and Δleg fatigue perception were higher in the 6MST-2 than the 6MWT ($p<0.0001$). ΔHR and ΔSpO_2 were similar in 6MST and 6MWT ($p<0.05$).

Conclusion: The 6MST is a valid test to evaluate functional exercise capacity in Ssc patients. The 6MST might be more appropriate for evaluating perceived exertion, functioning, and lower extremity capacity. To assess the exercise capacity in Ssc patients, 6MST can be done with ease in all settings, including primary care to hospital settings with limited space and home-based telerehabilitation.

REFERENCES:

[1] Cuomo, G., Santoriello, C., Polverino, F., Ruocco, L., Valentini, G., & Polverino, M. (2010). Impaired exercise performance in systemic sclerosis and its clinical correlations. *Scandinavian journal of rheumatology*, *39*(4), 330-335.

[2] Coquart JB, Lemaître F, Castres I et al. Reproducibility and sensitivity of the 6-minute stepper test in patients with COPD. COPD 2015;12:533–8.

[3] Francisco DDS, Martinez L, Terrazas AC et al. Six-minute stepper test in hospitalized elderly patients: convergent validity, test-retest reliability and safety. PLoS One 2020;15:e0241372.

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POS0995-HPR SLE-DAS AS AN ALTERNATIVE TOOL TO MEASURE ACTIVITY OF SYSTEMIC LUPUS ERYTHEMATOSUS: COMPARISON WITH SLEDAI-2K, IN A POPULATION FROM THE DOMINICAN REPUBLIC. PILOT STUDY

Keywords: Systemic lupus erythematosus

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Background: Systemic lupus erythematosus (SLE) is a systemic autoimmune disease that mainly affects women. Efforts are currently being made to validate the Systemic Lupus Erythematosus Disease Activity Score (SLE-DAS), since it allows quantifying the magnitude of the findings as opposed to an arbitrary value of present or absent in the renal, joint, hematological and serological spheres. [2]

Objectives: To evaluate the activity of Systemic Lupus Erythematosus with the SLE-DAS tool, comparing it with SLEDAI2-K.

Methods: Descriptive, observational, transversal. Patients from the Rheumatology Service of the Padre Billini Teaching Hospital were evaluated between October-December 2022. Inclusion criteria: > 18 years, SLE according to the EULAR/ACR 2019 classification criteria. Exclusion criteria: diagnosis of another autoimmune disease, patients with cognitive deficits. SLE-DAS tool: Inactive ≤2.08, mild 2.08 - 7.64, moderate/severe >7.64, SLEDAI: Inactive: <3, Mild to moderate: 3/12, severe >12. Descriptive analysis and Spearman's rho (ρ) correlation using SPSSv23.

Results: 92 patients met inclusion criteria. 95.7% (88) female, mean age 41.5 ± 12 years, mean SLE 8.2 years. AHT 29.3% (27), DM 7.6% [7], lupus nephritis 35.8% (33), Obesity 7.6% [7], musculoskeletal 20.6% (19), Vasculitis 6.5% [6], Neuro Lupus 4.3% [4], antimalarials 96.7% (89), glucocorticoids 39.1% (36), Mycophenolate Mofetil 40.2% (37), Rituximab 7.6% [7], Methotrexate 5.4% [5], Azathioprine 4.3% [4], Tacrolimus 2.1% (2), Cyclophosphamide 1.1% [1]. SLE-DAS inactive: 81.5% (75) vs SLEDAI inactive: 88% (81), SLE-DAS inactive: 81.5% (75) vs SLEDAI inactive: 88% (81) (Spearman's rho (ρ)= -0.11), a gradient difference of 6.5% [6].

Conclusion: Our study demonstrated a significant inverse correlation in the correlation between SLE-DAS vs. SLEDAI in inactive patients, supporting that the use of the SLE-DAS may be more sensitive to assess activity or changes in the clinical course of patients with SLE. More studies are needed to validate this tool and standardize it for our population.

REFERENCES:

[1] Zucchi, D. et al. (2019) One Year in review 2019: Systemic lupus erythematosus, Clin Exp Rheumatol. Available at: https://www.clinexprheumatol.org/abstract.asp?a=14436 (Accessed: December 12, 2022).

[2] Jesus, D. et al. (2019) "Derivation and validation of the SLE disease activity score (SLE-Das): A new SLE continuous measure with high sensitivity for changes in disease activity," Annals of the Rheumatic Diseases, 78(3), pp. 365–371. Available at: https://doi.org/10.1136/annrheumdis-2018-214502.

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HPR Epidemiology and public health (including prevention)

POS0996-HPR THE PREVALENCE OF PULMONARY ARTERIAL HYPERTENSION IN PATIENTS WITH MIXED CONNECTIVE TISSUE DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS

Keywords: Epidemiology, Systematic review, Mixed connective tissue disease

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Background: The prevalence and outcome of mixed connective tissue disease-associated pulmonary arterial hypertension (MCTD-PAH) has not been well understood.

Objectives: Our aim was to review the current knowledge on the prevalence, severity, and mortality of MCTD-PAH. We also aimed to examine the trend of the prevalence of MCTD-PAH over the years.

Methods: PubMed/Medline, Embase, Scopus and Web of Science electronic databases were searched for the published randomized controlled clinical trials (RCTs) and observational/original studies on PAH in patients with MCTD from January 1972 – December 2020.

Results: The results were pooled using random-effects meta-analysis based on the DerSimonian and Laird method. A total of 983 patients from eight studies were included in the meta-analysis (K=8, N=983). Pooled prevalence of PAH in MCTD patients was 12.53% [95% CI 8.30%-18.48%] with significant level statistical heterogeneity tau2=0.30, tau=0.55, I2 83.3%, H=2.13 Q(df,7) =31.90, P=0.001. There was no association between PAH and female gender or age. The percentage of deaths in MCTD patients due to PAH varied and reached up to 81.8%.

Conclusion: This is the first systematic review and meta-analysis investigating the prevalence of PAH in patients with MCTD and it revealed an overall prevalence of PAH in patients with MCTD of 12.53%. Our results showed trends of reduced prevalence of MCTD-PAH over the years, reconfirmed the lower prevalence rate in the recent studies, but revealed increased mortality rate. We also determined the low impact of the age, gender, and interstitial lung disease on MCTD-PA.H.

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POS0997-HPR LUPUS MORTALITY IN RELATION TO THE OVERALL ENVIRONMENTAL QUALITY INDEX AND ITS FIVE DOMAINS

Keywords: Geographical differences, Prognostic factors

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Background: Growing evidence suggests a role of exposure to chemicals and industrial pollutants, such as hydrocarbons, silica, mercury, organochlorines and trichloroethylene, particulate air pollution, UV radiation, infectious agents, living in certain geographic regions, and sociodemographic factors in increasing the risk and/or affecting the outcome of systemic lupus erythematosus (SLE). We utilized the environmental quality index (EQI) developed by the U.S. Environmental

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