AB1172 NEUROPATHIC PAIN SCREENING TOOLS IN RHEUMATOID ARTHRITIS: REAL WORLD DATA

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Background: The Leeds Assessment of Neuropathic Symptoms (LANSS) and the painDETECT questionnaire (PDQ) are two validated screening tools for neuropathic pain (NP). Recent evidence reported a low level of agreement between these tests in knee Osteoarthritis. Several studies have recently applied the PDQ in Rheumatoid Arthritis (RA), suggesting a NP component in these patients, although the application and performance comparison with LANSS is yet to be studied.
Objectives: Evaluate PDQ and LANSS performance for NP classification and investigate its optimal cutoff points in a RA cohort.
Methods: Observational, cross-sectional study was designed including RA patients followed at our Rheumatology department. Patients with diagnosed neuropathy or non-RA risk factors for NP were excluded. Selected patients were evaluated in a medical visit where LANSS and PDQ were applied. Agreement between the two questionnaires was evaluated using kappa coefficient analysis. Receiver operating characteristic (ROC) analysis was performed using each tool as gold-standard and cutoff points to optimize agreement were investigated. Non-concordant patients were compared with concordant patients using parametric and non-parametric tests. Significance level was set as <0.05.
Results: 112 RA patients were included, 86 (77%) were females, with a mean (SD) age of 55.1 (10.8) years and median disease duration of 13 years (range: 2–41). 102 (91%) were treated with DMARDs and 42% with a biologic DMARD. 45 (40%) patients had NP applying the LANSS ($\geq$12) and 28% had NP in the PDQ (19 possible and 12 likely; no demographic or clinical significant differences were found between these two groups). 82 (73%) patients had concordant NP classification (59 negative, 23 positive) by the two tests. Concordant group had significantly superior median disease duration and inferior LANSS scores compared to non-concordant group (14 *vs* 12 years and 8 *vs* 13, respectively, $p<0.05$) with no other significant differences found. A moderate agreement (κ=0.41) and linear correlation (r=0.58, $p<0.001$) were observed between the two tests. In the ROC curve analysis, PDQ ($\geq$13) showed an area under the curve (AUC) of 0.80, 95% CI [0.72–0.88] with a sensitivity and specificity of 51% and 88%, respectively, using LANSS as gold standard. LANSS ($\geq$12) had an AUC of 0.80, 95% CI [0.71–0.90] and a sensitivity and specificity of 74% and 73%, respectively, using PDQ as gold standard. After ROC curve analysis, optimal cutoff for PDQ was 10, showing greater sensitivity (69%) but lower specificity (79%) with a slight increase in the agreement between the tests (κ=0.48). For the LANSS, the optimal cutoffs were the previous value or 13 (sensitivity 68% and specificity 78%) with a modest gain in the agreement (κ=0.42). Correction for both cutoff points resulted in a more substantial increase in agreement level (κ=0.51).
Conclusions: In this study, LANSS and PDQ had a moderate level of agreement, possibly because they capture different dimensions of NP. New possible cutoffs were studied to increase agreement between the tests. Further studies with other conditions and a validated gold-standard for NP are needed to confirm this data.
References:
[1] Cohen J. Educ Psychol Meas. 1960;20:37–46.
[2] Moreton B.J. et al Arthritis Care Res. 2015 Apr;67(4):519–28.
[3] AW Christensen et al. Scand J Rheumatol 2016;1–9.
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AB1173 PHYSICIAN VISUAL ANALOG SCALE ESTIMATES FOR OVERALL GLOBAL ASSESSMENT, INFLAMMATION, DAMAGE, AND DISTRESS TO ASSESS PATIENTS AND SUPPORT CLINICAL DECISIONS IN ROUTINE RHEUMATOLOGY CARE: ANALYSIS OF INTER-RATER RELIABILITY

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Background: A physician global estimate of patient status (DOCGL) was developed to quantify inflammatory activity in rheumatoid arthritis (RA) clinical trials. However, DOCGL may be affected by joint damage and/or distress (in fibromyalgia, depression, etc). One approach to document the possible impact of these problems on DOCGL is to add 3 physician visual analog subscale (VAS) estimates for inflammation, damage, and distress. These subscales have been shown to be useful in patients with diagnoses other than RA (1) but inter-rater reliability has not been analyzed.
Objectives: To analyze inter-rater reliability between senior rheumatologists and trainees on 4 VAS estimates for overall DOCGL, inflammation (DOCINF), damage (DOCDAM) and distress (DOCSTR), in patients with various rheumatic diagnoses.
Methods: Patients seen in routine care were assigned 4 physician VAS estimates for overall DOCGL, and levels of inflammation or reversible symptoms (DOCINF), organ damage or irreversible symptoms (DOCDAM), and distress or symptoms not explained by inflammation or damage (DOCSTR). VAS estimates were assigned independently by a senior rheumatologist and a rheumatology trainee for the same patient at the same visit. Mean differences, correlations, and possible discordance of $\geq$2units/10 between estimates of the senior rheumatologist and the trainee were analyzed.
Results: VAS estimates by the 2 physicians were analyzed in 64 patients with different rheumatic diseases, including osteoarthritis (16%), RA (14%), fibromyalgia (14%), and systemic lupus erythematosus (13%). Mean differences of scores assigned by the senior rheumatologists versus trainees were <0.43/10, less than 5% of the total scales, slightly lower for DOCINF, and slightly higher for the 3 other subscales ($p<0.001$) (Table). Mean estimates of both physicians for damage and distress were higher than for inflammation by 1.1 to 1.6 units (Table). Correlations of all 4 VAS between rheumatologists and trainees were significant ($p<0.001$) (Table). More than 70% of the estimates were concordant for DOCGL (75%), DOCINF (78%), and DOCDAM (70%), while concordance was somewhat lower for DOCSTR (57%) (Table).
Conclusions: Good inter-rater agreement between two physicians is seen for 4 VAS estimates for overall global assessment, inflammation, damage, and distress. Mean scores for damage and distress were higher than for inflammation, indicating the complexity of rheumatology care. Quantitative scores can add to documentation of patient status and to support of clinical decisions for doctors, patients, and payers.
References:
[1] Bull Hosp Jt Dis (2013). 2015 Jul;73(3):178–84.
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AB1174 ORM2 AND APOA2 SERUM LEVELS CAN PREDICT OA PATIENT RESPONSE TO CHONDROITIN SULFATE/GLUCOSAMINE HYDROCHLORIDE: RESULTS FROM THE MOVES STUDY

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Background: A shotgun proteomic analysis performed on sera from patients enrolled in the Multicentre Osteoarthritis interVEntion trial with Sysadoa (MOVES) led to the discovery of a panel of putative predictive protein biomarkers useful to stratify osteoarthritis (OA) patients into responders and non-responders, either to Chondroitin sulfate/Glucosamine hydrochloride (Droglican®, Bioiberica S.A.,Barcelona,Spain) or Celecoxib.
Objectives: To validate the sensitivity and specificity of a panel of six serum proteins useful to predict the patient response to Droglican treatment, in order to optimize therapeutic outcomes in OA.
Methods: We analyzed the serum levels of a panel of six putative predictive protein biomarkers by enzyme-linked immunosorbent assays (ELISAs): APOA2, APOA4, APOH, C4BPa, ITIH1 and ORM2. All the subjects studied belonged to the MOVES cohort at baseline (Droglican sub-cohort, n=260). Non-parametric and multivariate analysis were performed to test the effects of the clinical variables, including gender, age, BMI, radiologic Kellgren/Lawrence (K/L) grade and WOMAC score at baseline, as well as the serum levels of each of the six mentioned proteins, on the response to Droglican treatment according to the OMERACT-OARSI criteria and the WOMAC pain score (20%, 30%, 50% and 70% reduction) recorded at the end of the trial (after 6 months of treatment).
Results: Non parametric analysis showed decreased serum levels of ORM2

Abstract AB1173 – Table 1. Mean and SD for the four physician estimates according to the rheumatologist (rheum) and the trainee, inter-rater reliability and levels of concordance and discordance for each estimate

VAS (0–10)	Rheum	Trainee	Mean Difference	Pearson r all $p<0.001$	Rheumatologist (Rheum) and trainee discordance groups by 2/10 units, no. (%)		
					Rheum > Trainee	Rheum = Trainee	Rheum < Trainee
Overall DOCGL	3.9 (1.9)	4.0 (2.2)	-0.05 (1.9)	0.61	11 (17%)	48 (75%)	5 (8%)
DOCINF	1.7 (1.6)	1.4 (1.6)	0.28 (1.6)	0.50	8 (13%)	50 (78%)	6 (9%)
DOCDAM	2.8 (2.2)	2.7 (2.2)	0.01 (2.0)	0.61	11 (17%)	45 (70%)	8 (12%)
DOCSTR	3.3 (2.9)	2.9 (2.4)	0.43 (2.8)	0.47	12 (19%)	36 (57%)	15 (24%)

at baseline in responders to Droglican according to the OMERACT-OARSI criteria compared to non-responders (76,11±53,25 vs 104,25±84,93; n=171 *vs* 46; *p*=0,047), meanwhile the values for APOA2 appeared statistically increased in responders with a 50% reduction in WOMAC pain score compared to non-responders (79,95±58,53 vs 66,05±46,49; n=129 *vs* 112; *p*=0,028). Patients with lower levels of ORM2 (median concentration=69,8 ug/mL) and/or higher level of APOA2 (median concentration=63,8 ug/mL) showed a markedly better response to pharmacotherapy. Statistical interactions between ORM2 and APOA2 levels and radiologic K/L grade were also detected (*p*=0,048 and *p*=0,002 respectively). No statistically significant differences were found for the other four proteins.
Conclusions: Our results show that ORM2 and APOA2 levels significantly correlates with patients response to Droglican suggesting the possibility of their use in predictive assays in order to optimize therapeutic outcomes in OA. Validation studies in different cohorts are needed to identify and validate a cut-off point for these biomarkers.
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AB1175 DECREASED AUTOPHAGIC ACTIVITY IN T LYMPHOCYTES FROM PATIENTS WITH NEWLY DIAGNOSED SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Alterations in T-lymphocyte homeostasis have been suggested to play a key role in the pathogenesis of SLE. Autophagy is now emerging as a core player in the development and the functioning of the immune system.
Objectives: we investigated the autophagic behavior of T cells from patients with SLE.
Methods: Thirty patients with SLE and twenty-five healthy subjects matched for gender and age were recruited. The levels of mRNA encoding ATG5, ATG7, Beclin-1 and LC3 was determined by quantitative real-time polymerase chain reaction (qPCR), and evaluate autophagy activity in T cells by flow cytometry. The number of autophagic structures was examined by TEM in T cells from SLE patients and healthy controls.
Results: We documented a decreased of mRNA expression of LC3 and Atg7 in T cells from patients with SLE (t=2.282, P=0.027; t=3.573, P=0.001).A decreased percentage of autophagic cells was comfirmed in T cells from patients with SLE, as compared to healthy donors by flow cytometry (t=2.034, P=0.047).no significant correlations between autophagy levels in T cells and the disease activity of patients were observed ($p>0.05$).
Conclusions: Our results indicate that autophagy activity in T cells from SLE patients is decreased, which may contribute to the development of SLE, and thus that resetting autophagic activity may be an important therapeutic goal in this autoimmune disease.
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AB1176 ANTI-MX1 ANTIBODY: A NEW POTENTIAL BIOMARKER EXPANDING THE CONCEPT OF INTERSTITIAL PNEUMONIA WITH AUTOIMMUNE FEATURES (IPAF)

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Background: "Interstitial pneumonia with autoimmune features (IPAF)" is the updated concept instead of UCTD-ILD or lung-dominant CTD, classifying idiopathic interstitial pneumonias (IIPs) with underlying autoimmune processes by the presence of a combination of features from three domains; clinical, serologic, and morphologic domains. In IIPs, idiopathic non-specific interstitial pneumonia (INSIP) and idiopathic pulmonary fibrosis are often difficult to distinguish without surgical lung biopsy. We discovered autoantibody against myxovirus resistance protein-1 (MX1), type I interferon-inducible protein, as the biomarker specific for INSIP and associated with favorable prognosis [1]. We also reported that some of patients with collagen vascular diseases (CVDs) possess anti-MX1 antibody only when complicated with interstitial lung disease [2].
Objectives: This study was aimed to investigate the association of anti-MX1 antibody positivity with IPAF category in patients with IIPs and their clinical characteristics through a cross-sectional study. We also assessed the potential of anti-MX1 antibody to expand the concept of autoimmunity in IIPs.
Methods: Anti-MX1 antibodies in sera of consecutive Japanese patients with chronic fibrosing IIPs (n=114), who visited the outpatient office of Osaka University Hospital from February to October 2014, were measured using ELISA. IPAF patients were classified according to the IPAF criteria in 2015 ERS/ATS statement. Comparison of the patients' clinical characteristics and high-resolution computed tomography (HRCT) findings evaluated by three thoracic radiologists blinded to the clinical information were statistically analyzed. Serum IFNα was measured using ELISA.
Results: Among 114 patients with IIPs, 20 patients (17.5%) were positive for anti-MX1 antibody and 33 patients (28.9%) were classified as IPAF. When IPAF patients (n=33) were compared with non-IPAF patients (n=81), IPAF was associated with female, higher level of C-reactive protein (CRP), the presence of HRCT findings of "predominantly peribronchovascular distribution" and the absence of two HRCT findings of "honeycombing' and 'traction bronchiectasis". Of 81 non-IPAF patients, 13 patients (16.0%) were anti-MX1 antibody positive. Among them, if anti-MX1 autoantibody were included into the existent serological domain in the IPAF criteria, 8 patients (9.9%) would be classified as IPAF. Anti-MX1 antibody positivity did not correlate with IPAF category. In non-IPAF patients, anti-MX1 antibody-positive patients were associated with female and predominantly smaller 'spared area' when compared to anti-MX1 antibody-negative patients. Serum IFNα concentration was not associated with either anti-MX1 antibody positivity or IPAF category.
Conclusions: A substantial number of patients classified as non-IPAF were positive for anti-MX1 antibody, suggesting that this new autoantibody could have the potential expanding the definition of IPAF. The further studies for the clinical course and drug efficacy of anti-MX1 antibody-positive non-IPAF patients must be explored.
References:
[1] Hamano Y et al. Classification of idiopathic interstitial pneumonias using anti–myxovirus resistance-protein 1 autoantibody. Scientific Reports 2017 (in press).
[2] Ann Rheum Dis 2014;73(Suppl2): 1139.
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Rehabilitation

AB1177 THE COMBINATION OF PHYSIOTHERAPY AND BIOLOGICAL THERAPY FOR THE MANAGEMENT OF ANKYLOSING SPONDYLITIS

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Background: The management of the ankylosing spondylitis (AS) aims at relieving patients'pain, restoring their joint mobility and preventing structural damage which results in progressive deformity, in order to improve the functional status and quality of life of these patients, using various pharmacological and non-pharmacological means. The importance of the physiotherapy in patients with AS under biological treatment was reported in some studies, but the literature on this topic is still scarce.
Objectives: Report the experience, of our department of Physical and Rehabilitation Medicine, in the management of the AS, especially the effect of the combination of physiotherapy and biological therapy on pain, disease activity, spinal mobility, functional capacity and quality of life.
Methods: Prospective study on 20 patients diagnosed with AS, treated with tumor necrosis factor alpha inhibitors (TNFa inhibitors) and placed under physiotherapy for 3 months. At baseline and at the end of 3 months, we evaluated Bath AS Disease Activity Index (BASDAI), occiput-wall distance, Hirtz index, Schober index, Bath AS Functional Index (BASFI) and Visual Analog Scale (VAS) of patient's quality of life.
Results: The 20 patients (9 females), aged 38.4 years±10.24 [range 19–55], treated with TNFa inhibitors (Etanercept in 35% and Adalimumab in 65%) and included in a physiotherapy program of 3 months (3 sessions/week), comprising muscle relaxation, flexibility exercises for cervical, thoracic and lumbar spine, range of motion exercises of coxofemoral joints, muscular strengthening, straight posture and respiratory exercises.
After 3 months, all outcome parameters showed statistically significant improvements ($P<0,05$), as shown in the folliwing table.

		Paired Diffrences	
		Mean	*P* value
Pair 1	BASDAIbaseline – BASDAImonth3	3,44615	0,000
Pair 2	BASFIbaseline – BASFImonth3	2,9654	0,000
Pair 3	OWIbaseline – OWImonth3	1,7125	0,023
Pair 4	SCHOBERbaseline – SCHOBERmonth3	-1,5667	0,000
Pair 5	HIRTZbaseline – HIRTZmonth3	-0,7273	0,001
Pair 6	VASpatient_baseline - VASpatient_month3	4,0833	0,000

Conclusions: According to our results, the combination of physiotherapy and