isoform in active patients, suggest a stronger value of this isoform as a biomarker of disease activity.

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THU0679 CAN THE USE OF NEW TECHNOLOGIES IMPROVE THE USE OF PATIENT REPORTED OUTCOMES (PROS) AND PATIENT PARTICIPATION IN A NATIONAL REGISTRY?

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Background: PROs are especially useful in the management of rheumatic diseases in complement to physician evaluation. However they are time consuming and used in a limited manner in the daily clinical practice.
Reuma.pt is the Portuguese national rheumatic diseases register and one of the few registries in Europe that allows the patient to do at home the PROs before the appointment. In our institute we have complemented that with the creation of a paper free day hospital with the use of touch screen computers that also allows the patient to do the PROs before the clinical evaluation by the rheumatologist.
Objectives: to compare the impact of the use off Reuma.pt at home PROs completion platform before and after the utilization of touch screen computers in the day hospital.
Methods: We determined the number of patients and appointments with the use at home of the PROs platform one year prior to the introduction of the touch screen computer at our day hospital (October 2014 –October 2015) and one year after the paper free day hospital was installed (November 2015-November 2016). To determine any change of pattern of the use at home of the platform and the relations between that and patients characteristics.
Results:

Table 1. Diferences between previous use of touchscreen computers in the use at home PROs

	T0 October 2014 to October 2015	T1 November 2015 to November de 2016
Number of appointments with PROs done at home/total of appointments with completed PROs/percentage	93/419 /22.1%	216/448/48,2%
Number of patients with PROs done at home	57	106
Age	45.19±10.33	49.82±11.54
Sex	40F + 17M	75F + 31M
Mean school years	11.79±3.96 (N=29)	10.35±4.3 (N=68)
Under biologics	53 appointments (56.99%)	162 appointments (75%)
Diagnosis	43 AS, 11 RA e 3 PsA	61 AS, 33 RA e 12 PsA

When we analyse the available variables between the patients that performed the PROs at home we found for both periods considered that they were younger (45,2/49,8 vs 53,4/55,1 $p<0.001$) they have more education (11.8/10.35 vs 8.2/7,9) no differences were found regarding gender. There is a tendency that with the continuous use of touchscreen computers at the day hospital less educated (T0 -11.8, T1–10.35 school years) and older patients (T0- 45,2/ T1 -49,8 years) are using more at home platform of Reuma.pt.
Conclusions: The use of technology could have a consider impact on the way we collected data from our patients. With the use of a touchscreen computer we have improved not only the overall completion of PROs but also increased the familiarity of patient to the online questionnaires. Number of appoitments with previous at home completion of the questionnaires more than double. This has a clear impact on patient participation, quality of data in the registry but even more impact on time and human resources at a day hospital.
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THU0680 VALIDATION OF EQ-5D, RAPID-3 AND HADS QUESTIONNAIRES FOR THE ASSESSMENT OF THERAPY EFFICACY IN PANNICULITIS PATIENTS

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Background: Pn is a group of heterogeneous inflammatory diseases characterized by involvement of the subcutaneous fat (SF), locomotor system and viscera, *and* the number of panniculitis (Pn) cases is increasing in everyday practice of a rheumatologists. There are no specific scales available to assess efficacy of Pn therapy. EQ-5D, RAPID-3 and HADS validity, sensitivity and specificity were proven for some rheumatic diseases. Thus, evaluation of EQ-5D, RAPID-3 and HADS psychometric properties in Pn patients has become the objective of this study.
Objectives: Evaluate psychometric properties of questionnaires EQ-5D, RAPID-3 and HADS in Pn patients.
Methods: The study group included 83 Pn pts (80 females, 3males) aged 43,4±13,9 years with median disease duration of 5 [2;24] months who were at the record of V. A. Nasonova Research Institute of Rheumatology during 2009–2015 yy. All patients filled in EQ-5D, RAPID-3 and HADS questionnaires during the first and the control visits at 12 months. Questionnaires' sensitivity was assessed by comparing patient's answers and objective response to therapy measured by achievement of complete regression of the nodules on the control visit. The construct validity was measured based on correlation with "external criteria", including presence of arthritis and arthralgias, tenderness of nodules at palpation measured by VAS, ESR and CRP values.
Results: Positive dynamics (nodule regression) correlated with improved EQ-5D (EQ-5D-scale - p=0,005, EQ-5D-VAS - p=0,004) and RAPID-3 (p=0,0011). Median Δ EQ-5D and HADS-depression after therapy were 0,27 [0,12; 0,45] (p=0,005), and 2 [1;5] (p=0,13) scores, respectively, while average decline in RAPID-3 and HADS-anxiety scores after therapy was 9,2±5,2 (p=0,0011) and 4±3 (p=0,15), respectively. EQ-5D showed the greatest power in Pn patients' quality of life assessment. EQ-5D-scale and VAS-"thermometer" showed moderate correlation with nodule tenderness at baseline (r= -0,23, p=0,036) & (r= -0,45, p=0,0003), and control visits (12 months) (r= -0,38, p=0,0002) & (r= -0,41, p=0,0002); EQ-5D-scale showed moderate correlation with ESR and CRP values at the control visit (r= -0,23, p=0,03) & (r= -0,25, p=0,005), and EQ-VAS – with CRP value at 12 months (r= -0,33, p=0,002), demonstrating clear correlation with patient's objective health status and lab parameters values. Moderate correlation between functional RAPID-3 values and nodule tenderness at baseline (r=0,34, p=0,0015) and after 12 months (r=0,5, $p<0,0001$) are also indicative of close links between the questionnaire data and pts' objective health status. As for the HADS scale, moderate correlation was found only between HADS-depression and nodule tenderness at baseline (r= -0,24, p=0,026) and 12 months (r=0,28, p=0,014) visits. There were no other significant correlations identified.
Conclusions: EQ-5D and RAPID-3 questionnaires should be considered as valid and sensitive instruments for the assessment of the quality of life and efficacy of therapy in Pn pts.
Disclosure of Interest: None declared
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THU0681 BASELINE ESSDAI/DAS SCORES IN 8061 PATIENTS WITH PRIMARY SJÖGREN SYNDROME: CHARACTERIZATION OF SYSTEMIC DISEASE

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Objectives: To characterize and quantify systemic involvement at diagnosis in a large international cohort of patients with primary Sjögren's syndrome (SS).
Methods: The Big Data Sjögren Project was formed in 2014 to take a "high-definition" picture of primary SS at diagnosis by merging international databases (9302 consecutive patients from 21 countries of the 5 continents). The main features (including ESSDAI/DAS) at diagnosis were analysed.
Results: Baseline ESSDAI was available in 8061 patients (93% female, mean age 53yrs). The mean ESSDAI score at diagnosis of the entire cohort was 6.4±7.9. In 1498 patients (19%), score at diagnosis was 0, while 681 (8%) presented with high activity in at least one domain. The main systemic features at diagnosis were

biological (51%), articular (38%), haematological (24%) and glandular (22%). Low DAS was reported in 4480 (56%) patients, moderate DAS in 2483 (31%) and high DAS in 1098 (14%) patients. The mean baseline ESSDAI was higher the younger the patient was ($p<0.001$), higher in White patients (6.9 vs 5.1, $p<0.001$), males (8.4 vs 6.2, $p<0.001$), those with positive ocular (6.7 vs 4.9, $p<0.001$) or oral (6.8 vs 6.2, $p=0.016$) tests, and those with ANA (6.9 vs 4.5, $p<0.001$), RF (7.5 vs 5.8, $p<0.001$) and anti-Ro/La antibodies (7.2 vs 4.4, $p<0.001$). Logistic regression identified as independent variables White ethnicity (OR 3.07), abnormal ocular tests (OR 2.14), ANA (OR 1.67) and Ro/La autoantibodies (OR 2.78).

Conclusions: This is the largest series of patients with primary SS in whom the ESSDAI score has been evaluated. Primary SS is undeniably a systemic disease even at the time of diagnosis, with nearly 80% of patients showing an ESSDAI score >0.

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THU0682 POPGEN-OSSA: DEVELOPMENT OF AN ORGAN SPECIFIC SELF ASSESSMENT (OSSA) FOR INTERDISCIPLINARY DOCUMENTATION OF PATIENT REPORTED CLINICAL OUTCOMES

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Background: Patient reported outcome measures are comprised of either sets of questionnaires or patient global assessment based on visual analogue scale (VAS). These patient-reported outcome measures lack accuracy and/or clinical feasibility when comparing heterogeneous patient groups with different diseases, or when characterizing patients with systemic disease involving different organ systems.

Objectives: Developing a clinical feasible patient-reported outcome measure based VAS assessment of different organ systems.

Methods: Patients were asked to rate their health status in a 10cm VAS (0–100%) concerning their global health as well as of different organ systems, namely heart, lung, muscle and joints, gastro-intestinal, metabolic, uro-genital, skin, neuro-psychiatric, eyes and ears. All VA-scales were "anchored". Patients were advised to rate their health status below 75% if they felt "medical action is needed", they should rate the health status <50% in case of a "strong need for medical action" and <25% in case of a "medical emergency".

336 patients from different outpatient clinics (cardiologic, pneumologic, gastro-intestinal, nephrologic, neurologic, dermatologic, rheumatologic, ophthalmologic and obesity outpatient clinic) as well as patients from internal emergency clinics and a general practitioner clinic were evaluated. Both, patients and the attending physicians completed the Popgen-OSSA. In addition the attending physician was asked to document ranking of the 5 most important diagnoses of the patient.

Statistical analysis was carried out using non-parametric testing. Furthermore, to predict main diagnoses based on patients's as well as physician's OSSA state-of-the-art machine learning tools, namely support vector machines (SVMs), were applied. To assess model performance multi-class AUC (area under the ROC curve) according to Hand and Till (2001) was estimated based on repeated cross validation (10 folds, 5 repeats), optimizing the SVM's hyperparamters using grid search.

Results: The test showed a good reproducibility. With a mean percentage of 74±0.98 SE and 66±1.17 SE, respectively, the physicians OSSA rating was significantly higher than the rating of the patients ($p_{wilcoxon}<0.001$). Models predicting main diagnoses were constructed and estimated to perform with multi-class AUCs of 63.5% and 73.4% based on patient's and physician's OSSA, respectively.

Conclusions: In this preliminary trial with low sample size the Popgen-OSSA showed a good reproducibility and allowed a correct allocation of the patient's clinical problem to involved organ system by SVM analysis with multi-class AUC of up to 73.4%. These data merit further investigation and development of the Popgen-OSSA on larger patient cohorts.

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THU0683 RAPID DETERMINATION OF THE INFLAMMATION MARKER CALPROTECTIN IN SERUM FROM PATIENTS WITH INFLAMMATORY ARTHRITIS AT THE POINT OF CARE

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Background: A Treat-to-Target (T2T) strategy for inflammatory arthritis, targeting remission or minimal disease activity, is the recommended treatment approach by EULAR and ACR. This strategy relies on "tight monitoring" which necessitates regular clinical examination and measuring acute-phase reactants such as C-reactive protein. Calprotectin (MRP8/14; S100A8/A9), a relatively novel inflammation and disease activity marker in the arthritis field, exhibits several features which fit the "theranostic needs" for accurate therapy monitoring. Those features include discrimination between responders and non-responders [1], detection of subclinical disease activity [2] and prediction of relapse or radiographic progression [3]. The classical method to determine calprotectin in serum (sCAL) is ELISA which is used in service or central laboratories. A rapid and simple determination of sCAL at the point of care is a substantial step forward in supporting clinicians to deliver an efficient T2T strategy. Here, we report on the validation of a quantitative, rapid test which can measure sCAL within 15 minutes.

Objectives: (1) To demonstrate the performance evaluation of a quantitative lateral flow assay combined with a dedicated test reading device for the rapid quantification of calprotectin in serum; and (2) to compare results to a well-established laboratory reference method using patient samples.

Methods: The Quantum Blue® sCAL sandwich lateral flow immunoassay uses two highly specific monoclonal antibodies immobilized on the test membrane and on the gold label. 10μL of serum was diluted in 90μL of chase buffer, 60μL of this mixture was applied onto the lateral flow test cassette, which was incubated for 12 minutes at ambient temperature and then measured with the BÜHLMANN Quantum Blue® Reader. Performance evaluation (sensitivity, linearity, high-dose hook effect, interferences) was carried out according to CLSI guidelines. A method comparison based on 178 serum samples from RA and PsA patients was performed against the BÜHLMANN sCAL (MRP8/14) reference ELISA.

Results: The linearity study over the complete measuring range together with the observed limit of quantification (LoQ) of <0.5 μg/mL allowed a quantitative measurement in the clinically relevant range from 0.5 to 10.0 μg/mL calprotectin. No high dose hook effect was observed up to a concentration of 200 μg/mL. Moreover, no interferences were detected with triglycerides (37mmol/L), conjugated bilirubin (342μmol/L), unconjugated bilirubin (342μmol/L), and hemoglobin (200mg/dL). The Quantum Blue® sCAL lateral flow assay showed an excellent linear correlation (r=0.94, slope=1.05) to the BÜHLMANN sCAL (MRP8/14) reference ELISA. There was a negligible bias of -3.1% by Bland-Altman difference plot between the sCAL lateral flow assay and ELISA.

Conclusions: Rapid quantification of serum calprotectin using the Quantum Blue® sCAL assay represents a fast and reliable method for the determination of inflammation and the disease activity of a patient with inflammatory arthritis at the point of care. This rapid test shows excellent agreement to a corresponding laboratory reference method.

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THU0684 WORK IMPACT IN AXIAL SPONDYLOARTHRITIS: THE AS-WIS QUESTIONNAIRE PREDICTS THE RISK OF WORK IMPACT: A LONGITUDINAL STUDY OF 101 PATIENTS

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Background: Axial spondyloarthritis (axSpA) mainly affects the working-age subject and can have a moderate (short-term sick leave) or significant (long-term sick leave, disability status, unemployment) work impact.

Objectives: To evaluate the value of a simple and short (2 minutes) questionnaire, the AS-Work instability scale (AS-WIS) to predict the work impact of axSpA after 1–2 years.

Methods: Longitudinal study in 3 centers in Paris, France. Patients with axSpA according to the rheumatologist and the ASAS criteria were included. Patients were asked twice (1 to 2 year interval) to answer questionnaires evaluating: disease activity, demographic characteristics, impact on work (short-term and long-term sick leave, disability, unemployment), and the ASWIS questionnaire (1): a 20 item, simple screening tool for Work Instability (the consequences of a mis-match between an individual's functional ability and their work tasks). The risk of disability is assessed as low if the score is <11, medium between 11–18 and high>18. Only patients who answered both questionnaires were included for analyses. Statistical analyses included descriptive analyses and univariate/ multivariate