AS, as both diseases belong to the spondyloarthropathy group. 1100 patients with inflammatory rheumatic diseases provided the basis of RH-GIOP, a prospective study monitoring glucocorticoid (GC)-induced osteoporosis in patients with rheumatic diseases. RH-GIOP was established in 2015 at the Charité University Hospital. Bone mineral density data were measured by dual x-ray absorptiometry (DXA).

Methods: 92 patients with PsA (65% female) were compared with 51 patients suffering from AS (35% female). Potential risk and protective factors (e.g. data on GC treatment, anti-rheumatic therapy), laboratory parameters (e.g. Vitamin D, alkaline phosphatase, CRP, creatinine and inflammatory markers) and functional status (e.g. Health Assessment Questionnaire, sporting activities, back pain) were compared between these groups. Statistical analysis was performed descriptively using mean and standard deviation, t-tests for metric variables, and chi-square tests for nominal variables. Due to the heterogeneous gender distribution, an additional statistical matching was performed to compare patients matched by age and gender.

Results: Patients with PsA displayed significantly higher minimal T-scores than patients with AS (p=0.003) even though patients with AS were younger and more often male (p<0.001). AS patients showed a higher frequency of osteoporic bone densities (p<0.05), however, no differences in the frequency of osteoporotic bone densities were found. Body-mass-index (BMI) was significantly higher (p<0.001) in PsA patients. PsA patients taking csDMARD use or cumulative GC dose were found. All results could be confirmed when groups were matched by gender and age.

Conclusion: Our results demonstrate that patients with PsA display higher bone density compared to age and gender matched patients with ankylosing spondylitis. Possible influencing factors could be the higher frequency of csDMARD use, higher BMI or the lower frequency of back pain in PsA patients. Multivariate tests and additional biomarker investigations in larger cohorts are necessary to corroborate these findings and to identify underlying pathogenic differences which could serve for an explanation.

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SAT0373 QUANTITATIVE ASSESSMENT OF RESPONSIVENESS IN SACROILIAC JOINTS MRI OF PATIENTS WITH AXIAL SPONDYLOARTHRITIS: A PILOT STUDY.

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Background: The presence of inflammatory signals in sacroiliac joints (SIJ), using MRI, is used for early diagnosis of axial spondyloarthritis (axSpA)[1]. Some studies also demonstrate that this inflammation can be suppressed quite dramatically by TNF-α blockers. Different scoring methods to quantify inflammatory changes in SIJ using MRI have been defined and validated: SPARCC, Leeds, Berlin, and ASSpMRiA. However, its use is complex and subjective. Recently Zarco et al[2] developed a method to measure bone marrow edema (BME) in MRI images from SIJ. This method, in a semiautomatic procedure, allows to measure the area affected by inflammation and the signal intensity to produce an index: the SCAISS. A simplified version, the s-SCAISS, using only a semi-cylindrical slide, has been proposed with good validity and reliability results.

Objectives: To assess responsiveness of inflammation in SIJ of axSpA patients, treated with TNF-α inhibitors, using a novel score method: the s-SCAISS.

Methods: Two rheumatologists independently quantified SIJ images from axSpA patients by three methods (s-SCAISS, SPARCC and Berlin) on a single semi-cylindrical MRI slide (STIR). Patients were assessed before TNF-α therapy (PRE) and 3 months later (POST). Spearman correlations was used to analyze responsiveness between variables. Wilcoxon signed-rank test for significant differences and Cohen's d for calculating the effect size of improvement. Figure shows MRI images of a patient before and after treatment.

Results: 9 axSpA patients were recruited from the COSPAR cohort (44% female, age 47±13 years, disease duration 18±14 years, BMI 29±4). Results PRE and POST are shown in Table: mean values (sd), statistical significance (NS, not significant; * p<0.05; ** p<0.01), and Effect Size. In the first rows, different scoring system for MRI inflammation appears: Area analyzed by s-SCAISS, s-SCAISS, Berlin and SPARCC (using only a semi-cylindrical slide). Activity and functional indexes were lower with significant differences and a large effect size. Correlations of s-SCAISS with Berlin (rho=0.78;p<0.05) and SPARCC (rho=0.96;p<0.001) were good; with clinical disease activity outcomes were poor, except with BASDAS (rho=0.70;p<0.05). The best correlation according improvements appeared comparing reduction of ASDAS with reduction of s-SCAISS (rho=0.57) but this difference was not significant. Although improvements in BASMI was not significant, a good correlation was found between improvement in s-SCAISS and BASMI (rho=0.72;p<0.05).

SAT0374 ONSET OF AXIAL SPONDYLOARTHRITIS: REPERCUSSIONS ON PATIENTS' SOCIAL AND FAMILY LIFE: RESULTS FROM THE EUROPEAN MAP OF AXIAL SPONDYLOARTHRITIS (EMAS)

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Conclusion: Different methods exist for quantifying inflammation in MRI images of SIJ in axSpA patients. According to our preliminary results, all of them had significant improvements in axSpA patients with treatment and TNF-α. The s-SCAISS index show good responsiveness, with similar features to validated indexes, but with an accuracy assessment of the BME area.

References:

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