was associated with high disease activity, suggesting that that inflammation might promotes comorbidities. For optimal management of SpA, a systemic screening for comorbidities is essential.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2929

POS1001

CLINICAL AND SURROGATE CARDIOVASCULAR RISK ASSESSMENT AND ITS RELATIONSHIP WITH PSORIATIC ARTHRITIS PATHOGENESIS

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Background: Psoriatic arthritis (PsA) is a chronic inflammatory disease associated with an increased prevalence of cardiovascular (CV) events. Traditional CV risk factors do not account for the increased CV disease mortality in PsA. Inflammation seems to have a key role in the development of this comorbidity, however the specific molecular mechanisms involved are not defined yet.

Objectives: To evaluate clinical CV risk factors and surrogate markers and their relationship with inflammation, disease activity and metabolic comorbidities in PsA patients

Methods: This is a cross-sectional study including 100 PsA patients without CV disease recruited in the routine clinical practice at the Rheumatology Department, Reina Sofia Hospital of Cordoba and 100 age-matched healthy donors (HDs). Different parameters related to the cardiometabolic risk were analyzed. Clinical and analytical parameters were collected: lipid profile (cholesterol, HDL, LDL, TG, ApoA and ApoB), glucose and insulin, body surface area (BSA) affected by psoriasis, number of tender and swollen joints, DAPSA, VAS, CRP and ESR. To measure the persistence of inflammation, CRP levels were recorded retrospectively once, twice, or three times during the 5 years prior to study and at the moment of the study. Increased levels of CRP in at least 50% of the determinations was considered as persistent inflammation. Plasma and peripheral blood mononuclear cells (PBMCs) were isolated from peripheral blood of patients and HDs. A panel of 92 proteins involved in CV disease and an adipocytokine profile was measured in plasma and PBMCs. In addition, activation of 18 intracellular pathways involved in cell activation was also measured in PBMCs. *In vitro* experiments in adipocytes treated with serum from PsA patients were also carried out.

Results: Traditional CV risk factors including atherogenic risk, insulin resistance (IR), metabolic syndrome, smoking, obesity, arterial hypertension, apolipoprotein B/A risk, type 2 diabetes mellitus and the levels of SCORE were significantly increased in PsA patients. The presence of IR was associated with disease activity markers (DAPSA, ESR and CRP). In fact, the HOMA-IR index was related to the CRP persistence. PsA patients with obesity had significantly increased the number of tender and swollen joints, the levels of DAPSA and CRP. Twenty-eight proteins involved in CV disease and six adipocytokines were significantly elevated in the plasma of PsA patients. Several of these cardiovascular molecules were associated with higher levels of DAPSA (CTSD, GAL3, CD163, FABP4, IL6 and IL1RT2), acute phase reactants (GAL3, TNF α , Adiponectin, TNFR1 and IL6), affected body surface area (IL2RA, GAL3, CCL15, TRAP, CSTB, CD163, OPG and CNTN1) and onychopathy (TRAP, VWF, MCP-1, GAL3, LTBR, TFPI, CHI3L1, CTSZ and JAM-A). In addition, the mRNA expression of most of those 28 CV molecules were significantly increased in PBMCs from PsA patients. At intracellular level, the activation of 11 kinases (ERK1/2, AKT, S6 Ribosomal, mTOR, HSP27, Bad, p70 S6 kinase, PRAS40, p53 and caspase-3) involved in insulin signaling, inflammation, cell survival and apoptosis were altered in PBMCs. Finally, serum from PsA patients was able to modify the expression of these molecules in adipocytes.

Conclusion: 1) Disease activity and inflammatory burden are closely associated with the presence of metabolic alterations, specifically obesity and IR in patients with PsA. 2) The development of IR is extremely related to the persistence of CRP levels in the previous 5 years. 3) Inflammation is closely associated to the adipose tissue dysfunction in PsA and 4) FABP4, CD163 and GAL3 are surrogate CV markers commonly associated with clinical features of PsA, suggesting the role of these molecules linking CVD and PsA pathogenesis.

Funded by ISCIII (PI17/01316 and RIER RD16/0012/0015) co-funded with FEDER.

Disclosure of Interests: None declared.

DOI: 10.1136/annrheumdis-2021-eular.2990

POS1002

BASELINE CALPROTECTIN AND VISFATIN LEVELS PREDICT RADIOGRAPHIC SPINAL PROGRESSION AFTER 2 YEARS IN ANKYLOSING SPONDYLITIS PATIENTS ON TNF INHIBITOR THERAPY

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Background: Radiographic spinal progression determinates functional status and mobility in ankylosing spondylitis (AS)¹.

Objectives: To analyse whether biomarker of inflammation, bone turnover and adipokines at baseline or their change after 3 months or 2 years can predict spinal radiographic progression after 2 years in AS patients treated with TNF- α inhibitors (TNFi).

Methods: Consecutive AS patients from the Groningen Leeuwarden Axial Spondyloarthritis (GLAS) cohort² starting TNFi between 2004 and 2012 were included. The following serum biomarkers were measured at baseline, 3 months and 2 years of follow-up with ELISA:

- Markers of inflammation: calprotectin, matrix metalloproteinase-3 (MMP-3), vascular endothelial growth factor (VEGF)
- Markers of bone turnover: bone-specific alkaline phosphatase (BALP), serum C-terminal telopeptide (sCTX), osteocalcin (OC), osteoprotegerin (OPG), procollagen type I and II N-terminal propeptide (PINP; PIINP), sclerostin.
- Adipokines: high molecular weight (HMW) adiponectin, leptin, visfatin

Two independent readers assessed spinal radiographs at baseline and 2 years of follow-up according to the modified Stoke Ankylosing Spondylitis Spine Score (mSASSS). Radiographic spinal progression was defined as mSASSS change ≥ 2 units or the formation of ≥ 1 new syndesmophyte over 2 years. Logistic regression was performed to examine the association between biomarker values at baseline, their change after 3 months and 2 years and radiographic spinal progression. Multivariable models for each biomarker were adjusted for mSASSS or syndesmophytes at baseline, elevated CRP (≥ 5 mg/l), smoking status, male gender, symptom duration, BMI, and baseline biomarker level (the latter only in models with biomarker change).

Results: Of the 137 included AS patients, 72% were male, 79% HLAB27+; mean age at baseline was 42 years (SD 10.8), ASDAScsp 3.8 (0.8) and mSASSS 10.6 (16.1). After 2 years of follow-up, 33% showed mSASSS change ≥ 2 units and 24% had developed ≥ 1 new syndesmophyte. Serum levels of biomarkers of inflammation and bone formation showed significant changes under TNFi therapy, whereas adipokine levels were not altered from baseline (Figure 1).

Univariable logistic regression revealed a significant association of baseline visfatin (odds ratio OR [95% confidence interval] 1.106 [1.007-1.215]) and sclerostin serum levels (OR 1.006 [1.001-1.011]) with mSASSS progression after 2 years. Baseline sclerostin levels were also associated with syndesmophyte progression (OR 1.007 [1.001-1.013]). In multivariable logistic analysis, only baseline visfatin level remained significantly associated (OR 1.465 [1.137-1.889]) with mSASSS progression. Furthermore, baseline calprotectin showed a positive association with both, mSASSS (OR 1.195 [1.055-1.355]) and syndesmophyte progression (OR 1.107 [1.001-1.225]) when adjusting for known risk factors for radiographic progression.

Univariable logistic regression showed that change of sclerostin after 3 months was associated with syndesmophytes progression (OR 1.007 [1.000-1.015]), change of PINP level after 2 years was associated with mSASSS progression (OR 1.027 [1.003-1.052]) and change of visfatin after 2 years was associated with both measures of radiographic progression – mSASSS (OR 1.108 [1.004-1.224]) and syndesmophyte formation (OR 1.115; [1.002-1.24]). However, those associations were lost in multivariable analysis.

Conclusion: Independent of known risk factors, baseline calprotectin and visfatin levels were associated with radiographic spinal progression after 2 years of TNFi. Although biomarkers of inflammation and bone formation showed significant changes under TNFi therapy, these changes were not significantly related to radiographic spinal progression in our cohort of AS patients.

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