registered in DANBIO, the Danish nationwide rheumatologic registry, from December 2013 to June 2014. Principal component analysis was used to identify clustering factors associated with fatigue

Results: A total of 1,062 PsA patients were included in the study. The median Visual Analog Scale (VAS) fatigue score was 57mm. Patients with moderate to severe fatigue (VAS score ≥ 57) had higher scores of pain, DAS28, HAQ, patient global assessment, and more tender and swollen joints ($p < 0.001$) (Table 1). In the principal component analysis the clinical co-variables were reduced to 3 components explaining 63% of experienced fatigue (figure 1); The first component, contributing to 31%, was mainly constituted by inflammatory factors as swollen and tender joints, doctors-global evaluation, higher CRP, and pain score, whereas the second component mainly consisted of contributions from age and disease duration, explaining 17% of experienced fatigue. The third component, contributing to 15%, consisted of patient pain, tender joint count, increasing age, and by concomitant low CRP. The remaining 37% was considered residuals.

Table 1

Characteristics	Fatigue Non to mild VAS score <57 n=520		Fatigue Moderate to severe VAS score >57 n=542		p-value
	n		n		
Female, n (%)	253 (48.7%)	520	358 (66.1%)	542	<0.001
Age, yrs	53.0 (44.0–62.0)	520	52.0 (42.8–60.0)	542	0.070
Disease duration, yrs	6.0 (3.0–11.5)	449	5.0 (2.0–10.0)	456	0.022
C-reactive protein, mg/L	3.0 (1.0–6.0)	421	4.0 (2.0–7.0)	464	0.008
Patient global assessment, 0–100 mmVAS	27.0 (15.0–43.0)	520	75.5 (61.0–86.0)	542	<0.001
Doctors global assessment, 5-grade Likert scale	7.0 (3.0–15.0)	432	14.0 (7.0–14.0)	438	<0.001
PDQ pain score	9.0 (6.0–14.0)	520	17.0 (13.0–23.0)	542	<0.001
DAS28-CRP	2.3 (1.8–2.9)	400	3.5 (2.6–4.4)	418	<0.001
HAQ, 0–3	0.4 (0.1–0.8)	507	1.1 (0.8–1.6)	530	<0.001

All values are median (Q1–Q3) unless otherwise indicated. VAS: visual analogue scale, PDQ: pain assessment questionnaire, DAS28-CRP: disease activity score-C-reactive protein, HAQ: health assessment questionnaire.

Component 1

Clinical inflammatory manifestations

- Pain score: 0.41
- Swollen joints: 0.77
- Tender joints: 0.73
- Doctors VAS: 0.82
- Crp: 0.41
- Disease duration: -0.08
- Age: -0.05

Component 2

Chronification

- Pain score: -0.38
- Swollen joints: 0.21
- Tender joints: -0.01
- Doctors VAS: 0.07
- Crp: 0.08
- Disease duration: 0.74
- Age: 0.66

Component 3

Chronic pain

- Pain score: 0.59
- Swollen joints: -0.08
- Tender joints: 0.35
- Doctors VAS: -0.20
- Crp: -0.61
- Disease duration: 0.04
- Age: 0.43

Figure 1

Conclusions: Clinical inflammatory disease activity, chronification, as well as pain in the absence of inflammation were all identified as important factors explaining 63% of moderate to severe fatigue in the current PsA population.

References:

- [1] Orbai AM, Mease PJ, de WM et al. Report of the GRAPPA-OMERACT Psoriatic Arthritis Working Group from the GRAPPA 2015 Annual Meeting. *J Rheumatol* 43; 965–9.

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OP0113 METABOLIC SYNDROME AND LIVER STIFFNESS IN PSORIATIC ARTHRITIS AND PSORIASIS PATIENTS: A CASE-CONTROL STUDY

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Background: Psoriatic arthritis (PsA) and psoriasis (PsO) are commonly associated to various comorbidities, among which metabolic syndrome (MetS) has been demonstrated to be more prevalent in these groups with respect to the general population. However, few data are available regarding the comparison between PsA/PsO. Besides, a possible consequence of MetS is the development of a non-alcoholic fatty liver disease (NAFLD), which can progress to fibrosis, the latter rarely assessed in PsA/PsO.

Objectives: The aim of this case-control study was: 1) to compare prevalence of MetS in PsA and PsO 2) to evaluate the presence of liver fibrosis in these two groups using hepatic elastography.

Methods: Forty-three consecutive PsA patients classified according to CIASsification criteria for Psoriatic Arthritis (CASPAR), and 33 consecutive PsO patients without history/manifestations of arthritis, attending the Rheumatology and Dermatology Units of University of Padua, were studied. Exclusion criteria were: conditions which may cause liver fibrosis other than NAFLD (eg viral hepatitis, autoimmune or genetic liver disease), alcohol consumption >20 grams/day, active smoking, daily use of non-steroidal anti-inflammatory drugs. Anamnestic, laboratory (cholesterol, triglycerides, uric acid, fasting glucose, insulin, albumin, transaminase) and metrolological (blood pressure, waist circumference, height, weight) data were collected. MetS was defined according to the criteria of National Cholesterol Education Program's Adult Treatment Panel III report. Insulin resistance was quantified through HOMA (Homeostatic Model Assessment). All patients underwent hepatic elastography to evaluate liver stiffness; values >7 kPa were taken as indicator of liver fibrosis. PsO severity was assessed through Psoriasis area severity index (PASI). Differences in variables between PsA/PsO were compared through non parametric Mann-Whitney test, and Chi-square test for categorical variables. Correlations between variables were evaluated through Spearman test.

Results: PsA and PsO patients showed similar characteristics (mean age 60.2±8.4 vs 54.5±19.6 years, 74.4% vs 63% males, arthritis/PsO duration 12.6±8.5 vs 18.2±14.2 years). The only variables which differ in PsA/PsO groups were Body Mass Index (BMI) (25.7±3.4 vs 29.1±6.3), PASI (5±4.6 e 1.5±2.5) and serum uric acid (4.9±1.5 vs 5.7±1.4 mg/dL), all higher in PsO (p-values 0.0092, 0.0355 and 0.0001 respectively). Prevalence of MetS and liver fibrosis in the 2 groups were similar: 34.9% and 30.8% in PsA vs 33.3% and 27.6% in PsO (p=ns). Among all correlation studied, only serum uric acid, liver stiffness and PASI correlated with other variables (Table). Most interestingly, liver stiffness very well correlated with serum uric acid in PsO ($p < 0.0001$ $r = 0.73$).

Table. Correlations found between serum uric acid, liver stiffness and PASI with other variables studied

Uric acid			Liver Stiffness			PASI	
Variables	PsA	PsO	Variables	PsA	PsO	Variables	PsA
BMI	n.s.	p=0.019 r=0.41	BMI	n.s.	p=0.020 p=0.43	Waist circumference	p=0.019 r=0.36
Waist circumference	n.s.	p<0.0001 r=0.59	Waist circumference	n.s.	p<0.0001 p=0.69	HDL cholesterol	p=0.012 r=-0.38
PASI	p=0.001 r=0.47	n.s.	Fasting glucose	p=0.037 p=0.33	n.s.	HOMA	p=0.044 r=0.31
HDL cholesterol	p=0.004 r=-0.42	p=0.015 r=-0.42	Glycated hemoglobin	p=0.027 p=0.35	p=0.022 p=0.42	Serum uric acid	p=0.001 r=0.47
Triglycerides	n.s.	p=0.005 r=0.48	Insulin	p=0.014 p=0.38	p<0.0001 p=0.64		
Fasting glucose	n.s.	p<0.0001 r=0.66	HOMA	p=0.018 p=0.37	p<0.0001 p=0.71		
Serum insulin	n.s.	p<0.0001 r=0.74	Serum uric acid	n.s.	p<0.0001 p=0.73		
Glycated hemoglobin	n.s.	p<0.0001 r=0.63	Triglycerides	n.s.	p=0.016 p=0.44		
HOMA	p=0.025 r=0.34	p<0.0001 r=0.80					
Liver stiffness	n.s.	p<0.0001 r=0.73					

BMI=Body mass Index; HDL=High Density Lipoprotein; PASI= Psoriasis area severity index; HOMA= homeostatic model assessment

Conclusions: We observed a similar prevalence of MetS and hepatic stiffness in PsA and PsO. The correlation found between uric acid level and hepatic stiffness could lie on the fact that uric acid seems to favour insulin resistance, hypertension, dyslipidemia and other MetS risk factors. MetS could be therefore one of the major determinants to liver fibrosis in PsA and PsO, thus highlighting how comorbidities are not only coexisting conditions, but are strongly linked to each other and need to be treated as well as the skin and joint aspect.

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