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Background: Gout and psoriatic arthritis (PsA) can co-exist in the same patient. These 2 diseases seem strongly linked, but the pathophysiological mechanisms of this link have not yet been defined. Hyperuricemia could be an important determinant of PsA¹.

Objectives: To study the impact of hyperuricemia on clinical presentation, severity and associated comorbidities of PsA.

Methods: We conducted a retrospective bicenter case-control study in Strasbourg and Colmar, France. Patients with PsA (according to "L40.5 arthropathic psoriasis" ICD-10 coding) and at least one available serum urate level measurement, were included from 2009 to 2019. Demographic, comorbidities, clinical and radiographic data were collected. Hyperuricemia was defined as serum urate level $\geq 360 \mu\text{mol/L}$. We defined "good responders to ongoing PsA treatment" as patients with no outbreak of PsA, biological inflammatory syndrome and therapeutic modification at the last follow-up. Patients with "destructive" disease had one or more erosion(s) seen on standard X-ray, ultrasonography, MRI or TDM.

Results: We included 242 patients. 73 (30.2%) had hyperuricemia and 15 (6.2%) met criteria for gout. On univariate analysis, as compared with normo-uricemic patients, hyperuricemic patients were more often male (72.6% vs. 39.1%, $p = 1.6 \times 10^{-6}$), had higher BMI (30.9 vs. 28.7 kg/m^2 , $p = 0.015$) and had more comorbidities (Charlson Comorbidity Index: 2.6 vs. 1.8, $p = 0.005$). In hyperuricemic versus normo-uricemic patients, PsA started at an older age (47.5 vs 43 years, $p = 0.016$); PsA was more polyarticular (56.2% vs 41.9%, $p = 0.049$) than axial (9.6% vs 22.8%, $p = 0.019$) and more destructive (52.8% vs. 37.4%, $p = 0.032$). Median uricemia was higher in patients with destructive than non-destructive PsA (321 vs $288.8 \mu\text{mol/L}$, $p = 0.0038$), and hyperuricemia was more frequent with than without joint destruction (37.6% vs 25.8%, $p = 0.047$). The multivariate analysis confirmed hyperuricemia associated with peripheral joint involvement (OR 2.98, $p = 0.025$) and less good response to PsA treatment (OR 0.35, $p = 0.024$).

Figure 1. Description of normo- and hyperuricemic psoriatic arthritis

CRF: moderate to severe chronic renal failure. MACEs: major adverse cardiovascular events. HBP: high blood pressure. MetS: metabolic syndrome. PsA: psoriatic arthritis

Conclusion: Patients with hyperuricemic PsA have less good response to PsA treatment than those with normo-uricemia and more peripheral and destructive joint damage. Recognition of PsA in which hyperuricemia would play an aggravating role could modify the management. This would justify a diagnostic reassessment in case of doubt, the possible introduction of hypouricemic treatment and the careful use of NSAIDs in the context of multiple morbidities.

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POS0948

HYPERKYPHOSIS IN AXIAL SPONDYLOARTHRITIS: FACTORS THAT PRODUCE ITS APPEARANCE AND EFFECT ON MOBILITY AND FUNCTION

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Background: Hyperkyphosis (HK) is a characteristic sign in patients with a large level of axial spondyloarthritis (axSpA) involvement. Kyphosis is defined as a sagittal deviation in the spinal alignment. Kyphosis can be graded in severity by the Cobb angle. The occiput-wall distance (OWD) is a surrogate measure of kyphosis. When this distance is greater than 0 cm, it is because the patient has an advanced affection level that produces a reduction of physical function and other comorbidities. It is important that HK does not appear in the patient.

Objectives: To analyze contributors and effects of HK in patients with axSpA.

Methods: Nonparametric preprocessing for parametric causal inference was used for selection of two matched groups, formed by 42 axSpA patients each one, from the CASTRO cohort with similar covariate distributions (age and sex). Outcomes analyzed, besides OWD, included activity (BASDAI, ASDAS), physical function (BASFI) and mobility (BASMI). An inertial sensor-based system (ViMove) was used to analyze cervical and lumbar mobility and to calculate the UCOASMI index[1]. Structural damage was assessed according the mSASSS and its components (cervical and lumbar).

Results: Mean (sd) values of the different variables for each group are shown in table 1. Significant differences according to an independent t-test (p), variation coefficient (V.C.), effect size (E.S.) and correlation with OWD (Pearson r), are also included in this table.

	OWD=0 (n=42)	OWD>0 (n=42)	P	V.C.	E.S.	r
Age (y)	47.6 (8.9)	48.7 (8.7)	N.S.	2%	0.13	0.2
Sex (female %)	12%	14%	N.S.	-	-	-
B27 (positive %)	87%	86%	N.S.	-	-	-
Disease duration (y)	19.7 (11.4)	24.9 (13.4)	*	26%	0.42	0.30**
Diagnostic delay (y)	6.4 (9.6)	6.6 (8.4)	N.S.	2%	0.01	-0.09
BMI (kg/m ²)	25.8 (3.1)	29.5 (4.6)	**	14%	0.94¥	0.39***
ASDAS	2.2 (1.0)	2.7 (1.0)	*	21%	0.43	0.08
BASDAI	3.6 (2.4)	4.1 (2.5)	N.S.	6%	0.17	-0.02
mSASSS	10.6 (6.9)	22.6 (19.2)	***	113%	0.92¥	0.75***
Cervical mSASSS	5.4 (4.4)	11.2 (11.2)	***	106%	0.74	0.69***
Lumbar mSASSS	5.1 (3.6)	11.3 (10.0)	***	121%	0.91¥	0.67***
BASFI	2.6 (2.51)	4.6 (2.8)	***	74%	0.74	0.26*
BASMI	2.4 (1.1)	4.2 (1.5)	***	77%	1.40	0.77***
UCOASMI	3.7 (1.0)	5.6 (1.4)	***	51%	1.53	0.77***
Cervical flexion (°)	101 (20)	74 (29)	***	-26%	-1.07	-0.71***
Cervical rotation(°)	133 (20)	103 (37)	***	-23%	-1.04	-0.68***
Cervical lat. flex.(°)	67 (21)	44 (24)	***	-33%	-0.96¥	-0.64***

Sign.: *p<0.05, **p<0.01, *** p<0.001. ¥: Large effect size (ES>0.8)

There were not significant differences in age, sex as expected. HK group patients started earlier (5.2 years). The percentage of HLAB27+ is similar, so this antigen has not a relationship with HK. BMI is greater in HK group (14%); this can be a factor for HK appearance or a consequence of HK (less physical activity). Activity (according ASDAS) was slightly higher in HK. There were very significant differences in structural damage, and HK appears to be equally affected by damage at cervical and lumbar regions. BASFI also shown a significant reduction in HK. There was great reduction of mobility according to mobility indexes and cervical range of movement (23%-33%). In a multivariate regression analysis using all variables of the table and OWD as dependent variable, only mSASSS and BMI were included in the final model (adj. $r^2 = 0.61$). In a ROC analysis, mSASSS shown to and acceptable variable to distinguish between groups (AUC=0.70, cutoff=13). ASDAS

obtained lower results (AUC=0.60, cutoff=2.38). Figure 1 shows cumulative probability plots of mSASSS and ASDAS versus OWD, showing cutoff values determined by ROC analysis.

Conclusion: Structural damage, in cervical and lumbar spine, are the main contributor to HK appearance in axSpA patients. Inflammation it is not so determinant and acts only in the short term. HK produces a significant reduction of cervical mobility and physical function. New treatments that decrease radiographical progression, and overweight reduction are the most important factor to avoid HK.

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POS0949

HIGH PREVALENCE OF ABDOMINAL OBESITY IN FEMALES WITH AXIAL SPONDYLOARTHRITIS

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Background: Worldwide prevalence of obesity has been steadily increasing, despite significant public health campaigns to raise health awareness. In axial spondyloarthritis (axSpA) obesity has been shown to be associated with higher levels of disease activity and decreased response to treatment. The waist to hip ratio (WtHr) is a tool to screen for abdominal obesity. Abdominal deposition of adipose tissue is associated with increased risk of cardiovascular disease, type II diabetes and premature death. Abdominal obesity is more commonly found in males, while females are more prone to gluteal-femoral fat deposition. The Ankylosing Spondylitis Registry of Ireland (ASRI) is a source of epidemiological data of axSpA patients in Ireland.

Objectives: To capture the prevalence of abdominal obesity in a large cohort of axSpA patients and assess for variation in prevalence between sexes.

Methods: Participants were analysed on the basis of sex and presence of obesity by BMI and WtHr. Obesity was defined by body mass index (BMI) with a result of >30 categorised as obese as per CDC definitions. Abdominal obesity was assessed by WtHr and defined as per WHO guidelines. Categorical variables were recorded as frequencies, with a chi² test for independence used to test for statistical significance. Numerical variables were recorded as means within each group and an independent t-test or Mann Whitney U test was used to test for statistical significance between groups. A p-value of <0.05 was deemed significant. IBM SPSS version 26 was used for statistical analysis of the patient population captured within the ASRI.

Results: At the time of analysis, physical measurements were available on 692 patients in the ASRI made up of 96.2% (666) Caucasians with 22.3% (154) females and 77.7% (538) males. The average age was 45.9 years with a mean disease duration of 18.8 years (mean scores: BASDAI 4.09, BASFI 3.71, BASMI 3.99, HAQ 0.54, ASQoL 6.72). 80.9% (560) of patients had radiographic sacroiliitis while 49.1% (340) had sacroiliitis on MRI.

Overall 29.5% (215) patients were obese based on BMI results, while 37.5% (274) were centrally obese as per the WtHr. Analysis on the basis of sex revealed no significant variation in mean BMI (28.1 vs 27.7, p=0.45) or prevalence of obesity as assessed by BMI (29.9% vs 28.6%, p=0.49) between males and females (table 1). As expected analysis of WtHr revealed higher mean ratios in males compared to females (0.96 vs 0.89, p<0.01), however there was a significantly higher prevalence of abdominal obesity in females (29.9% vs 68.2%, p<0.01).

Conclusion: There is a high prevalence of abdominal obesity as assessed by WtHr in axSpA, this is especially high in females with axSpA. Use of WtHr should be considered when screening for obesity in this population.

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Table 1. Assessment of Obesity by Sex

	Males	Females	p value
n	77.7% (538)	22.3% (154)	
Weight (kg)	84.98	72.76	<0.01
BMI	28.08	27.69	0.45
Underweight	0.9% (5)	0.06% (1)	0.49
Normal Weight	29.2% (157)	36.4% (56)	
Overweight	39.2% (211)	34.4% (53)	
Obese	29.9% (161)	28.6% (44)	
Waist Circumference (cm)	97.43	90.03	<0.01
Hip Circumference (cm)	102.11	101.27	0.56
Waist to Hip Ratio	0.956	0.8901	<0.01
Normal Weight	23.8% (128)	17.5% (27)	<0.01
Overweight	46.3% (249)	14.3% (22)	
Obese	29.9% (161)	68.2% (105)	

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POS0950

ARE THERE GENDER DIFFERENCES IN AXIAL SPONDYLOARTHRITIS: DATA FROM A PORTUGUESE SPONDYLOARTHRITIS COHORT

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Background: Historically, axial spondyloarthritis (particularly ankylosing spondylitis) was considered a men's disease and has been under-recognized in women.

Emerging evidence reveals gender differences in pathophysiology, disease presentation and therapeutic efficacy.

Objectives: To determine if there are differences between genders in a Portuguese cohort of patients with axSpA as regards clinical manifestations, disease activity, functional capacity, patient related outcomes and radiographic findings.

Methods: Patients with ≥18 years fulfilling the ASAS- Assessment of Spondyloarthritis International Society classification criteria for axSpA and registered in the electronic national database- Reuma.pt were included in a multicentric cross-sectional study. Sociodemographic data, clinical features and radiographic findings were collected from the first record in Reuma.pt. These variables were compared between genders using Mann-Whitney test and Chi-Square test. Variables with a significant association with group variable (gender) were considered in the multiple variable analysis to adjust the gender effect on the outcome variables.

Results: A total of 1995 patients were included, 1114 (55.9%) men and 881 (44.1%) women. Men had a lower median age at onset of disease (25.1 vs 28.4, p=0.000) and median age at diagnosis (26.9 vs 30.4, p=0.000) and were more frequently smokers (32.1% vs 15.7%, p=0.000). Comparing to women, men had worse BASMI scores (4.0 vs 3.4, p=0.000), higher levels of CPR (10.5 vs 6.9, p=0.000) and were more often HLA-B27 positive (67.8% vs 54%, p=0.000). In univariable analysis, sacroiliitis on radiograph or/and MRI (95.5% vs 91.7%, p=0.04) was more common in men, however that wasn't confirmed in multivariable analysis.

In contrast, women more frequently had more inflammatory bowel disease (8.8% vs 4.9%, p=0.004), higher levels of ESR (25.0 vs 21.0, p=0.003) and worse PROs- BASDAI (5.7 vs 4.5, p=0.000), PGA (60.0 vs 55.0, p=0.000) and fatigue (6.2 vs 5.4, p=0.000).

Conclusion: Physicians must be aware of differences between genders in axial spondyloarthritis because this can result in less underdiagnosis and misdiagnosis, allow optimization of treatment strategies, and decrease overall disease burden in women with axSpA patients.

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