Methods: This is a cross-sectional study of the AtheSpAin cohort, a Spanish multicenter cohort to study atherosclerosis in axSpA. Data on clinical and subclinical atherosclerosis, as well as CV and disease-related characteristics were collected in 912 patients.

Results: 611 men and 301 women were recruited for this study. Smoking habit (p=0.033), hypertension (p=0.009), and dyslipidemia (p=0.015) were less prevalent in women, who also showed less severe atherosclerosis measured by the presence of carotid plaques (p=0.001), carotid intima-media thickness (IMT) values (p<0.001), and CV events (p=0.008). After adjustment for traditional CV risk factors only the results regarding carotid IMT remained statistically significant. Regarding disease-related features, radiographic axSpA (r-axSpA) was more common in men (p<0.001). Women with axSpA showed a shorter disease duration (p<0.001), a lower prevalence of psoriasis (p=0.008), higher ESR levels at diagnosis (p=0.038) and more active disease measured by ASDAS (p=0.012) and BASDAI (p<0.001). However, they had less structural damage (mSASSS, p<0.001) and mobility limitation (BASMI, p=0.033). These differences that remained statistically significant after adjustment for r-axSpA/nr-axSpA, disease duration or smoking. Remarkably, many of these sex-related differentiating characteristics were associated with subclinical atherosclerosis (table 1). To clarify if this finding could lead to sex differences in the atherosclerotic burden, we compared the prevalence of carotid plaques in men and women with the same level of CV risk stratified according to the SCORE. Within the category of low-moderate SCORE, men showed more severe atherosclerosis than women (p=0.050), which could be related to a longer disease duration (p=0.004), higher mSASSS (p=0.001) and BASMI (p=0.071) values. However, in patients with high-very high SCORE, carotid plaques were more commonly observed in the female group (p=0.025), which was characterized by a higher inflammatory burden (ESR at diagnosis, p=0.007) and worse BASFI (p=0.011) compared with men, with no differences regarding disease duration, mSASSS or BASMI.

Conclusion: Although the burden of traditional CV risk factors leading to more severe atherosclerotic disease is greater in men with axSpA, potential sex-related proatherogenic features of axSpA also appear to have an impact on CV risk. This may be especially applicable to women at high CV risk, who have a greater inflammatory response, worse functional impairment, and more severe subclinical atherosclerosis than males, suggesting a closer interaction between atherosclerosis and disease burden in women with axSpA.

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Table 1. Disease-related factors associated with carotid plaques in male and female patients with axSpA older than 35 years old

	Males		Females	
	OR (95% CI)	p*	OR (95% CI)	p*
Disease duration	**1.05 (1.04-1.07)**	**<0.001**	**1.05 (1.03-1.08)**	**<0.001**
ESR at diagnosis	1.01 (1.00-1.02)	0.06	**1.02 (1.01-1.04)**	**0.001**
BASFI	**1.18 (1.10-1.26)**	**<0.001**	**1.22 (1.08-1.38)**	**0.001**
BASMI	**1.32 (1.20-1.46)**	**<0.001**	**1.27 (1.07-1.51)**	**0.006**
mSASSS	**1.02 (1.01-1.04)**	**<0.01**	**1.04 (1.00-1.08)**	**0.04**
Psoriasis	1.12 (0.67-1.86)	0.67	**2.65 1.00-6.97)**	**0.05**
BASDAI	**1.11 (1.02-1.20)**	**0.01**	1.12 (0.98-1.28)	0.08
ASDAS	**1.25 (1.04-1.50)**	**0.02**	1.28 (0.95-1.72)	0.10

O OR: odds ratio * *adjusted for age and smoking

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POS0364

SEX DIFFERENTIAL IMPACT OF CO-MORBIDITIES ON DISEASE ACTIVITY IN SPONDYLOARTHRITIS: DATA FROM COMOSPA STUDY

Keywords: Spondyloarthritis, Registries

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Background: Previous studies have examined the distinct phenotypes and the factors linked to disease activity and response to treatment in spondyloarthritis (SpA), some reporting several differences between men and women. However, there is still scarce literature on sex differences in SpA co-morbidities such as cardiovascular (CV) risk factors, osteoporosis, neoplasms or infections, or exploring sex differential impacts of these co-morbidities in the disease activity of SpA patients.

Objectives: To characterize differences in SpA associated co-morbidities between male and female patients and to evaluate the existence of a differential impact of these comorbidities on the disease activity between SpA gender.

Methods: This is a post-hoc analysis of the COMOSPA study which included 3982 patients with SpA, 2588 male patients and 1394 female patients. Differences in co-morbidities regarding sex were assessed using logistic regression models. Co-morbidities were evaluated for their impact on disease activity indexes with linear models, which included sex and the comorbidity as explanatory variables, as well as their interaction. Age and treatment with bDMARDS were included as confounders. We retrieved odds ratios (OR) and group differences from these models to measure the magnitude of the effects and determined statistical significance at a level of p<0.05 using Wald tests.

Results: After statistical control for age and bDMARDS, our analysis found that men had a higher prevalence of several cardiovascular comorbidities such as hypertension (OR, 95%CI) (1.47, 1.23 - 1.77), dyslipidemia (1.29, 1.07 - 1.56), ischemic heart disease (2.77, 1.72 - 4.65) and renal deficiency (2.36, 1.46 - 4.01). Additionally, a greater proportion of men had a history of tuberculosis (1.59, 1.45 - 3.95), and a lower prevalence of fibromyalgia (0.47, 0.39 - 0.57). However, we did not find differences between men and women in terms of prevalence of neoplasms, osteoporosis, gastrointestinal disease, or severe infection (Table 1). Several co-morbidities were associated with disease activity equally in both sex, including CV conditions, severe infection, osteoporosis, chronic obstructive pulmonary disease, gastrointestinal disease and fibromyalgia. When comparing men and women patients, gastrointestinal ulcer and fibromyalgia associates with ASDAS and BASDAI and have a differential impact depending on sex. Specifically, fibromyalgia has a higher impact in men (ASDAS: 1.367 vs 1.612; BASDAI: 4.28 vs 4.70) (Figure 1).

Conclusion: Our data show that co-morbidities occur similarly in men and female SpA patients, except for a higher frequency of CV co-morbidities in men and a higher prevalence of fibromyalgia in women. Moreover, fibromyalgia and gastro-intestinal ulcer evidenced a sex-specific association with disease activity among all the co-morbidities studied.

Figure 1. Co-morbidities affecting ASDAS with differential impact depending on sex

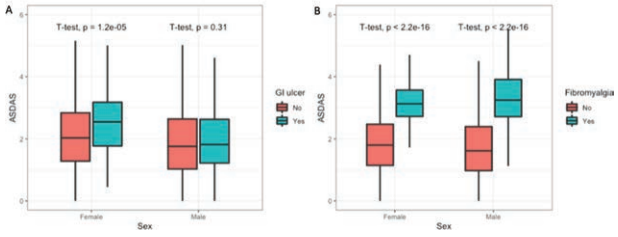

Table 1.

	SpA patients				
	Male, n=2588	Female, n=1394	p-value	OR adjusted for age and ever bDMARDs	p-value
Age,years	42.9 (14.1)	45.1 (13.4)	**<0.001**		
Hypertension	590/2570 (23%)	292/1388 (21%)	NS	1.47 (1.23 - 1.77)	**<0.001**
Diabetes	147/2570 (5.7%)	72/1387 (5.2%)	NS	1.27 (0.94 - 1.72)	NS
Dyslipidemia	438/2556 (17.1%)	218/1380 (15.8%)	NS	1.29 (1.07 - 1.56)	**0.009**
Renal deficiency	74/2571 (2.9%)	20/1387 (1.4%)	**0.005**	2.36 (1.46 - 4.01)	**<0.001**
Ischemic heart disease	85/2569 (3.3%)	21/1386 (1.5%)	**0.001**	2.77 (1.72 - 4.65)	**<0.001**
Stroke	37/2570 (1.4%)	13/1381 (0.9%)	NS	1.86 (1.00 - 3.66)	NS
History of tuberculosis	79/2548 (3.1%)	21/1382 (1.5%)	**0.003**	2.34 (1.45 - 3.95)	**<0.001**
Hospitalized for severe infection	76/2556 (3%)	39/1385 (2.8%)	NS	1.08 (0.73 - 1.61)	NS
Any neoplasm*	60/2486 (2.4%)	26/1342 (1.9%)	NS	1.51 (0.94 - 2.48)	NS
Osteoporosis	341/2574 (13.2%)	188/1388 (13.5%)	NS	1.06 (0.87 - 1.29)	NS
Any GI (diverticulitis or GI ulcer)	291/2558 (11.4%)	174/1376 (12.6%)	NS	0.93 (0.76 - 1.14)	NS
FM (extreme PRO definition)	265/2569 (10.3%)	271/1384 (19.6%)	**<0.001**	0.47 (0.39 - 0.57)	**<0.001**

SpA= spondyloarthritis; GI= gastro-intestinal; bDMARDs: biological disease-modifying anti-rheumatic drugs; FM= fibromyalgia

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POS0365 SEX DIFFERENCES CONCERNING EXPERIENCED PAIN IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS

Keywords: Pain, Spondyloarthritis, Gender/diversity issues

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Background: Research shows that there are significant sex differences in experienced pain. Contributing factors are neuroanatomical, hormonal, neuro-immunological, psychological, social, cultural, and comorbidities. Women have more and different expression of nociceptors, and a stronger proinflammatory response to tissue damage than men. Women also use different coping styles regarding to pain and tend to engage more in pain catastrophizing. Therefore, women may experiencing more severe pain than men. Also in axial spondyloarthritis (axSpA), higher pain scores are observed in women compared to men with axSpA.[1] Sex differences in experienced pain within axSpA is not well studied. It is unclear if differences are related to the involvement of altered pain processing of the central nervous system (CNS) including central sensitization (CS) and/or psycho-social aspects.
Objectives: To explore sex differences in pain perception, coping with pain, pain catastrophizing and altered pain processing of the CNS in patients with axSpA.
Methods: A cross-sectional study of consecutive outpatients from the Groningen Leeuwarden axSpA (GLAS) cohort, fulfilling the ASAS classification criteria. Participants filled out the Central Sensitization Inventory (CSI), Pain Catastrophizing Scale (PCS) Coping with Rheumatic Stressors (CORS), and underwent Quantitative Sensory Testing (QST) according to a standardized protocol, including Pain Threshold Testing (PTT) at 11 sites, Temporal Summation (TS) at 3 sites and Conditioned Pain Modulation (CPM). Widespread low PPTs, high TS (both pain facilitation) and positive CPM (impaired pain inhibition) are indicators of CS. Independent Samples T Test and Mann-Whitney U Test were used for normally- and non-normally distributed data resp.. Bonferroni correction was applied for multiple significance testing and P-value was determined at 0.004.
Results: 201 patients were included, 128 men and 73 women with no significant differences in the patient characteristics; median age (50.8 vs 51.6 years), median symptom duration (22.0 vs 21.0 years) and median CRP (1.8 vs 2.5). Significant differences between men and women were observed for the classification radiographic axSpA (71.9% vs 50.7%), HLA-B27 status (84.1% vs 67.1%), mean BMI (27.2 ± 4.9 vs 29.0 ± 6.9), mean $ASDAS_{CRP}$ (2.1 ± 0.8 vs 2.5 ± 0.9) and mean BASDAI (3.4 ± 2.1 vs 4.7 ± 2.1). Women scored significantly higher on the CSI and used the coping styles comforting cognitions, decreased activities and diverted attention more often (CORS). Concerning the involvement of altered pain processing of the CNS, women had significantly lower PPTs. TS and CPM were comparable in men and women (Table 1).
Conclusion: In patients with axSpA, significant sex differences in pain coping styles, CSI score and PPTs were observed. Therefore, sex differences should be taken into account in the management of pain in daily clinical practice and in pain research in these patients.

Table 1. Characteristics and assessments stratified for sex (n=201)

	Men (n=128)	Women (n=73)
CSI-A (0-100)	30.6 ± 13.8	41.5 ± 13.6*
PCS (0-52)	11.0 [5.0-20.0]	14.0 [5.0-19.5]
CORS pain		
Comforting cognitions	27.8 ± 4.9	29.9 ± 4.1*
Decreasing activities	18.8 ± 4.5	21.0 ± 4.3*
Diverting attention	20.1 ± 4.7	22.3 ± 3.9*
PPT (N)		
Thenar, left/right	37.4 ±17.5/40.6 ± 19.1	26.1 ± 12.1/29.0 ±14.2*
M. trapezius, left/right	40.1 ± 22.8/39.4 ± 20.9	26.8 ± 13.5/26.8 ± 14.5*
M. rectus femoris, left/right	58.0 ± 25.1/55.9 ± 26.8	35.2 ± 17.9/32.1 ± 16.3*
M. abductor hallucis, left/right	37.0 ± 18.4/38.6 ± 19.8	27.5 ± 13.2/28.7 ± 15.1*
Non-painful area	38.6 ± 22.1	25.0 ± 13.8*
Painful area	32.2 [22.4-51.6]	19.8 [13.0-28.7]*
TS (VAS)		
Non-dominant forearm	0.6 [0.1-1.2]	0.7 [0.2-2.1]
Non-painful area	0.8 [0.2-1.5]	1.1 [0.2-2.2]
Painful area	0.8 [0.2-1.6]	1.3 [0.3-2.7]
CPM (N)		
Non-dominant m. rectus femoris	2.8 ± 13.5	0.2 ± 8.3

*Statistically significant at p<0.004 (Bonferroni correction).

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POS0366 SEXUAL DYSFUNCTION IN SPONDYLOARTHRITIS PATIENTS: DIFFERENCES BETWEEN MALES AND FEMALES PATIENTS IN A REAL-WORLD SETTING

Keywords: Gender/diversity issues

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Background: In the field of rheumatology in general and in the context of spondylarthritis (SpA) more specifically, gender medicine is gaining more recognition and relevance. Available data suggest female patients feature higher diagnostic deladelayspared to males. Furthermore, female SpA patients experience higher disease activity, lower response rates to treatment and, less probability to achieve remission. Sexual dysfunctions are an aspect little investigated in SpA. Disease features and disease activity are known to influence sexual health. Conversely, little is known about the difference existing in sexual satisfaction in males and females affected by SpA.
Objectives: To investigate the sexual function and satisfaction in female and male patients affected by SpA and identify gender-specific features.
Methods: We conducted a cross-sectional study enrolling consecutive SpA patients satisfying ASAS criteria attending the SpA clinic of a tertiary university rheumatology clinic. Demographic and clinical characteristics were collected alongside with validated gender-specific questionnaire for the evaluation of sexual function. For male assessment, we used the international index of erectile function (IIEF) and the Premature Ejaculation Diagnostic Tool (PEDT); whereas in women we used The Female Sexual Function Index (FSFI) that explores domains such as desire, arousal, lubrification, orgasm, satisfaction, and pain. To evaluate the correlation between the presence of sexual dysfunction and disease characteristics or therapies we used the Spearman test and the univariate and multivariate tests.
Results: 73 males and 64 females were recruited, and the two groups were comparable with similar mean age, BMI, and disease duration (patients' characteristics are shown in table 1). PEDT test showed that 9.5% (5 male patients) had probable premature ejaculation and 15% (8 male patients) had premature ejaculation. According to IIEF sexual dysfunction was present in 19.4% of cases as mild dysfunction in 15.5% as moderate dysfunction and in 5.4% as severe dysfunction. Univariate and multivariate analysis showed a correlation between sexual dysfunction and mood disorders and premature ejaculation in men (p=0.02). The prevalence of premature ejaculation was not influenced by disease characteristics or activity or therapies. Sexual dysfunction in males was associated only with the use of NSAID (p=0.04). Evaluating the female group, FSFI showed that 85% (54 female patients) had sexual dysfunction. In the univariate and multivariate analysis, we found correlations between age (p=0.07), mood disorders (p=0.04), dyslipidemia (p=0.006), and BASDAI (p=0.04). Fibromyalgia was detected only in women.
Conclusion: This data demonstrates that sexual function is impaired in an extremely high percentage of female SpA patients, which contributes to the higher burden of SpA on women. Sexuality is still a little explored topic in SpA, despite is a relevant aspect of quality of life and determinant of psychological health. Therefore, it is necessary to thoroughly investigate the impact that the disease and comorbidities have on the sexual life of these patients with a particular focus on females.

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