nr-axSpA stratified by gender, using standardized clinical tools (including patient-reported outcomes (P-ROs)) and C-reactive protein (CRP) level as a biomarker for inflammation.

Methods: Ax-SpA patients were included prospectively and underwent an examination program at one visit. We used ASAS criteria and the modified New Yorker criteria for classification. Information on demography and PROs was obtained. A trained physician performed a clinical examination, and BASMI and the The Spondyloarthritis Research Consortium of Canada Enthesitis Index (SPARCC) was used to enthesitis count. Chi-square and t-tests were used for categorical and continuous variables respectively to test the null hypothesis.

Results: Eighty patients with ax-SpA were included. Table 1 shows the results (mean ± SD or relative frequency) for the comparison of demographic and disease characteristics between clinical subgroups.

	Non-radiographic axSpA males n= 20	AS males n=23	P-value	Non-radiographic axSpA females n= 29	AS females n= 8	P-value
Mean age, years (S.D.)	41.5 ± 15.4	50.6 ± 9.9	0.03	44.0 ± 11.1	47.8 ± 17.3	0.46
HLA-B27 pos. (%)	11 (55)	21 (91)	0.012	13 (45)	8 (100)	0.013
Peripheral arthritis (%)	9 (45)	12 (52)	0.98	14 (48)	7 (88)	0.10
Mean BASDAI (S.D.)	2.5 ± 2.1	2.9 ± 1.9	0.52	4.7 ± 2.2	2.8 ± 2.0	0.043
Mean BASFI (S.D.)	2.1 ± 2.2	2.6 ± 2.2	0.53	3.8 ± 2.1	2.4 ± 2.7	0.12
Mean BASMI (S.D.)	1.2 ± 1.1	2.7 ± 1.6	0.0012	1.3 ± 1.2	1.5 ± 1.9	0.78
Mean CRP, mg/L (S.D.)	6.9 ± 9.6	10.6 ± 17.1	0.20	2.6 ± 2.1	10.6 ± 15.5	<0.001
Mean Pain, VAS 0-100 mm, (S.D.)	27.2 ± 23.0	28.6 ± 23.4	0.29	44.9 ± 23.9	25.9 ± 20.1	0.013
Anterior uveitis (%)	3 (15)	10 (43)	0.05	5 (17)	3 (38)	0.33
Psoriasis (%)	8 (40)	9 (39)	0.97	13 (45)	1 (13)	0.12
IBD (%)	3 (15)	3 (13)	0.61	6 (21)	0 (0)	0.31
Mean SPARCC score (enthesitis)	1.2 ± 1.3	1.0 ± 1.4	0.63	2.0 ± 1.9	0.8 ± 1.5	0.0092

Conclusions: For the PROs, BASDAI and pain were higher in females diagnosed with nr-axSpA, and the CRP was significantly lower in this group. Peripheral and EAMs were slightly equally prevalent in AS and nr-axSpA in men and women except for uveitis, which is slightly more prevalent in AS. Our data show that AS patients were more frequently male than nr-axSpA patients. These results are in line with previous studies showing that male patients with axial SpA have more structural damage on radiographs than female patients. Among women, this study indicate that pain is more pronounced in non-radiographic axSpA than in AS, potentially revealing that chronic widespread pain (e.g. fibromyalgia) might interfere with the diagnostic accuracy of the non-radiographic axSpA subgroup. However, despite the absence of radiographic changes, patients with nr-axSpA have a burden of illness, with self-reported disease activity and functional impairments comparable with those of patients with structural changes consistent with AS.

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FRI0461 **MUSCLE WASTING IN MALE TNF-α BLOCKER NAÏVE ANKYLOSING SPONDYLITIS PATIENTS: A COMPARISON OF GENDER DIFFERENCES IN BODY COMPOSITION WITH DUAL-ENERGY X-RAY ABSORPTIOMETRY**

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Background: Female Ankylosing Spondylitis (AS) patients have different disease characteristics compared to males. This might be explained by differences in body composition (BC), as women have higher total body fat mass, and adipose tissue can produce adipokines and participate in inflammatory and immunological processes.

Objectives: To assess gender differences in BC measured by Dual-Energy X-ray Absorptiometry (DXA) in a cohort of AS patients naïve to TNF-α blockers, and compare the BC with the reference population.

Methods: AS patients (Modified New York Criteria), 18 years old or older, who had a whole body DXA analysis before TNF-α blockers were included. Demographic information and disease activity measures (ASDAS and BASDAI) were reported. Fat Mass (FM) was reported as total FM (sum of trunk, arms, legs, and head), BF% (ratio FM/Total body mass), and Fat Mass Index (FMI= FM kg/height m²).

Fat Free Mass (FFM), calculated as lean mass + bone mineral content, and its index (FFMI kg/m²) were reported. BF%, FMI, and FFMI percentiles, according to the reference population tables, stratified by age and gender, were also reported.

Results: Seventy consecutive patients were included, 60% were men. Baseline demographic characteristics were similar in men and women. Women had significantly higher BF% and FMI, and lower FFMI as absolute values (table 1). The FFMI percentile was markedly low in men (31.7%) (Figure 1). After multivariate analysis, an ASDAS-CRP >3.5 was related with lower FFM in the whole group (β-coefficient -5.1, 95% CI -10.2 to -0.1, P=0.047). ASDAS >3.5 was related to lower fat content in men and to higher fat content in women. The same relationships were found for BASDAI ≥4.

Table 1. Body composition characteristics

	All (N=70)	Male (N=42)	Female (N=28)	P
Age (median years, IQR)	42 (16)	44.2 (15.2)	40.7 (17.6)	NS
BMI (median, IQR)	25.6 (5)	25.9 (4.8)	24.2 (9)	NS
Underweight (%)	0	0	0	—
Normal (%)	48.6	45.2	53.6	NS
Overweight (%)	35.7	47.6	17.9	0.011
Obese (%)	15.7	7.1	28.6	0.021
Fat Mass, kg (mean, SD)	26 (9.3)	23.9 (8.7)	29.2 (9.6)	0.018
Fat Free Mass, kg (mean, SD)	51.1 (9.9)	56.8 (7)	42.5 (7.1)	<0.001
Body Fat % (mean, SD)	33.3 (8.9)	28.9 (7.3)	40 (6.7)	<0.001
Fat Mass Index (median, IQR)	8.5 (3.6)	8 (4)	9.7 (6)	0.001
Fat Free Mass Index (median, IQR)	17 (2.5)	17.7 (1.8)	15.1 (1.8)	<0.001

BMI = Body Mass Index, NS = not significant.

Conclusions: Muscle wasting, measured as low FFMI compared to the reference population, was found in male TNF-α blocker naïve AS patients, especially in those with active disease. Women had higher volumes of body fat than men, but near the median of the reference population. The relationships between fat content and disease activity support the complex association between adipose tissue and inflammation.

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FRI0462 **THE PISTOL-GRIP DEFORMITY IS MORE FREQUENT IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS**

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Background: Femoroacetabular impingement (FAI) is characterized by early pathologic contact of the proximal femur with the acetabulum. Pincer impingement is the acetabular cause of FAI. Whereas cam deformity seen as a flattening of the anterior contour of the head/neck junction or an osseous hump leading a decreased femoral head/neck offset. Patient with FAI presents with a hip or a trochanteric pain usually in the sitting position or during or after activity. It might also be an important cause of hip osteoarthritis (OA).

Objectives: Therefore in this study we evaluated the frequency of pistol-grip deformity (PGD), described as the most characteristic feature of cam-type FAI, in axial spondyloarthritis (axSpA) patients as a potential alternative cause of hip or trochanteric pain.

Methods: A total 180 patients (107 [59%] male, mean age 41.9±12.8 years) with axSpA according to ASAS criteria and 198 patients (120 [61%] male, mean age 40.5±14.8 years) admitted to the emergency department (mostly due to trauma) and who had pelvic X-ray were included in the study. Patients with hip OA, hip prosthesis, acetabular protrusion or who have radiographs taken improper technique were excluded. An experienced radiologist assessed all anteroposterior pelvic radiographs. PGD was determined by demonstration of spherical or non spherical shape of femur head on AP pelvic radiography.

Results: The axSpA group consists 135 ankylosing spondylitis and 45 non-radiographic axSpA patients. The mean duration of symptoms was 13.8±11.3

years in axSpA patients. Radiographic findings of cam abnormality (figure) were significantly more frequent in axSpA patients in comparison with control subjects (30/150 [20%] vs 17/193 [9%] and $P=0.004$). Cam-type radiographic abnormality was only present in 2 female control subjects and none of female axSpA patients. FAI was significantly correlated with the presence of HLA-B27 ($r=0.213$ and $P=0.048$), smoking ($r=0.194$ and $P=0.018$), height ($r=0.283$ and $P=0.001$) and gender ($r=0.443$ and $P<0.001$).

Conclusions: Our results showed that radiographic findings compatible with PGD were frequent in axSpA patients. In addition to repetitive injury to the proximal femoral physis, new bone formation may be responsible for increased FAI in axSpA. In axSpA patients with hip or trochanteric pain, FAI may be kept in mind as an alternative explanation of the symptoms.

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FRI0463 OPTIMIZING THE ASSESSMENT OF SPONDYLOARTHROPATHY AMONG OPHTHALMOLOGISTS – A REGIONAL SURVEY

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Background: Spondyloarthropathy (SpA), is an under diagnosed clinical condition with an average delay in diagnosis of up to 8 years. The delay occurs due to non-specific symptoms which occur in young patients who are unlikely to present to healthcare services as well as presentations to different specialties as a result of extra-articular manifestations.

30% of Ankylosing Spondylitis (AS) patients have acute anterior uveitis (AAU) at some point due to the common link with HLA B-27. Uveitis may precede the diagnosis of Ankylosing Spondylitis (AS) by several years. Previous studies have shown that up to 40% (1) people with AAU have undiagnosed SpA, and are not routinely seen in rheumatology services due to lack of symptom and risk recognition. Early diagnosis in this group is essential to reduce the delay in diagnosis and improve the outcome of SpA.

Objectives: 1. To identify the current assessment of inflammatory back pain, in patients with recurrent AAU, by local ophthalmologists. 2. To identify ways to improve cross specialty referral and reduce delay in the diagnosis of SpA.

Methods: This is a prospective, questionnaire based semi qualitative study. The target population includes specialist ophthalmology trainees, consultants and GPs with a special interest in ophthalmology across the East Midlands. The questionnaire was piloted locally at a regional uveitis meeting. The improved questionnaire was then electronically communicated to ophthalmologists across East Midlands. The data was collated and analyzed using smart survey software.

Results: We received 61 responses (response rate = 51%), of which 57 (n=57) were analysed. The respondents largely comprised doctors working at university hospitals (74%) and consultants (45%).

17% of the respondents were not confident with taking an inflammatory back pain history. Of the remaining 83%, only 67% respondents would normally think to ask about the main symptoms of back pain related to AS. Thus 44% respondents were not competent in taking an inflammatory back pain history.

With regards to their clinical practice, only 54% of respondents would routinely ask about symptoms of SpA in patients with recurrent AAU, even though 79% would test for HLA-B27. Furthermore, according to 42% of respondents they would never refer a recurrent AAU patient to a rheumatologist.

Most respondents felt that work pressure was the most likely reason for deficit of proper SpA assessment and referrals, followed by lack of support by guidelines.

Conclusions: Our survey demonstrates a clear knowledge deficit among ophthalmologists regarding inflammatory back pain and the importance of assessing it in recurrent AAU patients. This can be improved by educating ophthalmologists about SpA in conferences and developing local guidelines about patients with HLA B-27 recurrent AAU related to assessment and referral.

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FRI0464 ARTERIAL WALL INFLAMMATION IS NOT AFFECTED BY ANTI-IL17 TREATMENT IN PATIENTS WITH PERIPHERAL SPONDYLOARTHRITIS

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Background: Patients with spondyloarthritis (SpA), a chronic inflammatory disease, have an increased cardiovascular risk, which is partly due to increased inflammatory activity in the arterial wall.

IL-17A blockade with secukinumab is an effective treatment for SpA. The role of IL-17A in atherogenesis is controversial, some studies suggest that IL-17A is pro-atherogenic, while others indicate that IL-17A is athero-protective. So, it is not known what the effect is of treatment with IL-17A blockade on inflammatory activity in the arterial wall.

Objectives: To assess the effect of 3 months treatment with secukinumab on arterial wall inflammation in SpA patients with peripheral disease (pSpA).

Methods: We included 20 patients with clinical pSpA in a 12 week open-label trial. Treatment consisted of 300 mg secukinumab once a week during the first 4 weeks and then every 4 weeks thereafter. EULAR DAS response was used to define a responder/non responder state. To measure arterial wall inflammation we performed a 18-fluorodeoxyglucose positron emission tomography with computed tomography (¹⁸F-FDG PET/CT) imaging in 18 patients at baseline and week 12, which is a validated method to quantify arterial wall inflammation. Arterial wall inflammation is measured in both the ascending aorta and carotids, maximal FDG uptake is shown as the maximal target-to-background ratio (TBR_{max}).

Results: 18 patients with pSpA (age 44±12, 72% male) and without a previous cardiovascular event underwent imaging. Overall, three months treatment with secukinumab resulted in a significant improvement of disease activity with 17/18 patients achieving a EULAR DAS response (9 good and 8 moderate responders). Correspondingly, CRP levels decreased significantly (baseline: 3.2 [1.2–12.40] mg/dl vs. wk 12: 2.0 [1.1–5.8] mg/dl, $p=0.011$). Importantly, treatment with secukinumab did not affect cholesterol levels (total cholesterol baseline: 5.1±1 mmol/l vs wk 12: 5.5±1 mmol/l, $p=0.167$; LDL-c baseline: 3.2±0.8 mmol/l vs wk 12: 3.5±0.9 mmol/l, $p=0.219$). Additionally, arterial wall inflammation as measured by PET-CT did not change over the course of the 12 weeks treatment with secukinumab (aorta TBR_{max} baseline: 3.3±0.9 vs. wk 12: 3.3±0.7, $p=0.861$; carotid TBR_{max} baseline: 1.88±0.6 vs. wk 12: 1.76±0.4, $p=0.067$).

Conclusions: This pilot study in 18 patients with pSpA without any preexisting CV events showed that treatment with secukinumab for 3 months has no effect on arterial wall inflammation as measured by PET-CT. Further research in larger patient groups, over a longer period of treatment, and with different measurements remains warranted to fully elucidate the effect of IL-17A blockade on vascular inflammation.

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FRI0465 ANGLES OF SACRUM INCLINATION EFFECT ON RADIOLOGIC IMAGING READING IN SPONDYLOARTHRITIS (THE ANTELOPE-DESIR STUDY)

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Objectives: To assess the impact of spinal angles on clinical and imaging features of suspicion of axial spondyloarthritis (axSpA).

Methods: The DESIR cohort is a prospective longitudinal cohort study of adults aged 18–50 with inflammatory back pain (IBP) ≥3 months, ≤3 years. Baseline lateral lumbar radiography of patients included in DESIR cohort were read by two central blinded fellow readers (and a rheumatologist spine specialist in case of discrepancy) for Sacral Horizontal Angle (SHA), Lumbosacral angle (LSA) and total Lordotic Angle (TLA) measures. On the basis of literature, patients were classified depending on whether they had TLA more or less than 50°, SHA more or less than 40° or LSA more or less than 15°. Associations between angles and baseline clinical variables, presence of X-Rays (New York) and MRI (ASAS and MORPHEO proposal definition) sacroiliitis, presence of spinal signs of spondyloarthritis (mSASSS, BASRI-total, SPARCC scores), presence