**Objectives:** To determine the factors associated with radiographic hip involvement and its prevalence.
**Methods:** A cross-sectional study was performed based on patients with AS, excluding the patients with associated psoriasis or inflammatory bowel disease. To assess radiographic hip involvement, we scored the last anteroposterior pelvic radiograph performed using the *Bath Ankylosing Spondylitis Radiology Index* (BASRI). Demographic, clinical, laboratory and radiographic data were collected and analysed. We considered the presence of hip disease with a BASRI-hip grade of at least 2. Statistical analysis: A descriptive study was performed. To compare differences we used a 1-way ANOVA test and Pearson chi-square. The statistical analyses were done using SPSS 24.0. $p \leq 0.05$ was considered statistically significant.
**Results:** 215 patients were identified, with a mean age of 52±13.6 years and 76.7% of the patients were male. The age at onset was 25.29±8.22 years. 86.4% of the patients were HLA-B27-positive. Regarding their treatment, 27.9% were under biological therapy. A hip replacement was needed in 14 patients (0.7%), with 6 of them requiring a bilateral hip replacement. The mean BASDAI score, BASFI score and ASDAS CRP index were 4.01±6.31; 4.73±8.8 and 2.17±1.01 respectively.
The table shows the comparison between the two groups based on the presence of hip involvement (BASRI hip $\geq$2). Statistically significant differences were observed in the age, age at onset and presence of peripheral arthritis. Patients with hip involvement had higher scores in BASFI score, ASDAS CRP and ESR. Axial radiographic involvement assessed with axial BASRI score and total SASSSm was associated with hip disease and a significant association was seen between hip involvement and metrological parameters.

| | No hip disease n=154 (71.6%) | Hip disease n=61 (29.4%) | P-value |
|---|---|---|---|
| Age* (years) | 49.5±13.63 | 58.16±11.53 | <0.001 |
| Age at onset* (years) | 26.14±8.4 | 23.16±7.38 | 0.017 |
| Male sex, n (%) | 113 (73.4) | 52 (85.2) | 0.063 |
| HLAB27+, n (%) | 132 (85.7) | 52 (85.2) | 0.790 |
| Peripheral arthritis, n (%) | 33 (21.4) | 25 (41.0) | 0.004 |
| Uveitis, n (%) | 40 (26.0) | 13 (21.3) | 0.475 |
| Biological treatment, n (%) | 41 (27.0) | 19 (31.1) | 0.54 |
| BASDAI* | 3.84±7.29 | 4.47±2.14 | 0.527 |
| BASFI* | 3.79±7.15 | 7.23±11.81 | 0.012 |
| ASDAS CRP* | 2.07±1.01 | 2.45±0.95 | 0.014 |
| ASDAS ESR* | 1.89±0.90 | 2.52±1.92 | 0.002 |
| Schober's index* (cm) | 3.61±1.55 | 2.43±1.69 | <0.001 |
| Chest expansion* (cm) | 4.97±1.84 | 3.67±2.02 | <0.001 |
| Cervical rotation* (cm) | 72.03±19.73 | 49.18±28.01 | <0.001 |
| Lateral flexion* (cm) | 12.96±5.18 | 7.85±4.1 | <0.001 |
| Occiput to wall distance* (cm) | 2.49±4.36 | 8.45±8.38 | <0.001 |
| Intermalleolar* (cm) | 100.22±21.22 | 82.37±17.91 | <0.001 |
| Axial BASRI* | 5.31±3.10 | 8.53±3.38 | <0.001 |
| Total SASSSm* | 10.24±16.07 | 30.67±27.31 | <0.001 |

*Mean ± SD.

**Conclusions:** Radiographic hip involvement assessed with BASRI score is prevalent and it is related with the age at onset, disease activity and the presence of peripheral arthritis. These patients present more disability, less mobility and greater axial radiographic involvement.
**Disclosure of Interest:** None declared
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## FRI0469 DIFFERENCES BETWEEN ANKYLOSING SPONDYLITIS PATIENTS WITH AND WITHOUT RADIOGRAPHIC HIP INVOLVEMENT IN CHINA

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**Background:** Hip involvement, defined by clinical examination or imaging techniques, is a problem of great concern in Ankylosing Spondylitis (AS) patients as it leads to functional impairment and poor outcomes. It has been shown that early age at disease onset, peripheral manifestation and severe axial disease are risk factors, but other characteristics do not show consistency through studies and data is scarce so far.
**Objectives:** We aim to describe the phenotype differences between AS patients with and without radiographic hip involvement and to identify potential risk factors for hip involvement.
**Methods:** AS patients fulfilling the Modified New York Criteria and whose pelvic X-rays have been assessed by at least one radiologist and one rheumatologist were included. Radiographic hip involvement was defined by features of osteophytes around the femoral neck, erosions of the acetabulum, axial migration of the femoral head or hip joint space narrowing. The medical records were retrospectively reviewed and collected. Demographic and disease characteristics were compared by descriptive and bivariate statistics using SPSS v19.0 and stata v12.1 package.
**Results:** Totally 261 AS patients with hip involvement and 429 patients without hip involvement were analyzed. Statistical significance were found between these 2 groups regarding age at disease onset, gender, BMI, disease duration and presence of peripheral arthritis, with all p value$\leq$0.001. Male patients showed strong risk effect on hip involvement with the odds ratio (OR) around 3.27. Meanwhile, the hip-involved group had lower body mass index (BMI), which may relate to long disease duration or high inflammation level. No significant difference of HLA-B27 positivity, family history and other factors were observed (Table 01). Binary logistic regression results showed that age at disease onset, gender, BMI and disease duration were associated with hip involvement in AS ($p<0.001$). As for the symptoms, among 69 hip-involved and 75 non-involved AS with corresponding records, 83% hip-involved and 35% non-hip-involved patients complained of typical inguinal pain (OR=8.95, 95% CI=3.85~21.37, $p<0.001$).

Table 1

| | AS with hip involvement (n=261) | AS without hip involvement (n=429) | *p* value |
|---|---|---|---|
| Age, m (SD) | 28.57 (8.66) | 28.01 (8.53) | 0.41 |
| Age at disease onset, m (SD) | 18.28 (5.74) | 22.31 (6.87) | <0.001 |
| Men, n (%) | 240 (91.95) | 336 (77.78) | <0.001 |
| BMI, m (SD) | 20.35 (3.47) | 21.31 (3.30) | <0.001 |
| Disease duration, median (interquartile range) | 108.00 (120.00) | 48.00 (72.00) | <0.001 |
| HLA-B27 positive, n (%) | 230 (90.20) | 370 (88.94) | 0.61 |
| Family history positive, n (%) | 72 (27.80) | 100 (23.53) | 0.22 |
| Inflammatory low back pain, n (%) | 235 (90.38) | 381 (88.81) | 0.52 |
| Peripheral arthritis, n (%) | 118 (45.21) | 140 (32.86) | 0.001 |
| Dactylitis, n (%) | 9 (3.45) | 9 (2.10) | 0.28 |
| Uveitis, n (%) | 28 (10.73) | 48 (11.21) | 0.84 |
| Enthesitis, n (%) | 56 (21.62) | 89 (21.04) | 0.86 |
| Axial pattern, n (%) | 132 (50.57) | 249 (58.04) | 0.056 |

**Conclusions:** Compared to AS patients without hip involvement, the radiographic hip-involved group are younger age at disease onset, more frequently men and complaining of typical inguinal pain, have lower BMI and longer disease duration. AS patients having these concomitant risk factors should undergo further hip assessment in clinical practice.
**References:**
[1] Jeong H, Eun YH, Kim IY. Characteristics of hip involvement in patients with ankylosing spondylitis in Korea. Korean J Intern Med. 2017 Jan;32(1):158–164.
[2] Vander Cruyssen B, Vastesaeger N, Collantes-Estévez E. Hip disease in ankylosing spondylitis. Curr Opin Rheumatol. 2013 Jul;25(4):448–54.
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## FRI0470 CIGARETTE SMOKING HAS A DOSE-DEPENDENT RELATIONSHIP WITH DISEASE ACTIVITY AND CORRELATES WITH MORE FUNCTIONAL LIMITATION AND WORSE HEALTH ASSESSMENT IN THE PATIENTS WITH ANKYLOSING SPONDYLITIS

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**Background:** Ankylosing spondylitis (AS) is a chronic inflammatory disease that mainly affects the axial skeleton by causing inflammatory and osteoproliferative changes in the sacroiliac joints and spinal structures [1]. Cigarette smoking is associated with poor outcome in patients with established and early AS [2].
**Objectives:** Our study was to investigate the relationship between cigarette smoking and pain, disease activity, functional limitation, and health assessment in Chinese patients with AS.
**Methods:** Patients with AS (n=683) from China took part in a cross-sectional survey. Smoking status was obtained by a standardized questionnaire, involving smoking status (non-smokers, exsmokers, current smokers), the age when starting smoking, cigarette numbers a day and smoking status of family numbers. The Bath AS Disease Activity Index (BASDAI), the Bath AS Functional Index (BASFI), visual Analogue scale of pain, Health Assessment Questionnaire for Spondyloarthropathy (HAQ-S) were analyzed in terms of smoking status and relationship with pack-year history.

Table 1. Demographic features and clinical and laboratory results of the patients with AS and comparison between patients with different smoking status

| Variable | All patients N=683 | Non-smokers N=407 | Ex-smokers N=108 | Current smokers N=168 | *P*(1:3) | *P*(2:3) | *P*(1:2) |
|---|---|---|---|---|---|---|---|
| Age (years) | 27.33±8.67 | 26.04±8.65 | 27.65±8.74 | 30.24±7.98 | 0.000 | 0.001 | 0.069 |
| Disease duration (years) | 6.47±6.47 | 5.73±6.08 | 6.81±6.54 | 8.05±7.05 | 0.000 | 0.094 | 0.071 |
| Morning stiffness (VAS) | 3.12±2.86 | 2.84±2.87 | 2.87±2.53 | 3.96±2.89 | 0.000 | 0.003 | 0.739 |
| Overall Pain (VAS) | 3.97±2.77 | 3.78±2.83 | 3.96±2.70 | 4.44±2.61 | 0.005 | 0.150 | 0.440 |
| Nocturnal back pain (VAS) | 2.93±2.96 | 2.63±2.90 | 2.89±2.73 | 3.68±3.11 | 0.000 | 0.049 | 0.216 |
| ESR (mm/h) | 20.94±21.71 | 20.80±22.61 | 19.65±20.92 | 22.11±19.98 | 0.311 | 0.150 | 0.407 |
| CRP (mg/dl) | 18.4±26.01 | 17.33±28.14 | 18.4±22.76 | 20.98±22.26 | 0.001 | 0.126 | 0.340 |
| BASDAI | 3.36±2.03 | 3.21±2.05 | 3.30±1.79 | 3.76±2.07 | 0.002 | 0.065 | 0.437 |
| BASFI | 5.21±9.21 | 1.47±2.07 | 1.54±1.98 | 1.55±1.63 | 0.018 | 0.379 | 0.251 |
| HAQ | 0.21±0.33 | 0.20±0.33 | 0.19±0.30 | 0.23±0.33 | 0.130 | 0.313 | 0.213 |

*P*(1:3) refers to p value of the The Mann-Whitney U test and t test between non-smokers and current smokers.