SAT0332

GENDER DIFFERENCES IN DISEASE STATUS, QUALITY OF LIFE AND TREATMENT PATTERNS AMONG AXIAL SPONDYLOARTHRITIS PATIENTS: FINDINGS FROM A GLOBAL SURVEY

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Background: Axial spondyloarthritis (AxSpA) is a chronic inflammatory disease of the axial skeleton associated with impaired health-related quality of life (HRQoL) and disability.¹⁻² Gender differences in clinical and quality of life (QoL) measures have been demonstrated in axSpA (ankylosing spondylitis (AS) and non-radiographic axSpA (nr-axSpA), but not well quantified in a real-world clinical setting.

Objectives: To compare the clinical characteristics, QoL and treatment patterns of male and female AS and nr-axSpA patients from a multi-national survey.

Methods: Data from a cross-sectional, multi-national survey conducted in Australia, Canada, France, Germany, Italy, Japan, Spain, United Kingdom and the United States were analyzed. Demographics, disease status and medication use were reported by the physician, while work disability and QoL measures were reported by the patient. Gender comparison analyses were conducted for AS and nr-axSpA subgroups.

Results: Data from 432 physicians (407 rheumatologists, 13 orthopedists, 12 internists) 2,300 AS patients (male: 1,673[72.74%]; female: 627 [27.26%]), and 2,099 nr-axSpA patients (male: 1,146 [54.60%]; female: 953 [45.40%]) were included in this analysis. Male AS and nr-axSpA patients were more likely to be younger (AS: $p=0.0141$; nr-axSpA: $p=0.1327$), smokers (AS: $p<0.0001$; nr-axSpA: $p<0.0001$), have full-time employment (AS: $p<0.0001$; nr-axSpA: $p<0.0001$), and currently be in remission (AS: $p<0.0001$; nr-axSpA: $p=0.0001$) when compared to female AS and nr-axSpA patients. Male AS patients were more likely to be prescribed biologic treatment when compared to female AS patients ($p=0.0070$); however, rates of biologic use between male and female nr-axSpA patients were comparable ($p=0.2148$). Male AS and nr-axSpA patients also had lower Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) scores than female patients (AS: $p<0.0001$; nr-axSpA: $p<0.0001$). In addition, female AS and nr-axSpA patients were more likely to report worse QoL and more activity impairment, as assessed by the Ankylosing Spondylitis Quality of Life (ASQoL) (AS: $p<0.0001$; nr-axSpA: $p=0.0001$), Assessment of SpondyloArthritis international Society Health Index (ASAS HI) (AS: $p<0.0001$; nr-axSpA: $p<0.0001$), and Work Productivity and Activity Impairment (WPAI) (AS: $p=0.0006$; nr-axSpA: $p=0.0002$). **Conclusion:** Male AS patients were more likely to be prescribed biologics when compared to female AS patients, despite females experiencing worse QoL and greater activity impairment. This study highlights an unmet need among female patients for more appropriate treatment approaches.

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SAT0333

THE DIFFERENCES OF CLINICAL MANIFESTATIONS BETWEEN FAMILIAL AND SPORADIC ANKYLOSING SPONDYLITIS PATIENTS

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Background: Ankylosing spondylitis (AS) is a chronic inflammatory rheumatic disease which could lead to pain, functionally limitation and even less life expectancy. Morning stiffness often occur in the patients. Familial

aggregation has been found due to genetic susceptibility of the disease. There are certain difference in the patients with or without familial AS. For example, familial AS patients were reported to show a lower frequency of oligoarthritis [1].

Objectives: Our study was to investigate the difference of morning stiffness in the patients with familial AS or sporadic AS.

Methods: Study participants were recruited from Department of Rheumatology in the Third Affiliated Hospital of Sun Yat-sen University. Each patient was assessed by at least two qualified rheumatologists, and the diagnosis was made according to 1984 Modified New York Classification Criteria for AS. Through detailed family history, AS patients with 2 or more patients in his/her family who firstly went to our clinic were included as a possible proband. Then the probands brought the affected relatives to our clinic for further examination. Or three rheumatologists and two nurses drove to the places where a possible proband's family member lived. Baseline assessments were completed by trained by using identical questionnaires including demographic information (age, gender), disease related characteristics (back pain, morning stiffness, peripheral arthritis, uveitis, etc.), Bath

Ankylosing Spondylitis Disease Activity Index (BASDAI), and Bath Ankylosing Spondylitis Functional Index (BASFI). The Statistical Package for Social Sciences (SPSS) software version 21 was used for all data management and analysis. The difference between familial and sporadic AS patients were examined by using Independent T test or M-U test.

Results: Of all the 264 AS patients, 175 (66.3%) were males and 89 (33.7%) were female patients.

Mean age was 31.0 ± 9.5 years, and disease duration was 7.3 ± 6.7 years. Mean age of disease onset was 23.4 ± 8.5 years. There was no difference between familial and sporadic AS patients in the aspects of age, sex, age of onset and disease duration. However, age of onset of male familial AS patients was significantly lower than that of female patients (21.9 ± 8.4 VS 26.3 ± 8.2 , $p=0.004$), while no such sex difference was detected in sporadic patients (22.6 ± 8.1 VS 25.3 ± 8.6 , $p=0.08$). Familial patients were inclined to have hip joint involvement, compared with sporadic patients (58.6% VS 9.6, $p<0.01$). 186 (70.5%) patients suffered from morning stiffness with medial time of 61.6 minutes. Degree of morning stiffness was 3.5 ± 3.0 . Sporadic patients had more morning stiffness than familial patients ($p=0.007$). There was no difference in the presentation of peripheral arthritis ($p>0.05$). Mean BASDAI score was 3.6 ± 2.0 , and mean BASFI score was 1.4 ± 1.8 . The BASDAI score was slightly higher in sporadic group ($p=0.027$).

Conclusion: Familial AS patients had more hip joint involvement, less morning stiffness and an earlier disease onset, especially in male patients, compared with sporadic patients.

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SAT0334

DOES DEPRESSION PREDICT FUTURE DISEASE STATUS AND IMPROVEMENTS IN DISEASE PARAMETERS? RESULTS FROM THE COMPLETE STUDIES, A CANADIAN REAL WORLD OBSERVATIONAL COHORT

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Background: Depression is a common comorbidity in rheumatic diseases such as Psoriatic Arthritis (PsA) and Ankylosing Spondylitis (AS), whereby it is associated with increased disease activity, decreased functionality, and lower persistence with treatment.

Objectives: The objective of this analysis was to assess if baseline depression in Canadian patients with PsA or AS predicts future disease status and improvement in disease parameters.

Methods: COMPLETE is a Canadian observational cohort of anti-TNFα naïve adults with PsA and AS, who require a change in their treatment. Separate analyses were performed for each disease group. Depression was defined as BDI score ≥ 20 (or use of anti-depressants and/or anxiolytic medication). Multivariate logistic regression was used to assess the

baseline predictors of achievement of low disease activity (LDA) in BASDAI (<4) and BASFI (<4) for patients with AS; or DAPSA LDA (<13), DAS28 LDA (<3.2), DAPSA remission (<4), DAS28 remission (<2.6) and BSA <3% for patients with PsA. The maximum improvement (highest change from baseline at either 6 or 12 months) in BASDAI, BASFI, DAPSA, DAS28 was assessed for using multivariate linear regression and the least square means (LSMs). The maximum improvement in HAQ-DI and SF-12 physical component scale (PCS) and mental component scale (MCS) were also assessed among PsA patients.

Results: A total of 492 patients with AS and 333 with PsA had BDI assessments (or criteria for depression) at baseline and were included in the analysis; mean (SD) age was 42.7 (13.2) and 51.5 (12.2) years, respectively. Patients with AS were mostly male (54.1%) and initiated adalimumab treatment (70.9%) with mean (SD) disease duration of 5.4 (9.1) years; for PsA, sex was evenly distributed (female 50.5%), 66.4% initiated treatment with adalimumab and mean (SD) disease duration was 14.7 (13.7) years. The prevalence of depression at baseline was 24.6% and 25.5% in patients with AS and PsA, respectively.

Upon adjusting for potential confounders, presence of depression in patients with AS was associated with significantly lower odds of achieving BASDAI LDA (OR: 0.51, $p=0.021$) and BASFI LDA (OR: 0.52, $p=0.045$) during treatment. In these analyses, positive HLA B27 status was also identified as a significant positive predictor of either outcome (OR_{BASDAI LDA}: 1.91, $p=0.016$; OR_{BASFI LDA}: 1.98, $p=0.029$), while older age was identified as a negative predictor of BASFI LDA achievement (OR: 0.98, $p=0.044$). Similarly, patients with depression experienced significantly lower improvements in BASDAI (LSM: -1.72 vs. -2.44; $p=0.007$), and BASFI scores (-1.46 vs. -2.02; $p=0.029$) compared to those without depression.

Among patients with PsA, presence of depression appeared to be associated with lower odds of achieving DAPSA remission (OR: 0.35, $p=0.070$). No association was observed between presence of depression and DAPSA LDA, DAS28 LDA or remission, and BSA<3%. In terms of disease improvement, significant lower improvement in DAPSA score (LSM: -11.00 vs. -14.66; $p=0.047$) and SF-12 MCS (LSM: -3.01 vs. 4.36; $p=0.007$) were observed among patients with depression.

Conclusion: A significant proportion of AS and PsA patients suffer from depression. Baseline depression seems to negatively affect treatment outcomes in both AS and PsA patients. Whether this is due to differences in the assessment of patient-reported outcomes or due to physiological differences remains to be confirmed.

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SAT0335 CLINICAL COURSE OF ANKYLOSING SPONDYLITIS (AS) IN PREGNANCY: INTERIM DATA FROM PROSPECTIVE STUDY

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Objectives: To study the dynamics of clinical signs, AS activity and patients' functional status during gestation.

Methods: 19 pregnant females with confirmed AS based on modified NY criteria (1984) were included. Patients' mean age was 32.2±1.1y., mean age at AS onset was 22.6±3.1 y., mean disease duration was 14.7±20.7 months. Control visits were scheduled at 10-11, 20-21 and 31-32 weeks of pregnancy. BASDAI and ASDAS-CRP calculators were used to assess AS activity, while patients' functional status was assessed using BASFI and BASMI scores, and MASES score was used for evaluation of enthesitis.

Results: Pregnancy outcomes included 18 full-term births at 37.6±1.1 weeks of gestation, and a non-developing pregnancy at 18 weeks in one case. Newborns' weight – 3518±67 g.

Inflammatory low back pain at conception was reported by 78.9% of participants with mean pain intensity 2.2±0.4 scores by NRS. Pain during pregnancy was observed in 95% of all patients, its intensity increased by the II trimester (4.6±0.7) and persisted at the same level in the III trimester ($p<0.05$ between conception and II & III trimesters). Patients reported changing pain patterns by the III trimester: 55.5% noticed pain improvement at rest, and 61.1% indicated exacerbation of pain after physical exercise. Enthesitis rates and intensity were also increasing in the course pregnancy: MASES score was higher in the III trimester (2.3±0.5) vs I trimester (0.4±0.22, $p<0.05$). Meanwhile the rates of AS others non-axial and non-skeletal manifestations were not changing during gestation.

BASDAI score was increasing from the moment of conception (1.7±0.3) until the II trimester (3.3±0.5, $p<0.05$), staying thereafter at the same level in the III trimester. Multivariate regression revealed BASDAI score ($R^2=0.7$) and low back pain ($R^2=0.9$) at conception, as well as biological therapy at 3 months prior to conception ($R^2=0.7$) as orchestrated predictors of relevant BASDAI score in III trimester. During all pregnancy the BASDAI score was predetermined by assemblage of low back pain intensity ($\beta=0.6$), fatigue ($\beta=0.6$), and enthesitis-associated pain ($\beta=0.3$). Increasing fatigue (by 68.5%), and low back pain (by 24.1%) generated BASDAI score increment by the end of the I trimester. While during the II trimester further increase in BASDAI score was provided by exacerbation of enthesitis (30.7% increment), and back pain (27% increment). ASDAS-CRP score was relatively stable with some trend to increase in the II trimester (2.3±0.3) as compared to baseline at conception (1.7±0.2). CRP also showed some increase in the II the trimester (9.7±2.9 mg/ml) vs I trimester (6.7±2.4 mg/ml, $p>0.05$).

BASMI score insignificantly changed during all 3 trimesters (1.3±0.9; 1.8±0.2; 2.1±0.3 – in I, II and III trimesters, correspondingly). BASFI score showed increase by the III trimester (3.9±0.7) as compared to I trimester (1.4±0.3, $p<0.05$). Score increase in the III trimester was due to increased AS activity interfering with habitual physical performance, and also due to pregnancy (forward bend, questions 1,2,4).

Conclusion: AS clinical activity increases by the II trimester of pregnancy and persists at moderate and high levels afterwards during all gestation period. AS activity at conception can predetermine AS activity during all pregnancy. 50% of pregnant patients are likely to experience low back pain in the III trimester due to increasing pressure of a growing fetus on the spine. Functional disability increases with progress in pregnancy, being caused in the III trimester by both – AS activity and pregnancy per se.

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SAT0336 CLINICAL DIAGNOSES OF AXIAL SPONDYLOARTHRITIS SHOW A HIGH OVERALL CONCORDANCE WITH CLASSIFICATION CRITERIA FULFILMENT, BUT ARE LESS CONSISTENT FOR DIFFERENTIATION BETWEEN SUBTYPES IN ESTABLISHED AXIAL DISEASE: RESULTS FROM THE SPARTAKUS COHORT

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Background: The ASAS axial SpondyloArthritis (axSpA) criteria encompass radiographic (r-axSpA) and non-radiographic (nr-axSpA) disease to enable classification early, while the modified New York criteria (mNY) for Ankylosing Spondylitis (AS) require radiographic sacroiliitis. Studies of agreement between clinical diagnoses of axSpA and classification criteria are sparse, especially for nr-axSpA.

Objectives: To study the concordance between clinical axSpA diagnoses and classification criteria fulfilment (mNY and ASAS axSpA) in a population-based cohort of established axSpA, and to compare demographics and outcomes between radiographic axSpA and nr-axSpA.

Methods: Patients with clinical diagnoses (ICD-10) of AS (M45.9) or undifferentiated spondyloarthritis (USpA; M46.0, M46.1, M46.8, M46.9),