GENDER DIFFERENCES IN DISEASE STATUS, QUALITY OF LIFE AND TREATMENT PATTERNS AMONG AXIAL Spondylarthritis 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 multinational 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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THE DIFFERENCES OF CLINICAL MANIFESTATIONS BETWEEN FAMILIAL AND SPORADIC SPONDYLITIS PATIENTS

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Background: Ankylosing spondylitis (AS) is a chronic inflammatory rheumatic disease which could lead to pain, functionality 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 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 (56.6% 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=0.07). 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.

REFERENCE

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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-TNF naïve adults with PsA and AS, who require a change in their treatment. Statistical 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

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baseline predictors of achievement of low disease activity (LDA) in BAS-DAI (<4) and BASFI (<4) for patients with AS; or DAPSA LDA (<13), DAPSA remission (<5), DAPSA 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 B27: 1.91, p=0.016; OR HLA B27: 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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**CLINICAL DIAGNOSES OF AXIAL SPONDYLOARTHRITIS SHOW A HIGH OVERALL CONCORDANCE WITH CLASSIFICATION CRITERIA Fulfillment, 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 fulfillment (mNY and ASAS axSpA) in a population-based cohort of established axSpA, and to compare demographics and outcomes between nr-axSpA and r-axSpA.

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