THU0381

PATIENT-REPORTED IMPACT OF AXIAL SPONDYLOARTHRITIS ON WORKING LIFE: RESULTS FROM THE EMAS SURVEY

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Background: Axial spondyloarthritis (axSpA) impacts multiple dimensions of patients' lives, including working life.

Objectives: To evaluate work-related issues, their associations and determinants among European axSpA patients.

Methods: The European Map of Axial Spondyloarthritis (EMAS), conducted from July 2017 to February 2018, was a cross-sectional on-line survey of unselected patients with self-reported axSpA from Austria, Belgium, France, Germany, Italy, Netherlands, Norway, Russia, Slovenia, Spain, Sweden, Switzerland, and the UK. Participants were recruited through an on-line panel and patient organizations. Participants were classified as active (employed, unemployed between 15-64 years) or inactive (retirees, on sick leave, students and homemakers). Those employed were asked to report work-related issues (sick-leave, difficulty fulfilling work hours, missing work for doctors' appointments, reducing working hours or taking days off) in the past 12 months. Disease activity (BASDAI), self-reported spinal stiffness, diagnostic delay and psychological distress (General Health Questionnaire, GHQ-12) were compared between employed patients with or without work-related issues using a Mann-Whitney and Kruskal-Wallis test. Two-stage regression analysis was conducted to determine explicative sociodemographic (using stepwise method for income, age, gender, education) and disease-related factors (enter method for BASDAI, self-reported spinal stiffness, functional limitation) over work-related issues.

Results: 2846 axSpA patients participated in EMAS: mean age was 44 ±12 years, 61.3% were female and 48.1% were university educated. Mean disease duration and diagnostic delay were 17.2±12.4 and 7.4±8.4 years, respectively, and mean BASDAI was 5.5±2.0. 61.3% (n=1653) were considered active, of which 87.7% (n=1450) were employed. Of those employed, 67.7% reported a work-related issue, specifically 56.3% took sick leave, 44.6% had difficulties in fulfilling the working hours, 34.6% missed work due to doctor's appointments, 31.6% requested days off, and 25.7% reduced their number of working hours (Table 1). Among all patients, 74.1% faced or believed they would face difficulties finding a job due to axSpA. Experiencing work-related issues due to axSpA was significantly associated with higher disease activity, self-reported spinal stiffness, longer diagnostic delay, and higher level of psychological distress (p<0.001). First regression step showed gender and educational level as explanatory sociodemographic control factors, while educational level and BASDAI were the only statistically significant explanatory factors in the second step (p≤0.001) (Table 2).

Abstract THU0381 –Table 1.

Table 1. Statistical correlations between the work-related issues of employed and sociodemographic and clinical characteristics, (n:1422, unless other specified)

	Work-related issues (mean ± SD or %)	No work-related issues (mean ± SD or %)	p-value
Age (years)	41.4 ± 9.7	42.3 ± 10.4	0.09
Gender (Male)	37.9%	47.9%	<0.001*
Education level (University)	60.7%	56.6%	0.002*
Marital status (Married)	67.5%	69.3%	0.06
BASDAI (0-10), n:1310	5.4 ± 1.8	4.0 ± 2.0	<0.001*
BASDAI (≥ 4), n:1,310	79.0%	50.2%	<0.001*
Stiffness index (3-12)	7.5 ± 2.4	6.3 ± 2.5	<0.001*
GHQ-12 (0-12), n:1,344	5.1 ± 4.0	2.6 ± 3.2	<0.001*
GHQ-12 (≥ 3), n:1,344	64.6%	34.1%	<0.001*
Depression, n:1,371	26.1%	11.1%	<0.001*
Anxiety, n:1,368	32.2%	16.1%	<0.001*

*Test χ^2 and Mann-Whitney to indicate if there is an association between the variables.

Abstract THU0381 –Table 2.

Table 2. Regression analysis on the determinants of the presence of work-related issues of patients with axSpA and their demographic, socioeconomic and disease-related parameters. n=1162.

	Sig. of change in first stage (those above 0.05 are not considered sociodemographic control factors)	Second stage Coefficients	Sig. of coefficients	Goodness of fit statistics	
Income	0.568	NA		Cox-Snell R ²	,234
Age	0.443	NA			
Gender	0.009	,052	,691	Nagelkerke R ²	,312
Education level	0.033	,160	,016		
Stiffness Index	NA	-,032	,271	Percentage of correct predictions	72%
Limitation Index	NA	,001	,891		
BASDAI	NA	-,284	,000		

Conclusion: Nearly two-thirds of employed patients experienced work-related issues due to axSpA. The strongest factor associated with work-related issues was high disease activity. Understanding the determinants of work-related issues is needed to ensure that patients have adequate workplace and holistic medical support to lead productive work-lives

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THU0382

FACTORS ASSOCIATED WITH POOR WORK OUTCOMES IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS IN SINGAPORE

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Background: Axial spondyloarthritis (axSpA) can lead to significant limitation of mobility and function, resulting in poor work outcomes.¹ Factors associated with poor work outcomes have not been studied in an Asian population. Singapore is an urban Asian city with a low unemployment rate and a healthcare model with heavy emphasis on self-reliance.² This socio-cultural context may influence risk factors for poor work outcomes.

Objectives: To identify factors associated with poor work outcomes in patients with axSpA in Singapore.

Methods: A cross-sectional study was performed in two tertiary centres in Singapore. Patients ≥21 years fulfilling Assessment in Spondyloarthritis International Society (ASAS) 2009 criteria for axSpA were included. We collected social demographics, clinical data, treatment modalities and patient reported outcomes, including the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), Bath Ankylosing Spondylitis Functional Index (BASFI), EQ-5D index, and Work Productivity and Activity Impairment scale (WPAI:SpA). WPAI:SpA was used to derive scores for presenteeism (reduced productivity while at work), absenteeism (time absent from work), work impairment (combining presenteeism and absenteeism scores) and activity impairment (impairment in activities performed outside of work). Univariable and multivariable linear regressions were used to

examine factors associated with presenteeism, absenteeism, work impairment and activity impairment.

Results: A total of 156 patients with axSpA were included: 72.4% employed, 80.1% male, 86.5% Chinese, mean age 39.2 (13.0) years, mean disease duration 8.5 (8.9) years. The mean BASDAI was 3.2 (2.0), mean BASFI was 2.1 (2.1), mean EQ-5D was 0.8 (0.1) and mean activity impairment was 28.2%. Among employed patients, mean absenteeism was 4.5%, mean presenteeism was 24.9% and mean work impairment was 27.6%. In multivariable analysis, absenteeism was associated with disease duration (β : -0.44; 95% CI: -0.80, -0.07; $p=0.02$) and EQ-5D (β : -46.28; 95% CI: -89.63, -2.92; $p=0.04$). Presenteeism was associated with BASDAI ≥ 4 (β : 8.23; 95% CI: 0.24, 16.22; $p=0.04$), BASFI (β : 3.59; 95% CI: 1.25, 5.92; $p<0.01$) and EQ-5D (β : -64.40; 95% CI: -115.79, -13.02; $p=0.02$). Work impairment was associated with BASFI (β : 3.57; 95% CI: 0.71, 6.43; $p=0.02$) and EQ-5D (β : -88.00, 95% CI: -150.87, -25.13; $p<0.01$). Activity impairment was associated with age (β : -0.21; 95% CI: -0.41, -0.01; $p=0.04$), BASDAI ≥ 4 (β : 19.94; 95% CI: 13.79, 26.09; $p<0.01$), BASFI (β : 3.29; 95% CI: 1.63, 4.95; $p<0.01$), EQ-5D (β : -82.28; 95% CI: -125.15, -39.41; $p<0.01$).

Conclusion: Factors such as active disease, reduced physical function and poorer quality of life are associated with reduced work outcomes in patients with axSpA in Singapore. These factors need to be addressed to improve work outcomes.

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THU0383

PREVALENCE OF SPONDYLOARTHRITIS IN FIRST DEGREE RELATIVES OF PATIENTS WITH ANKYLOSING SPONDYLITIS

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Background: Ankylosing spondylitis (AS) is a common rheumatic disease with higher prevalence in relatives of patients already diagnosed with the disease. Heritability of AS in twins is estimated to 90%.

Objectives: The aim of this study was to examine first degree relatives (FDR) of AS patients, to determine whether the patients already fulfil criteria for axial and/or peripheral spondyloarthritis (SpA) and compare the findings to healthy controls (HC).

Methods: We recruited 32 patients without prior rheumatologic diagnosis with first degree relative treated for AS and 20 age and sex matched HC. The clinical data were collected and rheumatology examinations were performed by trained rheumatologists. Magnetic resonance imaging (MRI) of sacroiliac joints (SIJ) was read by trained rheumatologist who was blinded to the patient's data. Patients were further divided into the subsets of axial SpA (imaging and clinical arm) and peripheral SpA fulfilling The Assessment of SpondyloArthritis international Society (ASAS) classification criteria¹ and subset of non-SpA. The ASAS modified Berlin algorithm for diagnosis of axial SpA² (axSpA) was also applied.

Results: Altogether, 78% (n=25) FDR referred back pain, 34% (n=11) referred inflammatory back pain (IBP), and 22% (n=7) did not refer back pain, which was significantly different from that in HC (65% referred back pain, 0% referred IBP, 35% referred no back pain, $p=0.0038$ and $p=0.03$, respectively). Bone marrow edema (BME) was found in 50% (n=16) of FDR, and 22% (n=7) had highly suggestive BME³ (hsBME) corresponding to typical findings of active sacroiliitis compared to HC where 10% (n=2) had BME, and none had hsBME ($p=0.063$, $p=0.035$, respectively). Furthermore, FDR had higher BASDAI and higher prevalence of HLA-B27 positivity compared to HC (2.0 (± 1.5) and 75% vs. 0.4 (± 0.6) and 5%, $p=0.001$ and $p=0.001$, respectively), no other significant differences were observed. The diagnosis of SpA was confirmed in 37% (n=12) of all FDR, 25% (n=8) patients fulfilled the imaging arm and 6% (n=2) fulfilled the clinical arm of ASAS classification criteria for axSpA, 6% (n=2)

patients fulfilled ASAS classification criteria for peripheral SpA. The diagnosis of axSpA according to the ASAS modified Berlin algorithm was confirmed in 41% (n=13) patients. Analysis of clinical characteristics showed significant difference between serum CRP levels in SpA vs. non-SpA (8.2 (± 12.5) vs. 2.3 (± 4.4), $p=0.02$, respectively) and HLA-B27 positivity (100% vs. 60%, $p=0.01$, respectively). Presence of back pain and inflammatory back pain were more often in SpA compared to non-SpA subsets (100% and 67% vs. 65% and 15%, $p=0.03$ and $p=0.006$, respectively).

Conclusion: More than one third of first degree relatives of patients with AS fulfilled the criteria for axial or peripheral SpA, and had significantly higher prevalence of inflammatory back pain and increased BASDAI compared to HC. Based on these data, screening of family members of patients with AS should be recommended.

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THU0384

IMAGING OF SACROILIAC JOINTS IN EARLY SPONDYLOARTHRITIS: SHOULD WE CHOOSE COMPUTED TOMOGRAPHY OR MAGNETIC RESONANCE IMAGING?

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Background: In view of the limited utility of pelvic radiography to recognize sacroiliitis in its earliest stages, magnetic resonance imaging (MRI) has been considered as a reliable imaging modality to detect acute subchondral inflammation at disease onset. However, several recent studies reported a high proportion of false-positive of sacroiliac joints (SIJ) MRI. Other studies demonstrated that computed tomography (CT), by its ability to detect early structural damage, may be helpful. Consequently, strengths and limitations of each imaging technique need to be considered when choosing the most appropriate first-line modality in clinical practice.

Objectives: We aimed to assess the performance of CT scanning and MRI for detecting sacroiliitis in early SpA by estimating the sensitivity and the specificity of each imaging technique.

Methods: Consecutive patients, aged 16 years and over, referred for symptoms suggestive of SpA from February 2014 to February 2017 were enrolled in this cohort. After excluding patients whose conventional radiography showed a confirmed sacroiliitis, eligible patients underwent SIJ CT and/or MRI. The CT and MR images were reviewed by 2 musculoskeletal radiologists blinded to clinical findings. Then, 2 rheumatologists recorded from the clinical files if patients fulfilled the ASAS (Assessment of Spondyloarthritis international Society) classification criteria for SpA. This classification was considered as the gold standard of this study.

Results: Fifty-three patients were included: 14 men and 39 women. The mean age was 36 years. The prevalences of HLA-B27 and elevated CRP were 27.6% and 16%, respectively. Fifty-eight percent of the patients (n=31) fulfilled the ASAS criteria for axial SpA. Among these patients, 30 patients underwent SIJ CT and 27 underwent SIJ MRI. Sacroiliitis was visualized by CT in 28 out of 30 patients (93.3%) and by MRI in 17 out of 27 patients (63%). Among the 22 patients who did not