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