

(3.8), BASMI 3.7 (2.6). There was no significant difference between the TNFi either in speed of response or outcomes measured. Current smokers presented with significantly more spinal pain than never/ex-smokers ( $p=0.045$ ). At baseline female AS patients had significantly lower BASMI scores (2.9 vs 4,  $p=0.012$ ) but worse patient global health (6.7 vs 5.5,  $p=0.033$ ) compared to male AS patients. At 3 months post-TNFi therapy the BASDI (3.7 vs 2.7,  $p<0.001$ ) and BASFI (3 vs 2.4,  $p=0.032$ ) scores were significantly higher in female AS patients, the former correlated with ESR levels post-TNFi ( $r=0.42$ ,  $p=0.02$ ). In addition, HAQ (.6 v.2,  $p<0.001$ ), ESR (21 vs 9,  $p<0.001$ ), CRP (8 vs 6,  $p=0.047$ ) and patient global scores (5 vs 3,  $p<0.001$ ) were higher in female compared to male AS patients.

**Conclusion** Female AS patients present with higher pain and disability despite better mobility. Following TNFi therapy they continue to have higher inflammatory markers, disease activity and functional scores compared to male AS patients. AS patients who smoke have more pain at baseline.

## 2 ANKYLOSING SPONDYLITIS PATIENT RESPONSES TO TNFi IS GENDER-SPECIFIC: 6 YEAR DATA FROM THE DISTILLER BIOLOGIC REGISTRY

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**Objective** To examine the clinical and serological features of ankylosing spondylitis (AS) patients treated with tumour necrosis factor (TNF) inhibitors (TNFi).

**Methods** Consecutive, unselected AS patients commencing TNFi were prospectively studied between 2004 and 2011. Patients received standard physiotherapy, in addition to TNFi and were reviewed 3 monthly year 1 of therapy and then annually. Bath Ankylosing Spondylitis Metrology Index (BASMI), Bath Ankylosing Spondylitis Disease Activity Index (BASDI) and Bath Ankylosing Spondylitis Functional Index (BASFI), chest expansion, Health Assessment Questionnaire (HAQ), erythrocyte sedimentation rate (ESR) and C reactive protein (CRP) scores were assessed. Kruskal–Wallis and Mann–Whitney U tests were used to compare non-parametric categorical and continuous data. Spearman's rank was used to assess correlations. Results are given as the mean unless otherwise specified.

**Results** 147 AS patients were registered commencing TNFi with a mean age of 45 (IQR 15) and mean disease duration of 11 years (IQR 13), 72% were male and 61% were current or ex-smokers. Less than half (42%) were in employment. TNFi agents used included etanercept (50%), adalimumab (35%), infliximab (14%) and golimumab (1%). Mean first recorded BASDI for the whole cohort was 4.7 (IQR 3), BASFI 4.3