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Background: Biologic therapy (BT) has demonstrated its effect in improving work impairment in axial Spondyloarthritis (axSpA) patients in clinical trials, however there is few data of these effects in clinical practice.

Objectives: -To assess the influence of BT in work status using the WPAI questionnaire in patients with axSpA in real life.

-To compare work status between incident and prevalent cases with BT.

-To evaluate factors related to changes in work status in these patients.

Methods: REGISPONSERBIO is an observational, prospective and multi-centric Spanish registry of SpA patients under biologic treatment recruited between September 2013 and December 2014. The study includes demographic, radiologic and disease data from both incident (starting biological therapy at the inclusion) and prevalent (already under biologic therapy at the inclusion) patients. WPAI (Work Productivity and Activity Impairment) questionnaire was used to assess work status (employment, lost hours, absenteeism and presenteeism) in both groups of patients at six months after study inclusion. Patients more than 65 years old who were not working were excluded from the analysis, as no changes in work impairment are expected in these individuals.

A descriptive study of work status and related factors was performed using mean and standard deviation as appropriate. Work status was compared between both time-points in incident and between incident and prevalent. Uni and multivariate analysis for factors related to baseline work status were assessed, and correlation for change at six months.

Results: The study included 75 incident and 134 prevalent axSpA patients. After start of BT, incident patients presented an increase in the number of patients who affirmed to be actively working and an improvement in absenteeism, lost hours and presenteeism, however statistical significance was only reached in the number of hours lost. Comparing incident and prevalent cases, incident patients showed worse data on work status compared to prevalent ones, but only presenteeism reached statistical significance. Factors related to absenteeism and presenteeism at study inclusion were disease activity variables (PGA, BASDAI, ASDAS-CRP), ASQoL and BASFI. Best correlation with improvement in absenteeism at six months was with change in BASDAI (0.84 p 0.07) and age (-0.56 p 0.11), and with improvement in presenteeism were BASFI (0.59 p 0.002), ASQoL (0.57 p 0.002), BASDAI (0.54 p 0.04), PGA (0.51 p 0.01) and ASDAS-CRP (0.51 p 0.01).

Conclusion: Biologic therapy is associated to an improvement in work status in axSpA patients. The results suggest that the fast and high improvement in disease activity and disability observed after start of BT is not directly translated to an improvement in work status at short time. Disease activity, disability and quality of life were the main factors influencing both, work status at inclusion and improvement in absenteeism and presenteeism after BT was started.

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IMPACT OF A FAMILY HISTORY OF SPONDYLOARTHRITIS ON TNFI DRUG SURVIVAL AND TREATMENT RESPONSE IN PATIENTS WITH ANKYLOSING SPONDYLITIS AND PSORIATIC ARTHRITIS

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Background: Spondyloarthritis (SpA) is known to have high familial aggregation, with a positive family history of SpA being a strong risk factor for disease development, in particular for ankylosing spondylitis (AS). Despite this well-known characteristic of the disease, whether family history is associated with disease prognosis and treatment outcome has been much less studied. Patient characteristics predicting response to tumour necrosis factor alpha inhibitors (TNFi) in SpA include age, sex and high disease activity, but whether family history is predictive of TNFi treatment outcomes remains unclear.

Objectives: To assess if a family history of psoriatic arthritis (PsA), AS, or SpA in general is associated with a different drug survival and treatment response to TNFi in patients with AS and PsA.

Methods: Patients diagnosed with AS (N=1688) or PsA (N=3216) starting their first TNFi treatment between January 2006 and December 2017 were identified in the Swedish Rheumatology Quality Register (SRQ). Disease activity measures were extracted from SRQ at treatment start and at 3 and 12 months of treatment. Data on demographics and comorbidities were available through linkage to other national registries. Multiple imputation was applied to address missing data. Family history was defined as having at least one first-degree relative diagnosed with AS, PsA or any form of SpA in the National Patient Register at start of first TNFi. Analyses were made for AS and PsA index patients separately. Kaplan-Meier plots were used to compare drug survival, and hazard ratios for drug discontinuation were estimated with Cox regression adjusting for age, sex, disease duration and baseline disease activity. The change in disease activity from baseline to 3 months of treatment, and the proportion of patients remaining on treatment at 12 months and reaching low disease activity (LDA) with BASDAI (for AS) and DAS28-CRP (for PsA), were analysed in linear regression adjusting for age, sex, disease duration and baseline disease activity.

Results: A positive family history of AS was found in 14% of AS patients, and 12% of PsA patients had a family history of PsA. Characteristics such as age, sex and baseline disease activity were similar in AS patients with and without a family history of AS. Among PsA patients, those with a family history of PsA were to a larger extent female, with lower CRP but longer disease duration. No significant differences were seen in drug survival among patients with and without a family history of their respective disease (Figure 1), with hazard ratios for drug discontinuation of 1.03 (95% CI 0.84 to 1.27) in AS patients and 1.08 (95% CI 0.94 to 1.25) in PsA patients. Using family history of any form of SpA as exposure did not change this conclusion. The changes in disease activity at 3 months of treatment compared to baseline were similar between groups. At 12 months, 55.2% of AS patients with a family history were still on treatment and had a BASDAI corresponding to LDA, compared to 56.4% of AS patients without a family history. Among PsA patients, 38.7% of patients with a family history had reached DAS28-CRP LDA, compared to 42.6% for those without a family history. For both AS and PsA, these differences were non-significant.

Conclusion: While family history of SpA is a strong predictor of disease development, family history was not found to affect neither TNFi drug survival nor treatment response in patients with AS and PsA in this register-based study.

Figure 1. Survival plots for time to TNFi discontinuation in patients diagnosed with AS and PsA respectively, by family history status

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