was used to estimate the influence of each established risk factor in AS and controls. Risk factors for which there were ≤20 observed events in the AS cohort were not included. Results are presented as incidence rate ratios (IRR) with 95% confidence intervals.

**Results:** In total 974 (8.4%) patients with AS and 4106 (7.1%) of their controls were registered with a non-vertebral fracture during the study period. The characteristics of the patients and controls at start of follow-up are presented in Table 1 stratified by fracture status during follow-up. Figure 1 displays the results from the Poisson regression.

**Conclusion:** The influence of established risk factors for fragility fractures in AS is similar to that in the general population; in both populations with advanced age, prior fracture and harmful use of alcohol being the strongest risk factors.

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**POS0960**

**INCIDENCE AND RISK OF OVERALL INFECTIONS IN PATIENTS WITH ANKYLOSING SPONDYLITIS RECEIVING BILOGIC THERAPIES: A REAL-WORLD PROSPECTIVE OBSERVATIONAL STUDY USING KOBIO REGISTRY**

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**Background:** Infection is a perpetual concern in patients treated with biological therapy. However, long-term real-world data on infectious profile of AS patients are lacking.

**Objectives:** The aim of this study was to characterize infection events in a longitudinally cohort of patients with ankylosing spondylitis (AS) and to identify the risk factors associated with the development of infections receiving biologics therapies in a real-world setting.

**Methods:** This was a prospective observational cohort study including AS patients in the KOBIO registry starting a biologics from December 2012 to April 2020. Infections were evaluated by types or organ during the follow-up period. Infection rates (IR) per 1,000 person-years were calculated with 95% CI based on Poisson distribution method. Cox proportional hazard regression models with adjustment of confounding factors was used to estimate hazard ratios (HRs) with 95% CIs for occurrence of infection. Confounders included demographics, comorbidities and disease severity index.

**Results:** A total of 1610 AS patients were included in the analysis. Most (76.8%) were men and the median age was 37 years with 5.73 median AS duration. 129 infection events occurred during 5020.5 person-years of follow-up. The most frequent infections were upper and lower respiratory tract (39.8%), followed by herpes zoster (23.7%), skin and soft tissue (except herpes zoster) (23.7%), gastrointestinal tract, and genitourinary tract. The incidence of any infection was 25.7/1000 patient-years (PY) of follow-up (95% confidence interval [CI] 21.5 - 30.5); 29.5/1000 PY (95% CI 20.6 - 41.1) among those treated with infliximab and biosimilar; 26.8/1000 PY (95% CI 20.1 - 34.9) among those treated with adalimumab; 21.5/1000 PY (95% CI 14.1 - 31.6) among those treated with golimumab; 17.8/1000 PY (95% CI 9.5 - 30.5) among those treated with etanercept and biosimilar: 81.1/1000 PY (95% CI 2.1 – 45.1) among those treated with secukinumab. Significant univariate risk factors for infection were age, ischemic heart disease, complicated diabetes, solid tumor, abnormal chest x-ray, anemia, and biologics user. In multivariate Cox regression model, ischemic heart disease, very high disease activity (ASDAS-ESR≥3.5), complicated diabetes, abnormal chest x-ray and current biologics users remained significant.

**Conclusion:** In the KOBIO-AS registry, the total incidence rate of infections was 26 events/1000 PY of follow-up, with respiratory infection being the most common, followed by herpes zoster infection. In this large cohort of AS patients, ischemic heart disease, very high disease activity (ASDAS-ESR≥3.5), complicated diabetes, abnormal chest x-ray and current biologics user were risk factors for any infection in this large cohort of patients with AS, whereas male gender was protective factor for developing infection.

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**POS0961**

**CLINICAL PROFILE AND TREATMENT UTILIZATION IN HLA-B27 POSITIVE VERSUS HLA-B27 NEGATIVE PATIENTS: RESULTS FROM ASAS-PERSPA STUDY**

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**Background:** HLA-B27 is a genetic marker strongly associated with axial spondyloarthritis (axSpA). However, the strength of this association varies worldwide. Although some regional studies have assessed the effect on HLA-B27 status on clinical features of axSpA, no worldwide study has been performed.

**Objectives:** To characterize differences in the clinical features, extra-articular manifestations, and treatment utilizations in a global axSpA cohort based on their HLA-B27 status.

**Methods:** We performed a post-hoc analysis of the ASAS-Perspa study (Peripheral involvement in Spondyloarthritis) dataset that includes patients with axial (axSpA) and peripheral SpA (pSpA), psoriatic arthritis (PsA), juvenile SpA, SpA associated with inflammatory bowel disease (IBD) and reactive arthritis based on their rheumatologist’s diagnosis. We identified patients that had been diagnosed with axSpA meeting the 2009 ASAS classification criteria and been typed for HLA-B27. The patient characteristics were compared between the HLA-B27(+) and HLA-B27(−) subgroups using Student’s t-test and the Mann-Whitney U test. Multivariable logistic regression with backward stepwise selection was conducted to identify predictors of HLA-B27 positivity. Variables with p-value <0.15 on univariate analysis were included in the multivariable model. All tests were two-tailed with p-value <0.05 considered significant.

**Results:** A total of 4465 patients with axSpA from 24 countries were identified. We observed that 2910 patients fulfilled the 2009 ASAS classification criteria. Of these patients, 2269 were tested for HLA-B27 (HLA-B27+: 1753 and HLA-B27−: 516). Significant differences were observed between these two groups in age of symptom onset and manifestations of the disease as shown in Table 1. The HLA-B27(−) patients had a significantly later age of symptom onset and disease diagnosis, more often had concomitant IBD, psoriasis, peripheral arthritis and enthesitis and were more often treated with csDMARDs. On multivariable logistic regression factors significantly associated with HLA-B27 positivity included male sex (OR: 1.99), family history of axSpA (OR: 2.26), and occurrence of anterior uveitis (OR: 2.72).

**Conclusion:** In a large heterogeneous cohort of AxSpA patients from 24 countries, we found that male sex, family history, and occurrence of anterior uveitis are significant predictors of HLA-B27 positivity. In contrast, the HLA-B27(−) have a significantly later age of onset and longer delay in diagnosis, more often have concomitant IBD, psoriasis, peripheral arthritis and enthesitis, and also more often receive treatment with csDMARDs.

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