OP0262

FACTORS ASSOCIATED WITH ACUTE ANTERIOR UVEITIS IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: ANALYSIS OF THE BSRBR-AS REGISTER DATABASE

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Background: Acute anterior uveitis (AAU) is one of the key extra-articular manifestations in axial spondyloarthritis (axSpA). The presence of AAU may influence the decision to start and the choice of biological therapy.

Objectives: To examine the factors associated with AAU in patients with axSpA in the British Society for Rheumatology Biologics Register in Ankylosing Spondylitis (BSRBR-AS).

Methods: Clinical and patients-reported outcomes of 2420 patients with axSpA from 83 rheumatology centres in the United Kingdom were collected as part of the BSRBR-AS. Patients with AAU diagnosed by an ophthalmologist were compared to those without AAU in relation to demographic and lifestyle factors. The associations were analysed using univariable and multivariable logistic regression models, considering necessary interaction terms and sensitivity analyses.

Results: 568 (23.5%) patients in the cohort had at least one episode of AAU. The male/female ratio was 2.0:1 and group's median (IQR) age was 51 (41 – 61) years. Factors associated with higher odds of AAU in univariable analyses were HLA-B27 positivity [OR 2.32 (95%CI: 1.66 – 3.23)], university degree [OR 1.44 (95%CI: 1.53 – 1.79)], age [OR (per year) 1.02 (95%CI: 1.01 – 1.03)] and axSpA disease duration [OR (per year) 1.02 (95%CI: 1.02 – 1.03)]. Ever-smoking was inversely associated with AAU [(OR 0.71 (95%CI: 0.59 – 0.89)]. Ever-alcohol drinking ($p=0.213$), BMI ($p=0.325$) and gender ($p=0.317$) did not show any associations.

In multivariable analysis, the magnitude of associations remained significant for HLA-B27 positivity, age, and axSpA disease duration, as did the inverse association with smoking (see Table). Analysis restricted to patients with inflammatory bowel disease did not alter the relationship between AAU and the above risk factors.

Table 1. Factors associational with AAU in axSpA, multivariable analysis

	Wald	df	P value	OR	95% CI for OR
Ever Smoking (vs never)	9.76	1	0.002	0.614	0.452 - 0.834
University Degree (vs lower)	2.27	1	0.132	1.325	0.919 - 1.912
HLA-B27 positive (vs negative)	21.12	1	<0.001	2.399	1.652 - 3.484
Age	17.25	1	<0.001	1.038	1.020 - 1.056
axSpA Disease Duration	15.77	1	<0.001	1.093	1.046 - 1.142

Conclusion: The odds of having a diagnosis of AAU is high in axSpA patients with positive HLA-B27, and longer disease duration (having controlled for age). The negative association with smoking in this large cohort contrasts with previous published data and warrants further evaluation.

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OP0263

HYDROXYCHLOROQUINE DOSING IN PATIENTS WITH RHEUMATIC DISEASE ACROSS THE U.S.: DATA FROM THE RHEUMATOLOGY INFORMATICS SYSTEM FOR EFFECTIVENESS (RISE) REGISTRY

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Background: The risk of retinal toxicity and subsequent visual loss from hydroxy-chloroquine (HCQ) is dependent on daily dose and duration of use. Although further efficacy and safety studies are required to understand optimal dosing strategies, real-world application of existing American Academy of Ophthalmology (AAO) recommendations in a population-based sample of patients with rheumatic disease has never been described.

Objectives: The objectives of this study were to assess application of AAO dosing recommendations across the U.S. and identify patient and practice-level risk factors for receiving higher than recommended doses using data from the ACR's RISE registry.

Methods: RISE is a national, EHR-enabled registry that passively collects data on all patients seen by participating practices, reducing the selection bias present in single-insurer claims databases. As of December 2017, RISE held validated data from 1,257 providers in 236 practices, representing about 36% of the U.S. clinical rheumatology workforce. We included adult patients with at least one order for HCQ in 2017. For patients with multiple orders, the most recent order was included in the analysis. We excluded weights that appeared to be outliers and practices with <30 patients receiving HCQ. Instructions were interpreted to yield an average daily dose per patient. We investigated practice-level and state-level variation by calculating the proportion of patients who received a dose >5 mg/kg/day by practice and the proportion of patients who received a dose >6.5 mg/kg/day (AAO's 2011 recommendation) by state. We tested whether prescribing a dose exceeding the AAO recommendations was associated with patient-level demographics (age, sex, race/ethnicity, insurance) or practice characteristics (type, size) using multivariate mixed-effects regression.

Results: We included 49,712 patients (85% female, 53% Caucasian, with mean age 57±15) from 96 practices (34% single specialty group practice, 76% with 1-5 providers). The patient average daily dose of HCQ ranged from 57 mg to 800 mg, with a median of 400 mg. Overall, 40% and 9% of patients received a HCQ dose >5 mg/kg/day and >6.5 mg/kg/day, respectively. Practice-level variation ranged from 6-66% for receiving a dose >5 mg/kg/day (Figure 1) and 0-28% for receiving a dose >6.5 mg/kg/day. State-level variation was also significant ($p<0.0001$, Figure 2). After adjusting for demographics and practice characteristics, low body weight (<78 kg, the sample median) was strongly associated with receiving doses >5 mg/kg/day (+64%, $p<0.001$) and >6.5 mg/kg/day (+18%, $p<0.001$). In the same model, female gender was also associated with doses >6.5 mg/kg/day (+5%, $p<0.001$). Practice characteristics were not statistically significantly associated with receiving a higher dose.

Figure 1. Proportion of patients exceeding 5 mg/kg/day, by practice, in 2017

Figure 2. Proportion of patients exceeding 6.5 mg/kg/day, by state, in 2017. States in white did not have any patients included in this analysis.

Conclusion: A significant fraction of patients with rheumatic disease on HCQ received doses greater than those recommended by the AAO, with large differences across practices and states. Patients with low body weight are consistently at increased risk of receiving a higher dose. Although further studies are required to