OP0015

INCIDENCE, RISK FACTORS AND VALIDATION OF THE RABBIT SCORE FOR SERIOUS INFECTIONS IN A REAL LIFE PROSPECTIVE STUDY OF PATIENTS WITH RHEUMATOID ARTHRITIS: DATA FROM 1.549 PATIENTS

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Background: Identification of the risk factors for the development of serious infections in patients with rheumatoid arthritis (RA) is critical for designing preventive measures and early treatment.

Objectives: To identify risk factors for serious infections and to validate the RABBIT risk score in RA patients in daily clinical practice.

Methods: Multicenter, prospective study of RA patients in Greece. Demographics, disease characteristics, treatments and co-morbidities were prospectively collected via a web-based platform at baseline and one year later. The observed incidence of serious infections was compared to the one estimated by the RABBIT score.

Results: 1.549 RA patients were included (women: 78%, mean age: 63 years, mean disease duration: 10.4 years, RF and/or anti-CCP positive: 54%, mean DAS28: 3.4, mean HAQ: 0.5, bDMARD use: 46%, corticosteroid use: 36%). During follow-up, 38 serious infections were recorded (incidence: 2.3/100 patient-years). Patients who developed a serious infection had longer disease duration (14.2 vs. 10.3 years, $p=0.02$), higher HAQ at baseline (0.85 vs. 0.5, $p=0.006$), a history of previous serious infection (26% vs. 10%, $p=0.002$) and were more likely to have chronic lung disease (23% vs. 9%, $p=0.008$) or cardiovascular disease (23% vs. 11%, $p=0.04$). Disease duration (OR: 1.04, CI: 1.01-1.08, $p=0.025$), history of previous infection (OR: 3.3, CI: 1.3-8.1, $p=0.01$) and chronic lung disease (OR: 3.03, CI: 1.17-7.85, $p=0.023$) remained statistically significant in multivariate logistic regression analysis. bDMARD use was not associated with increased risk in uni- or multi-variate analysis. Data for RABBIT score calculation were available in 1.349 patients. Estimated incidence per 100 patient-years was divided in Q1-Q4 quartiles (25-50-75th percentiles: 0.94-1.35-2.15). Estimated and observed incidence rates were in Q1: 0.8 and 0.54, Q2: 1.14 and 0.79, Q3: 1.76 and 1.84 and Q4: 3.7 and 5.6, respectively (Hosmer Lemeshaw test, $p=0.9$).

Conclusion: In this large, real life, prospective study of RA patients, the incidence of serious infections was 2.3/100 patient-years. Longer disease duration, history of previous serious infections and chronic lung disease were independently associated with the development of serious infections. RABBIT score predicted rather accurately the risk for serious infections in our cohort.

REFERENCES:

[1] Zink et al, Ann Rheum Dis. 2014 Sep; 73(9): 1673–1676.

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WEDNESDAY, 12 JUNE 2019

Opening Plenary Abstract session

OP0016

WHAT TO CHOOSE: A SECOND TNFI OR AN ALTERNATIVE CLASS OF BIOLOGIC FOR PATIENTS WITH JIA WHO HAVE FAILED THEIR FIRST TNFI

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Background: Biologic therapies, second-line treatment after failure of methotrexate, have revolutionised treatment pathways and outcomes for patients with juvenile idiopathic arthritis (JIA). The expanding choice allows patients to switch biologic if current treatment is not working. Current NHS England guidelines recommend most patients with JIA to start a tumour necrosis factor inhibitor (TNFi), and if that fails switch to a second TNFi rather than change class. The evidence base for this in JIA is limited.

Objectives: The aim of this study was to compare the effectiveness of a second TNFi versus an alternative class of biologic therapy in patients with polyarticular JIA following initial TNFi therapy in routine clinical practice.

Methods: Analysis included patients with JIA starting a second biologic following initial TNFi therapy in two UK cohort studies; BSPAR-ETN and BCRD. Within the studies, data were collected at start of biologic, 6 months, 1 year, then annually on patient characteristics and anti-rheumatic therapy. Patients with extended oligoarticular and polyarticular (rheumatoid factor positive and negative) JIA were included. Patients with a history of uveitis at start of second biologic were excluded. Patient characteristics at start of second biologic were compared between patients starting a second TNFi versus an alternative class. Kaplan-Meier drug survival was used to assess drug survival on second biologic. Stop reasons of second biologic were described. Change in core outcome variables, JADAS-71, American College of Rheumatology Paediatric 50% response (ACR Pedi 50), and Minimal Clinically Important Difference (MCID; ≤ 0.13 reduction in CHAQ) from baseline to one year was compared between the two cohorts. Multiple imputation and propensity scores were used to account for missing baseline co-variate data and adjust for confounding by indication.

Results: 151 patients with polyarticular JIA starting a second biologic up to 13-Nov-2018 were included; 115 (76%) a second TNFi, 36 (24%) an alternative class. Patient characteristics at the start of second biologic were mostly similar except patients starting a non-TNFi had lower CRP levels ($p<0.001$). There was no difference in second biologic drug survival between the two cohorts of patients ($p=0.8$), with approximately 60% remaining on drug by one year. The majority reported inefficacy as stop reason (51%). There was no difference between one year improvement in core outcome variables or JADAS-71 after start of second biologic, and no difference in the odds of achieving ACR Pedi 50 response (odds ratio [OR] 0.8; 95% confidence interval [CI] 0.3, 2.3; $p=0.7$) or MCID (OR 1.0; 95% CI 0.3, 3.1; $p=0.9$) between patients starting a second TNFi versus a non-TNFi.

Conclusion: In this real-world cohort of children and young people with JIA starting a second biologic following initial TNFi therapy failure, there appears to be no difference between drug survival and effectiveness outcomes in those patients switching to a second TNFi compared with a non-TNFi biologic. Further research on larger sample sizes is required to know whether there is any initial advantage to switching class of drug following failure of a first TNFi.