OP0260

VACCINATION SAFETY AND COVERAGE IN AN ITALIAN COHORT OF AUTOINFLAMMATORY DISEASES

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Background: Vaccine-preventable diseases are again emerging in our population after anti-vaccine campaign has started. In autoinflammatory diseases (AID), vaccine triggered-disease is a well known phenomenon for Hyper-IgD/Mevalonate-Kinase Deficiency (MKD). In CAPS, severe flares have been experienced after pneumococcus vaccine, while PFAPA patients did not achieve sufficient and protective levels of antibodies. This evidence has raised doubts in physicians and families about the safety of vaccines.

Objectives: To evaluate, in a cohort of Italian AID, the vaccination coverage of the Italian Vaccination Schedule and the prevalence of adverse reactions and disease flares induced by vaccinations.

Methods: An anamnestic questionnaire was applied to AID patients referring to the AID Unit of the Istituto Giannina Gaslini from August 2017 to August 2018. Acquired data were revised for quality of information. Data about disease triggers in AID were obtained from the EUROFEVER registry for statistical reference.

Results: Triggers in AID Eurofever Registry: In August 2018 a total of 3783 patients were enrolled in the EUROFEVER registry (1908 female, 50.43%). The mean age of symptoms at disease onset was 7.04 +/- 9.48 SD yrs, (minimal 0 - maximum 75.92 yrs). The distribution among the periodic hereditary fevers was: 28.75% FMF (n=1081); 17.66% PFAPA (n=666); 9% Undefined inflammatory disease (UND n = 347); 7.85% CAPS (n=297); 7.16% TRAPS (n=271) and 5.39% MKD (n=204). Vaccines triggered the disease in 70% of the MKD, while PFAPA, TRAPS and UND had a rate of reactions of 20%. This was also found in 12.34% of CAPS, whereas FMF and inflammatory bone disorders had a rate of 6% and 3%, respectively. Excluding other causes of reactions, and isolating just vaccines as a cause, MKD had a higher percentage of reactions (7.14%), while PFAPA and UND had 1% and CAPS, TRAPS, FMF and inflammatory bone disorders had less than 1%. **Triggers in IGG cohort:** 150 questionnaires were distributed with 70% rate of response. Quality of data was 100% for coverage and adverse reactions. 105 patients were identified: PFAPA (n=26); CAPS (n=5); TRAPS (n=6); FMF (n=14); MKD (n=8); Inflammatory Bone Disorders (CRMO and PAPA, n=4) and UND (n=41). Rate of coverage was lower than 90% for Hib3 (83.11%), MMR/ MMRV (88.9%) and for Rota C (1.85%). For DTP3, Hep3, PCV3 and IPV the rate of coverage was higher than 90% for all vaccines. 11 moderate/severe reactions were observed as following: 5 after DTPA+IPV (1 PFAPA; 2 TRAPS, 1 MKD and 1 UND); 1 after Hib (PFAPA); 1 after P10/13 (PFAPA); 4 after MPR (1 PFAPA, 1 TRAPS, 1 MKD and 1 UND). The general rate of severe reactions/shot was 6.36 for 1000 shots and no severe infection, death, persistent or significant disability or life-threatening condition was observed. Just one MKD patient had a severe disease flare requiring hospitalization following pneumococcal vaccine.

Conclusion: Data show that in AID patients vaccines may more frequently trigger the disease. Therefore, vaccination in AID may be considered a peculiar public health problem. Specific recommendations for vaccination in AID are warranted as well as further investigations for immunologic protection.

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Disclosure of Interests: Sara Signa: None declared, Caterina Matucci Cerinic: None declared, enrica toniolo: None declared, Marta Bustaffa: None declared, Matteo D'Alessandro: None declared, Stefano Volpi: None declared, Roberta Caorsi: None declared, Leonardo Oliveira Mendonca: None declared, Marco Gattorno: Grant/research support from: MG has received unrestricted grants from Sobi and Novartis

DOI: 10.1136/annrheumdis-2019-eular.7721

FRIDAY, 14 JUNE 2019

Epidemiology

OP0261

RISK OF NEUROLOGICAL ADVERSE EVENTS DURING TUMOUR NECROSIS FACTOR INHIBITOR TREATMENT FOR ARTHRITIS: A POPULATION-BASED COHORT STUDY FROM DANBIO AND ARTIS

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Background: Tumor necrosis factor alpha inhibitors (TNFi) have successfully been used for the treatment of immune-mediated inflammatory disorders including rheumatoid arthritis (RA), psoriatic arthritis (PsA) and ankylosing spondylitis (AS) since 1998. However, several case reports and series have indicated that different neurological disorders including multiple sclerosis (MS), inflammatory neuropathies, demyelinating diseases and optic neuritis may be a serious, although rare, adverse event following TNFi treatment. The relationship is complex, as some studies show that RA is protective of MS and vice versa.

Objectives: To investigate the association between new-onset neurological events following TNFi treatment in arthritis patients compared to non-TNFi-treated arthritis patients from Denmark and Sweden.

Methods: 40,927/62,702 patients registered with a diagnosis of either RA, AS or PsA in DANBIO/ARTIS between January 1, 2000 and January 20, 2017 were included. Complete follow-up on mortality, emigration and incident neurological diseases suspected to be associated with use of TNFi until May 10, 2017 were obtained by linkage to the Danish and Swedish National Patient Registry and the Civil Registration Systems. Cox proportional hazard models were used to examine the association between use of TNFi and risk of a neurological event.

Results: The DANBIO/ARTIS arthritis cohorts contributed 612,347 person-years of observation and 221 patients were diagnosed with demyelinating disease or inflammatory neuropathy during follow-up with 117 cases among TNFi-treated patients and 104 cases among non-TNFi-treated patients. TNFi treatment among RA patients was not associated with an increased risk of a neurological event (DANBIO: HR=1.09, 95% Confidence Interval (CI) 0.60-1.99)/(ARTIS:HR=0.83, 95%CI 0.52-1.35) adjusted for age, gender and year of inclusion. However, TNFi-treated PsA and AS patients had an increased risk of neurological events (DANBIO:HR=2.57, 95%CI 1.17-5.65)/(ARTIS:HR=2.17, 95%CI 0.88-5.35). In TNFi-treated PsA/AS patients, 7 cases of inflammatory polyneuropathies were observed in DANBIO/ARTIS respectively versus 1 and 0 cases among non-TNFi treated. In on-drug models, the HR for neurologic events was 1.17 (ARTIS 95% CI: 0.41-3.35) and 1.66 (DANBIO 95% CI: 0.70-3.92) in PsA/AS.

Conclusion: The use of TNFi for the treatment of arthritis may be associated with increased risk of demyelinating disease or inflammatory neuropathies among patients with PsA and AS. Since these events are rare, larger multicentre studies are warranted to further characterize the risk.

Acknowledgement: The study is funded by FOREUM, NordForsk and Independent Research Fund Denmark

Disclosure of Interests: Tine Iskov Kopp : None declared, Elizabeth Arkema: None declared, René Cordtz: None declared, Bénédicte Delcoigne: None declared, Johan Askling: Grant/research support from: Karolinska Institutet (JA) has or has had research agreements with the following pharmaceutical companies, mainly in the context of the ATRIS national safety monitoring programme for rheumatology biologics: Abbvie, BMS, MSD, Eli Lilly, Pfizer, Roche, Samsung Bioepis, and UCB., Consultant for: Karolinska Institutet has received remuneration for JA participating in ad boards arranged by Lilly, Novartis, and Pfizer., Lene Dreyer: Consultant for: MSD, UCB and Janssen Pharmaceuticals, Speakers bureau: MSD, UCB and Janssen Pharmaceuticals, Speakers bureau: UCB, MSD, Eli Lilly and Janssen Pharmaceuticals.

DOI: 10.1136/annrheumdis-2019-eular.1747