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E056 C-REACTIVE PROTEIN RISE IN RHEUMATOLOGY PATIENTS FOLLOWING COVID-19 VACCINATION

Sung-Hee Kim, Shivani Gor, Khin Yein, Jessica Michael and Elizabeth Price
Rheumatology, Great Western Hospital, Swindon, United Kingdom

Background/Aims
With widespread implementation of COVID-19 vaccine, there has been concern that it would trigger an immune activation due to its immunogenic properties. There is low-level evidence that patients with rheumatological diagnosis often have a disease flare following COVID-19 vaccination which not only has personal health implications but also wider socioeconomic implications. Inflammatory arthritis patients are classified as vulnerable patients requiring booster vaccinations. Therefore, there is a need to ascertain whether there is a risk of disease flare in this group of patients so as to counsel them appropriately in order to ensure flares are managed in timely manner. This study aims to determine the proportion of patients with inflammatory arthritis who have a flare of their rheumatological disease within 30 days of receiving a COVID-19 vaccine using CRP as a surrogate marker.

Methods
A retrospective notes review was conducted of patients with inflammatory arthritis within 30 days of their COVID-19 vaccine. An electronic database (DAWN) was used to identify all patients that were currently on a disease-modifying anti-rheumatic drug (DMARD) or biologic therapy. This was then correlated with vaccine data from the National Immunisation and Vaccination system (NIVS) and C-reactive protein (CRP) within 30 days of their vaccination.

Results
1620 adults were identified from DAWN databases (mean age 61 years, 64% female). Three types of vaccination were used: AstraZeneca (AZ), BioNTech-Pfizer or Moderna. Vaccine uptake was 1542/1620 (95.2% 1st dose), 1550/1620 (95.7% 2nd dose) and 1437/1620 (88.7% 3rd dose). 192/1542 patients (12.5%) had a CRP rise of greater than 10mg/L within 30 days of their vaccine, which was higher than baseline flare rate of 8.6% ($p = 0.0004$).

Conclusion
Patients with inflammatory arthritis and on DMARDS have high uptake of COVID-19 vaccine (95%) which is greater than the national average. A CRP rise greater than 10mg/L within 30 days of vaccination was observed in roughly 1 in 10 patients in our study population on all three doses which is consistent with other studies in the literature. Our results show statistically significant increase in the rate of disease flare (12.5% compared with baseline rate of 8.6%). However, SARS-CoV-2 infection has been shown many times to be an independent risk factor for rheumatic disease flare ranging from 20-40%. Therefore, patients with inflammatory arthritis should still be encouraged to receive COVID-19 vaccination. To maintain high levels of vaccine uptake, it is important to ensure that patients are aware of the risks of vaccinations and sufficiently safety netted so flares are managed early. As on-going booster vaccinations are planned for rheumatology patients, we recommend further research to better inform and counsel our patients. Furthermore, this study calls for diligence in monitoring patients with inflammatory arthritis for disease flare and for swift intervention to prevent losing disease control.

Disclosure
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