Keywords: Myositis

K. Iqbal1, G. De Marco1, C. Saisuria4, G. Arumugakani1, Z. Ash3, C. Buckle1, L. Coles2, C. Hettiarachchi3, M. Keen1, C. Lawson1, J. Mclorinan1, D. McGowan2, C. Buckley3, C. Lawson2, J. Mclorinan1, S. Nizami1, H. Reddy2, O. Sharif1, S. Sultan5, G. Tran2, M. Wood1, S. Wood1, M. Melrose2, W. Sigrist2,1,2

1Leeds Teaching Hospitals NHS Trust, Rheumatology, Leeds, United Kingdom; 2University of Leeds, Leeds Institute of Rheumatic and Musculoskeletal Medicine, Leeds, United Kingdom; 3Leeds Teaching Hospitals NHS Trust, NIHR Leeds Biomedical Research Centre, Leeds Teaching Hospitals NHS Trust, Leeds, United Kingdom; 4Leeds Teaching Hospitals NHS Trust, Pathology, Leeds, United Kingdom; 5University of Leeds, Immunology, Leeds, United Kingdom; 6Bradford Teaching Hospitals NHS Foundation Trust, Rheumatology, Bradford, United Kingdom; 7Mid Yorkshire Hospitals NHS Trust, Rheumatology, Wakefield, United Kingdom; 8Harrogate and District NHS Foundation Trust, Rheumatology, Harrogate, United Kingdom; 9Airedale NHS Foundation Trust, Rheumatology, Steeton with Eastburn, United Kingdom; 10Calderdale and Huddersfield NHS Foundation Trust, Rheumatology, Huddersfield and Halifax, United Kingdom

Background: Melanoma differentiation-associated protein 5 (MDA5) is an intracellular detector of viral RNA. It is considered that viral infections are involved in the aetiology of autoimmune diseases, including autoimmune myositis. Previously we reported on a post-COVID-19 pandemic cluster of myositis occurring in the Yorkshire region (De Marco, 2022), despite the usually low frequency observed in the UK. More recently, we noticed increased anti-MDA5 positivity rate in myoblot tests.

Objectives: Our aim is to appraise the significance of the observed increased anti-MDA5 positivity recognized at our tertiary centre.

Methods: The Leeds Teaching Hospitals NHS Trust serves as an immunology laboratory reference for the wider Yorkshire region (3.6 million residents). We audited the increased anti-MDA5 positivity in relationship to other muscle-specific autoantibodies (Euroimmun immunoblot) analysing retrospectively all tests performed between January 2018 and December 2022. Clinical notes review focused on: MDA5+ without disease; patterns of symptomatic MDA5 disease (including degree of ILD); muscle or other organs involvement; response to therapy. We also appraised the temporal associations between recent COVID-19 infection and SARS-CoV-2 vaccination.

Results: Results for anti-MDA5 were stable between 2018 and 2020, but doubled thereafter. Anti-MDA5 positivity went from 0.6% to 4.9% in that period, dropping to 2.2% at the end of 2022 (Figure 1). Out of 66 individuals testing positive for anti-MDA5, clinical notes were available in 50 cases. Eleven had myositis without ILD (7 had dermatomyositis/"mechanic" hands rash). 18/50 cases developed ILD (12 had also myositis associated pathology, including 5 dermatomyositis rash and 5 "mechanic" hands). No cases of carditis were recorded. After treatment, outcome was stable/improved in 17 cases (6 ILD cases). Yet, 3 cases worsened and 6 died despite therapy (ILD cases). Twenty cases had signs described as within the connective tissues diseases spectrum (without any lung involvement), though no formal diagnosis. A minority of cases were associated with evidence of SARS-CoV-2 infection or vaccination, with 15 cases vaccinated before disease onset and 4 with preceding COVID-19 infection.

Figure 1.

Conclusion: Our data show an increased rate of anti-MDA5 positivity in the latter stages of the COVID-19 pandemic, as previously noted in the UK (Hannah J, ACR 2022). Most cases had MDA5 positivity without confirmed autoimmune disease and despite the MDA5 positivity occurrence in the face of the COVID-19 pandemic further longitudinal observation is needed to ascertain any potential links with either infection, vaccination or both.

REFERENCES:
2. Hannah J, et al. ACR Convergence Meeting 2022; Abstract Number: 1857

Disclosure of Interests: None Declared. DOI: 10.1136/annrheumdis-2023-eular.6416

POST1219 INCIDENCE, FEATURES AND OUTCOME OF DISEASE RELAPSE AFTER COVID-19 VACCINATION IN PATIENTS WITH IDIOPATHIC INFLAMMATORY MYOPATHIES

Keywords: COVID, Myositis, Vaccination/Immunization

T. G. Béke1, M. Nagy-Vince1, K. Szabo1, A. Vincze1, B. Mitényi-Szabó1, Z. Varga1, J. Varga1, G. Griger1, 2University of Debrecen, Department of Clinical Immunology, Faculty of Medicine, Debrecen, Hungary; 3University of Debrecen, Department of Medical Imaging, Division of Nuclear Medicine, Debrecen, Hungary

Background: The approved COVID-19 vaccines showed clear safety and efficacy in reduction of severe SARS-CoV-2 disease. Patients with idiopathic inflammatory myopathies (IIM) were not well represented in these vaccine trials and there are limited data in the literature about development of confirmed disease flare after COVID-19 vaccination.

Objectives: To evaluate frequency, features and outcome of disease relapses in patients with IIM following SARS–CoV-2 vaccination.

Methods: A cohort of 176 IIM patients (mean age:57.6 years, 117 females, 59 males, 106 PM, 70 DM) were interviewed after the 3rd wave of COVID-19 pandemic and prospectively followed. Relapses were determined using the IMACS disease state criteria, outcome of the flares with myositis response criteria, calculating the total improvement score (TIS).

Results: A total of 146 (82.9%) patients received vaccination and 17/146 (11.6%) patients had relapse within 3 months and 13/146 (8.9%) patients within one month. The relapse rate of unvaccinated patients (1/30; 3.3%) was not significantly different (p=0.1). No fatal flare has been observed. Three months after the post-vaccination relapses, 70.6% of the patients (12/17) achieved improvement of disease activity (average TIS score 30±15.81; 7 minor, 5 moderate and 0 major improvement). Six months after flares improvement was detected in 14/16 (87.5%) of relapsed patients (average TIS score: 43±20.17; 3 minimal, 7 moderate and 4 major). Forward stepwise logistic regression analysis revealed that the active state of myositis at time of injection (p<0.0001; OR: 31.2 CI: 9.0 – 108) and the application of BNT162b2 vaccination (p=0.026; OR: 4.06 CI: 1.1 – 14.7) were significantly associated with the occurrence of relapse.

Conclusion: Minority of the vaccinated IIM patients had confirmed disease flare after COVID-19 vaccination and majority of the relapses improved after individualized treatment. Active disease state at the time of vaccination probably contributes to the increased risk of post vaccination myositis flare.

REFERENCES: NIL

Disclosure of Interests: None Declared. DOI: 10.1136/annrheumdis-2023-eular.4487