

INTRODUCTION

Vaccination against SARS-CoV-2 is crucial to control the pandemic. Similar to other cronic diseases, vaccination against the SARS-CoV-2 virus is generally recommended in Multiple sclerosis (MS). On the other hand, reactivation or new-onset demyelinating disease after vaccination against SARS-CoV-2 was published in the literature in old patients. We presented two pediatric cases newly diagnosed with MS after Pfizer-BioNTech COVID-19 vaccine.

CASE PRESENTATIONS

In the first case, a 17 year-old girl was admitted to emergency department with headache, diplopia and ataxia. On brain MRI there were demyelinating plauques on jusstacortical, periventricular and infratentorial areas and 2 of them were Gadolinium enhanced plaques. Then, she was diagnosed with MS and administered pulse steroid for 5 days. After only one week interval, the second case, a 15 year-old boy referred to outpatient clinic with right sided hemi-hypoesthesia. A brain MRI showed several subcortical-cortical T2 hyperintense white matter lesions with brainstem and pericallosal lesions. Moreover, one of them showed abnormal gadolinium enhancement. Both patient's family history was negative for MS. After relevant differential diagnoses were excluded, he was diagnosed with relapsing MS according to the 2017 McDonald criteria and initiated high-dose glucocorticoid therapy. Both patients were evaluated for differential diagnosis and there was nothing significant. They were vaccinated with Pfizer-BioNTech COVID-19 vaccine and each patient's symptoms started one month after second dose of vaccination.

CONCLUSIONS

Literature exhibits two elder cases of MS and almost twenty cases of transverse myelitis after immunization with Pfizer-Biontech vaccine. Our cases suggest a possible link between the vaccination and the clinical MS attack. We made all diagnostic work-up for differential diagnosis and other etiologies such as infectious and rheumatological diseases, but there was nothing significant. Therefore, the rarity of case reports, such as ours, may support the idea that the benefits of vaccination against SARS-CoV-2 far outweigh the potential risks.

REFERENCES

- 1- Havla J, Schultz Y,Zimmermann H, Hohlfeld R, Danek A, Kümpfel T. First manifestation of multiple sclerosis after immunization with the Pfzer-BioNTech COVID-19 vaccine. Journal of Neurology 2022. 269:55–58
- 2- Fujimori J, Miyazawa K, Nakashima I. Initial clinical manifestation of multiple sclerosis after immunization with the Pfizer-BioNTech COVID-19 vaccine. J Neuroimmunol 2021; 361: 577755
- 3- Pagenkopf C, Südmeyer M. A case of longitudinally extensive transverse myelitis following vaccination against Covid-19. J Neuroimminol . 2021 September; 358: 577606
- 4- Achiron A, Dolev M, Menascu S. et al. COVID-19 vaccination in patients with multiple sclerosis: What we have learnt by February 2021. Multiple Sclerosis Journal 2021, Vol. 27(6) 864–870

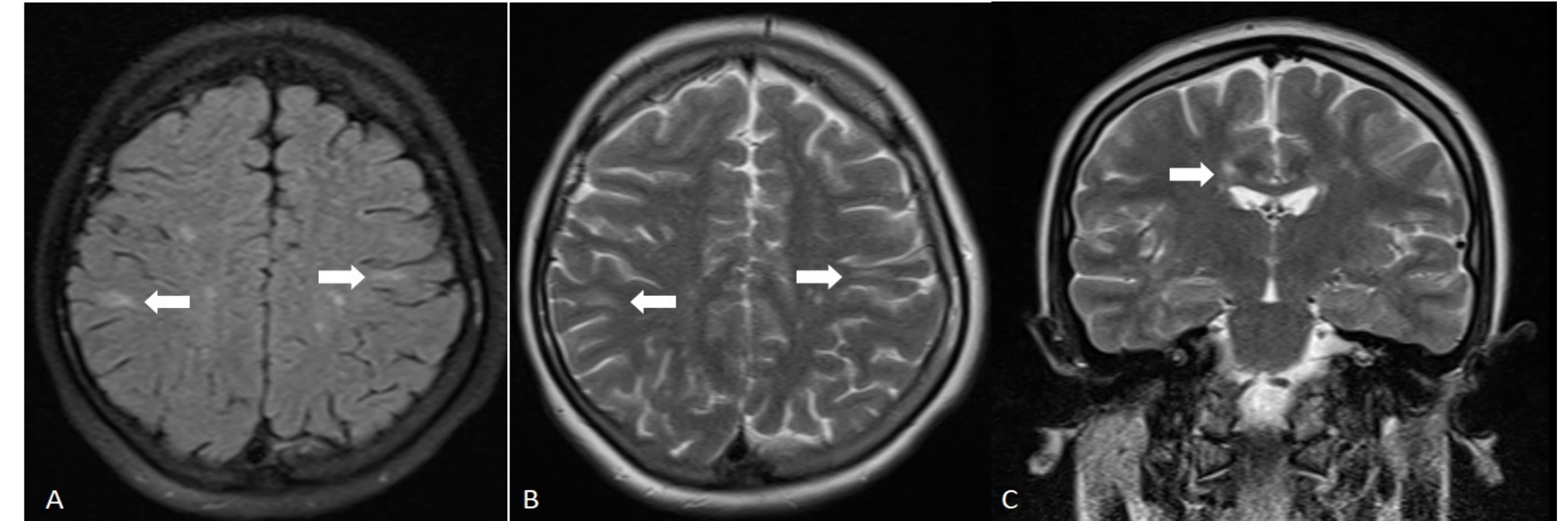


Figure 1 A; Axial FLAIR, B; Axial T2W images show Juxtacortical hyperintense demyelinating plaques (white arrows), C; Coronal T2W image shows demyelinating plaque located in the splenium of the corpus callosum (white arrow)(Patient 1).



Figure 1 A; Sagital FLAIR image shows vertical orientation hyperintense demyelinating plaque to the body of the corpus callosum (white arrow). B; Sagital FLAIR, C; Axial T2W images show hyperintense demyelinating plaques on the brainstem (white arrow)(Patient 2).