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Myelin Oligodendrocyte Glycoprotein Associated Demyelinating Disorder Presenting as Acute Disseminated Encephalomyelitis After Sars-Cov-2 Vaccination: A Case Report

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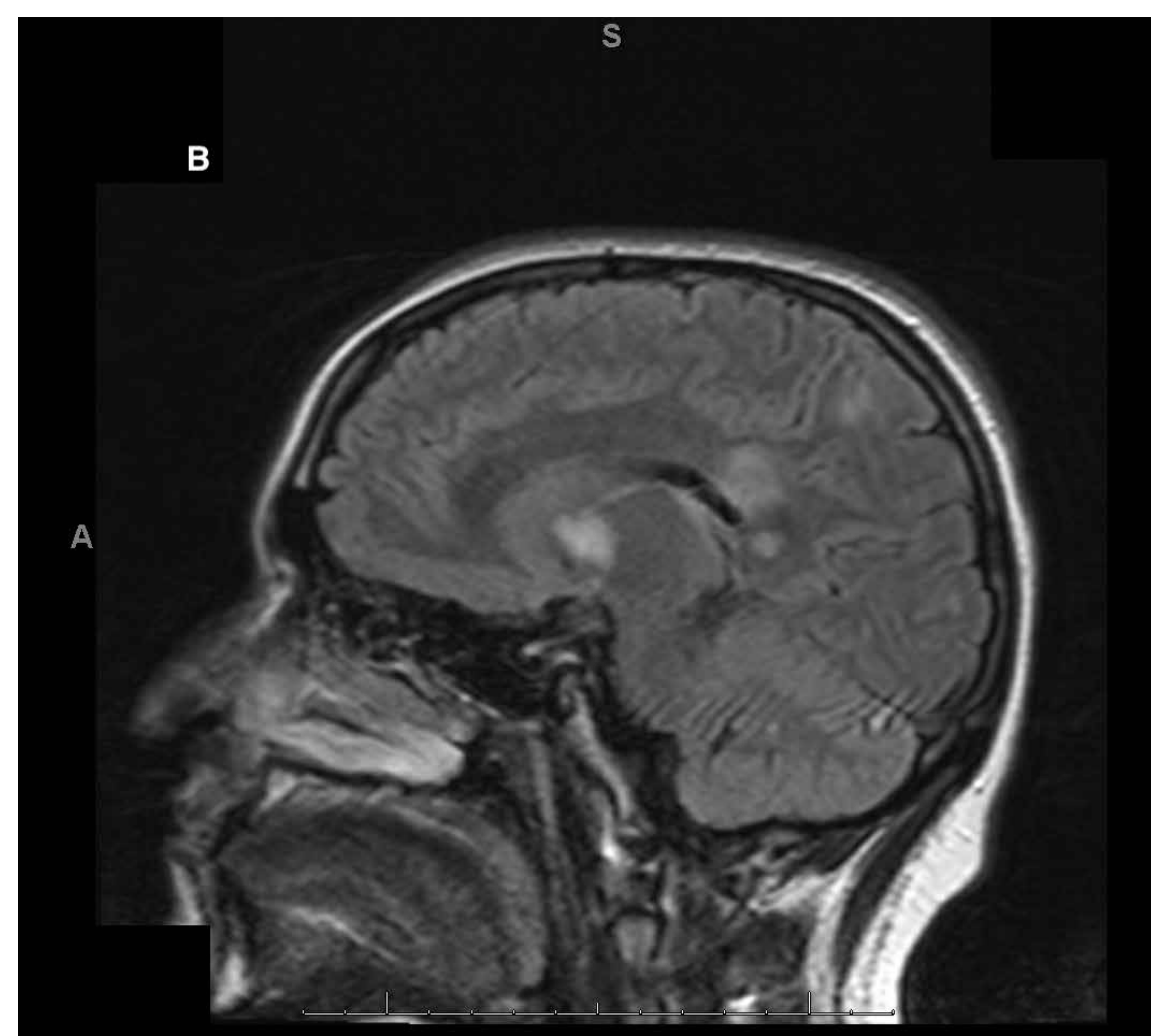
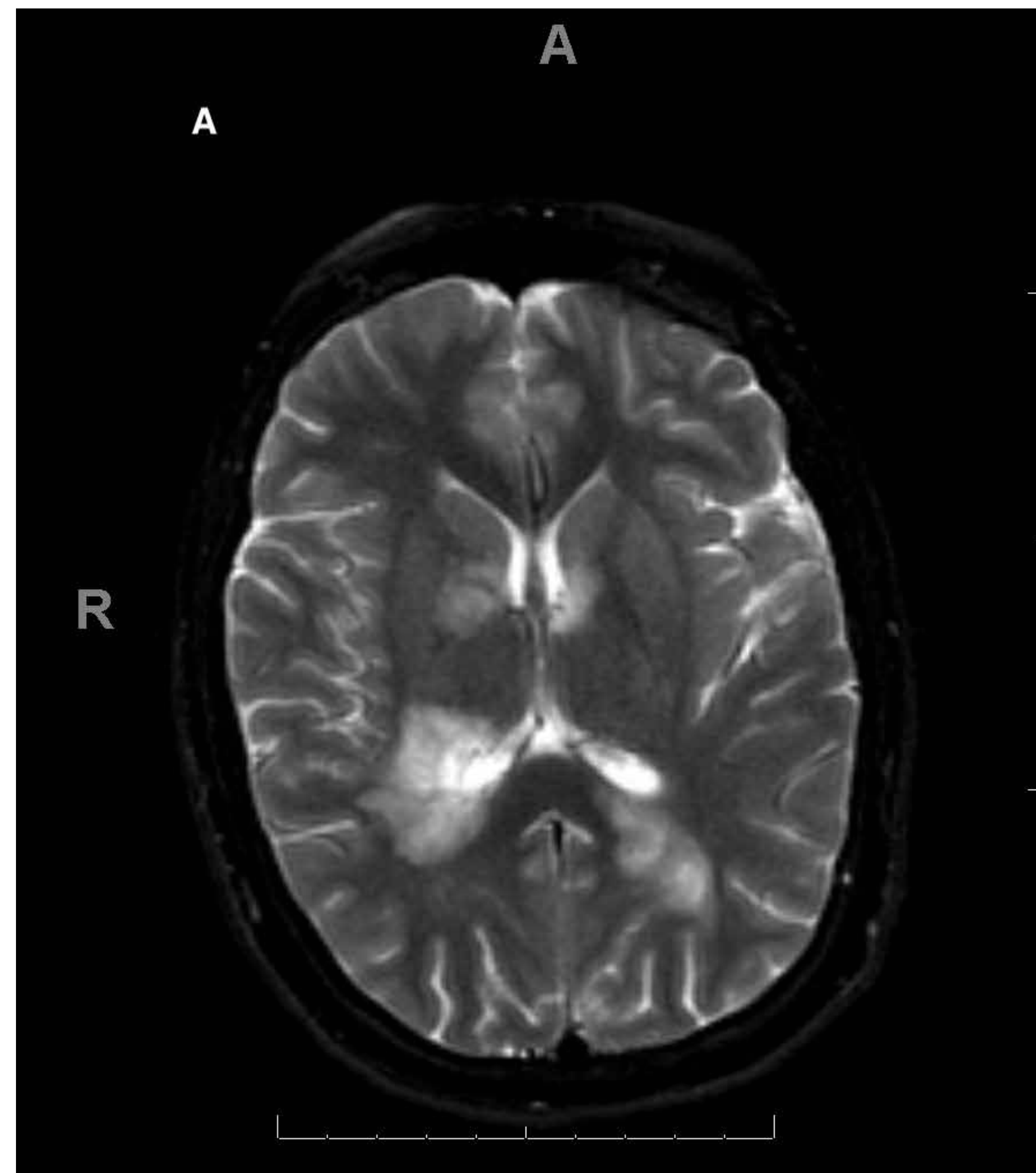


Case Description

A 19-year-old female with bipolar disorder presented with two-week history of dizziness, weakness, and urinary incontinence. Symptoms first started with agitation five days after her first Pfizer SARS-CoV-2 vaccination. Magnetic resonance imaging (MRI) of the brain revealed extensive periventricular involvement and a right midbrain lesion. Two days after admission, she rapidly deteriorated with psychomotor slowing, impaired vision, and unresponsiveness progressing to spastic quadriparesis and decorticate posturing. Extensive workup was positive for myelin oligodendrocyte glycoprotein (MOG) IgG antibody. MRI cervical and thoracic spine were unremarkable. She completed six days of intravenous methylprednisolone, six plasma exchanges, and one rituximab dose. She began acute inpatient rehabilitation (IPR) with Motor Function Scale of 0/5 in the bilateral legs and max assist to all ADLs. After five weeks on IPR, she was discharged walking 150 feet using a rolling walker with touch assist. At six-week outpatient follow-up, she was walking independently with bilateral ankle foot orthoses.

Images

MRI studies. T-2 weighted axial view (A) and FLAIR sagittal view (B) showing hyperintensity and patchy enhancement, predominantly periventricular and deep white matter with right midbrain lesion. Abbreviations: FLAIR, Fluid attenuated inversion recovery.



Discussion

We present one of the first cases with MOG positivity presenting as acute disseminated encephalomyelitis (ADEM) post SARS-CoV-2 vaccine. At the original preparation of this report, there were three published cases with ADEM presentation post covid-vaccination. That number continues to rise. MOG antibody disease is a rare autoimmune disorder that can present with recurrent optic neuritis, myelitis, or ADEM approximately 35% of the time. Steroids, plasma exchange, and possibly rituximab are the main methods of treatment.

Conclusion

Vaccine associated events do not mean causation but are important to report. The workup is highly suggestive of Covid-19 vaccine associated with MOG/ADEM presentation. The patient outcome clearly emphasizes the need for IPR even though she may not meet certain insurance criteria.

References

1. Cao L, Ren L. Acute disseminated encephalomyelitis after severe acute respiratory syndrome coronavirus 2 vaccination: a case report [published online ahead of print, 2021 Feb 1]. *Acta Neurol Belg.* 2021;1-3.
2. Garg RK, Paliwal VK. Spectrum of neurological complications following COVID-19 vaccination. *Neurol Sci.* 2022;43(1):3-40.
3. Mumoli L, Vescio V, Pirritano D, Russo E, Bosco D. ADEM anti-MOG antibody-positive after SARS-CoV2 vaccination [published online ahead of print, 2021 Nov 19]. *Neurol Sci.* 2021;1-4. doi:10.1007/s10072-021-05761-7
4. Vogrig A, Janes F, Gigli GL, et al. Acute disseminated encephalomyelitis after SARS-CoV-2 vaccination. *Clin Neurol Neurosurg.* 2021;208:106839.