

Teaching Neuroimages: COVID-19–Associated Acute Disseminated Encephalomyelitis With Corpus Callosal Hemorrhage

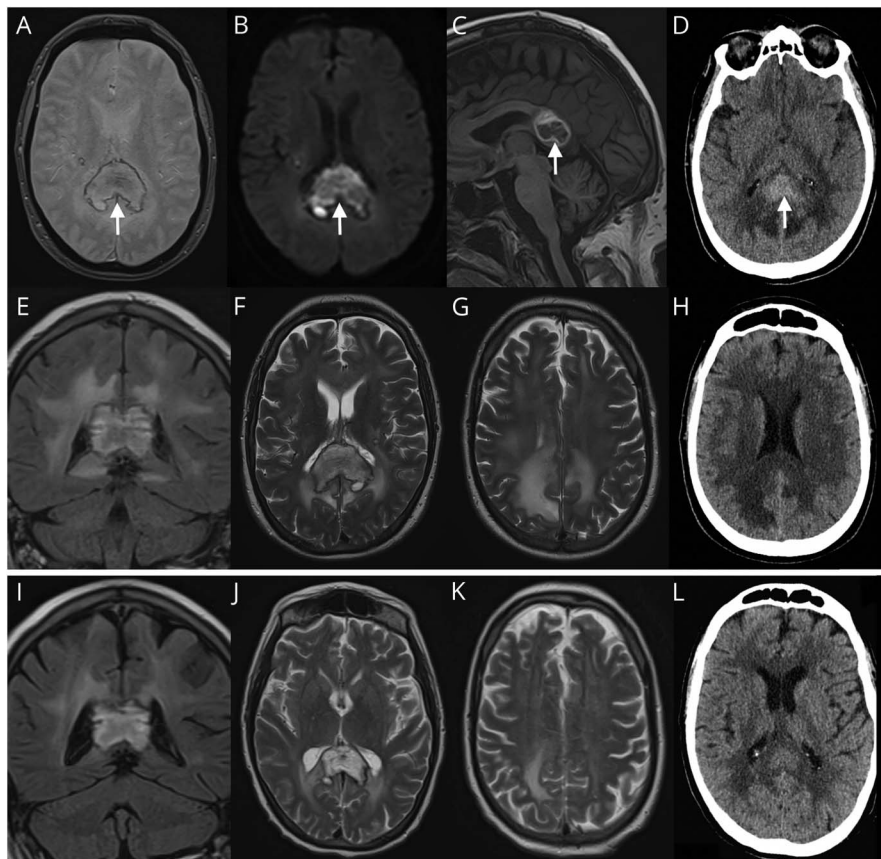
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Figure Brain MRI and CT



Initial MRI and CT with arrows highlighting peripheral low signal on T2* (A), abnormal diffusion (B), high T1 (C), and increased attenuation (D) within the corpus callosum splenium. Confluent high FLAIR (E) and T2 (F and G) abnormality and low attenuation (H) are noted within the deep cerebral white matter. Improved appearances at 2 weeks are seen (I–L).

A 55-year-old man with severe coronavirus disease 2019 (COVID-19) required ventilation and hemofiltration. Central venous catheter thrombosis necessitated heparin infusion. On day 20 post-admission, impaired conscious level, complex ophthalmoplegia, and hyperreflexia prompted non-contrast neuroimaging, demonstrating corpus callosal and right subinsular hemorrhage with diffuse white matter signal change (figure). CSF analysis was not performed due to clinical concerns

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Table Differential Diagnosis for Infective Splenic Lesions

Viral
Influenza, coronavirus, rotavirus, measles, adenovirus, human parvovirus B19, cytomegalovirus, varicella-zoster, adenovirus, rubella, human herpesvirus-6, human herpesvirus-7, HIV, mumps, parainfluenza, enterovirus, Epstein-Barr
Bacterial
<i>Legionella pneumophila</i> , <i>Streptococcus pneumoniae</i> , <i>Salmonella enteritidis</i> , <i>Escherichia coli</i> , <i>Enterococcus faecalis</i> , <i>Klebsiella pneumoniae</i> (febrile urinary tract infection), <i>Campylobacter jejuni</i>
Other
<i>Mycoplasma pneumoniae</i> , malaria, dengue fever

regarding raised intracranial pressure. Administration of high-dose corticosteroids led to clinical and radiologic improvement (figure).

The differential diagnosis of infective splenic lesions is presented (table).¹ We consider the likely diagnosis to be acute disseminated encephalomyelitis with hemorrhage, adding to the clinical spectrum of neurologic complications of COVID-19 and highlighting the possibility of favorable outcome.²

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Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

Appendix Authors

Name	Location	Contribution
Christopher Green, FRCR	Gloucestershire Royal Hospital, UK	Drafting/revision of the manuscript for content, including medical writing for content
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Claire Rice, FRCP, PhD	North Bristol NHS Trust, UK	Drafting/revision of the manuscript for content, including medical writing for content
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Iain Lyburn, FRCR	Gloucestershire Royal Hospital, UK	Drafting/revision of the manuscript for content, including medical writing for content

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