Teaching NeuroImages: Varicella-zoster virus-related hemorrhagic encephalomyelitis

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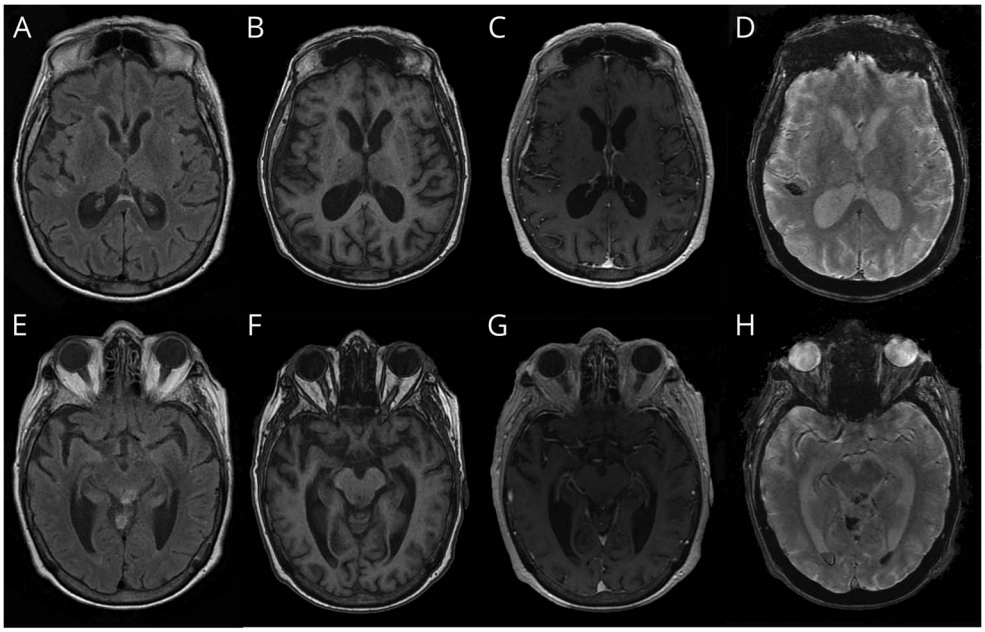
Figure 1 MRI brain 2 weeks after the patient's initial symptoms



MRI of the brain demonstrates late subacute subarachnoid blood—fluid-attenuated inversion recovery (FLAIR) hyperintense and T1 hypointense—in the right parietal lobe, occipital horns of the lateral ventricles, and quadrigeminal and superior cerebellar cisterns. Representative FLAIR (A, E), T1-weighted (B, F), postgadolinium T1-weighted (C, G) and susceptibility-weighted (D, H) sections are shown.

A 79-year-old woman with diabetes presented with confusion, fever, rigors, and red blistering rash over right S1-2 dermatomes. Over 2 weeks, paraplegia and leg numbness developed, worst on left. MRI demonstrated hemorrhagic encephalomyelitis (figures 1 and 2). CSF showed 256 white blood cells (43% neutrophils), 269 red blood cells, 322 mg/dL protein, and positive varicella-zoster virus (VZV) DNA.

VZV can cause postherpetic neuralgia, meningoencephalitis, monophasic/recurrent myelitis, vasculopathy, and ocular disorders; 1–2 cases/10,000 involve the CNS.[1] Risk factors include age, organ transplantation, cancer, and AIDS. CSF often shows abundant neutrophils, red blood cells, and protein, with or without oligoclonal bands. Prompt antivirals promote recovery, but we observed no improvement with methylprednisolone and 21 days of IV acyclovir.[2]

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Figure 2 MRI spine 2 weeks after the patient's initial symptoms

MRI of the spine demonstrates an intramedullary lesion centered at T5-T6, extending superiorly and inferiorly from C7-T9, in T5 cross-section predominantly involving the right hemicord, with heterogeneous T2 (A, D) and T1 hyperintensity (B, E) but without associated enhancement (C, F). This is in keeping with hemorrhage and associated edema.

Author contributions

Dr. Ganesh: concept, acquisition of data, and writing the initial drafts of the manuscript. Dr. Kashani: acquisition of data and critical revision of manuscript for intellectual content. Dr. Bal: concept and critical revision of manuscript for intellectual content. J. Jenkins: acquisition of data and critical revision of manuscript for intellectual content. Dr. Yeung: concept and critical revision of manuscript for intellectual content.

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Disclosure

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