A rare cause of temporal lobe ring-enhancing lesion

Biplab Das, MD

Manoj Kumar Goyal, MD, DM

Manish Modi, MD, DM

Vivek Lal, MD, DM

Sahil Mehta, MD, DM

Anu Gupta, MD, DM

Chirag Ahuja, MD, DM

A 65-year-old man presented with fever, seizures, and altered mental state of 10 days duration. He was initially diagnosed with CNS tuberculosis at another medical center based on MRI findings (figure 1). Repeat MRI by our center 1 week later revealed bilateral temporal, insular, and inferior frontal hyperintensities with gyral contrast enhancement (figure 2). CSF herpes simplex virus (HSV) PCR was positive. The patient was started on IV acyclovir. At 6-month follow-up, he is independent in activities of daily living.

Though initial MRI demonstrated T2 and fluid-attenuated inversion recovery signal changes in the medial temporal lobe, the presence of ring enhancement led to confusion and these signal changes were interpreted by the first medical center as perilesional edema. When the patient presented to us 1 week later, his clinical disease severity was out of proportion

Figure 1 Axial and sagittal section of MRI brain

(A) T2-weighted image shows hyperintense lesion in the right medial temporal region. (B, C) On gadolinium contrast MRI, this lesion shows evidence of ring enhancement in the right temporal region.

Departments of Neurology (BD, MKG, MM, VL, SM, AG) and Radiology (CA), Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India.

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Correspondence to: goyal_mk@yahoo.com

Figure 2 Repeat MRI brain after 1 week

(A) T2-weighted image reveals hyperintensities in bilateral medial temporal regions. (B) Fluid-attenuation inversion recovery sequence shows hyperintensities in bilateral medial temporal and insular cortices and (C, D) gadolinium-enhanced T1-weighted images reveal gyral contrast enhancement in bilateral medial temporal regions. The ring enhancement seen in the first MRI has given way to gyral enhancement.

to the initial MRI findings. Therefore, a repeat MRI brain was done, which revealed signal changes classic of HSV encephalitis. The ring enhancement had since given way to gyral enhancement at follow-up. This is a rare report of HSV encephalitis presenting initially as ring enhancing lesion on MRI brain. Presumably, focal inflammatory necrosis of temporal lobe was responsible for the initial pattern of ring enhancement.^{1,2} Recognition of this rare pattern is important to avoid misdiagnosis of HSV encephalitis. In doubtful cases, CSF HSV PCR and repeat MRI brain may help in confirming the diagnosis.

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AUTHOR CONTRIBUTIONS

Biplab Das: data collection, conception, writing, and review of literature. Manoj Kumar Goyal: manuscript conception, writing, editing, and review of literature. Manish Modi: manuscript review, critique, and review of literature. Vivek Lal: manuscript review and critique. Sahil Mehta: review of manuscript and literature. Anu Gupta: review of manuscript and literature. Chirag Kamal Ahuja: radiology reporting and review of literature.

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