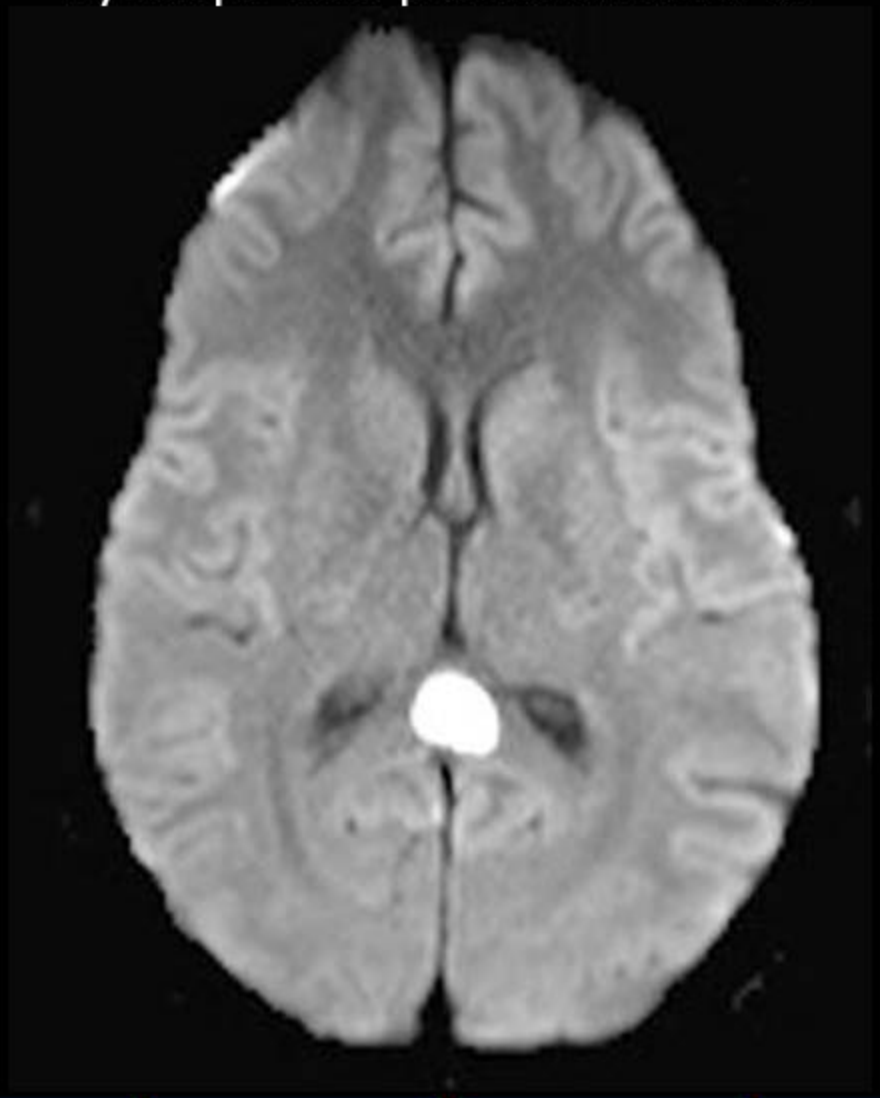
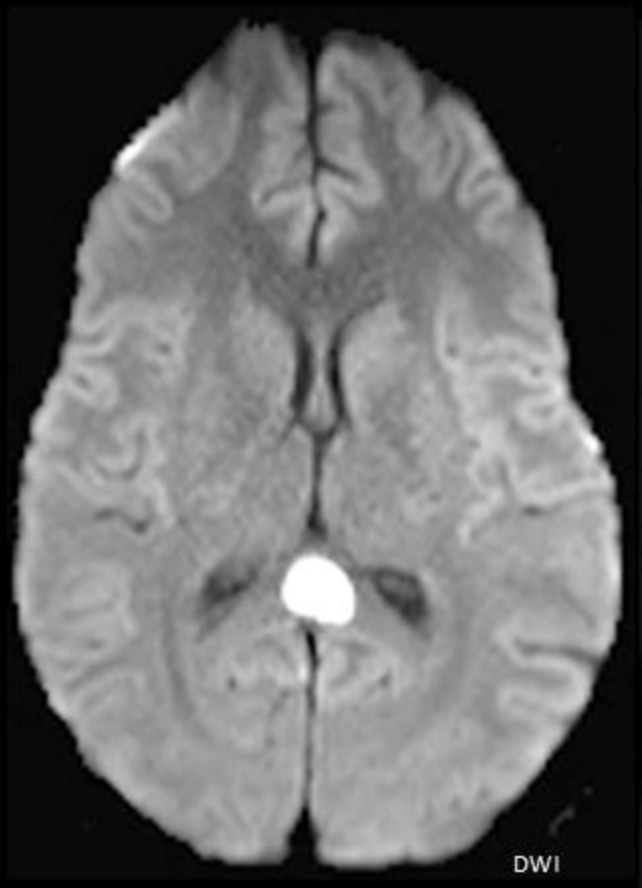
CASE 2

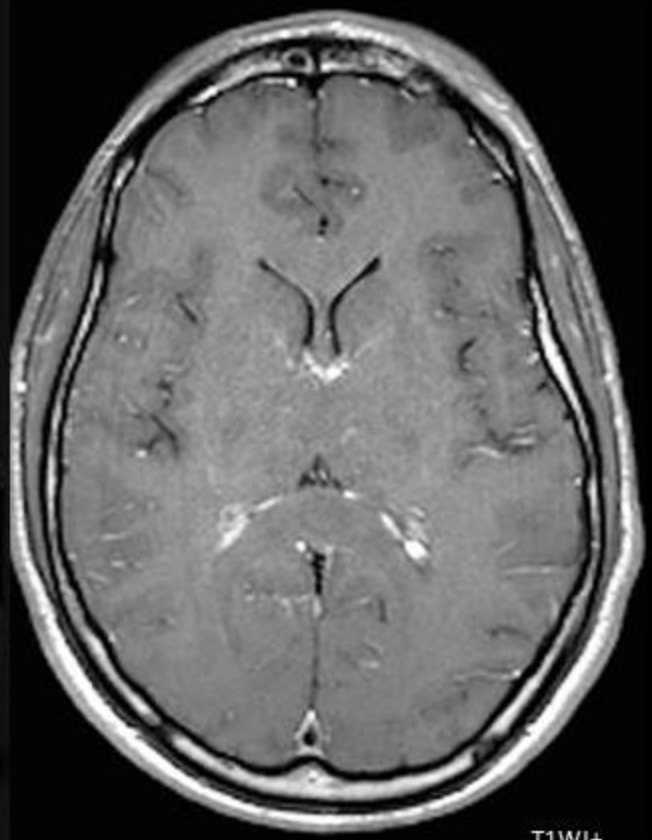
15-year-old with known HIV infection presents with syncope and possible seizures



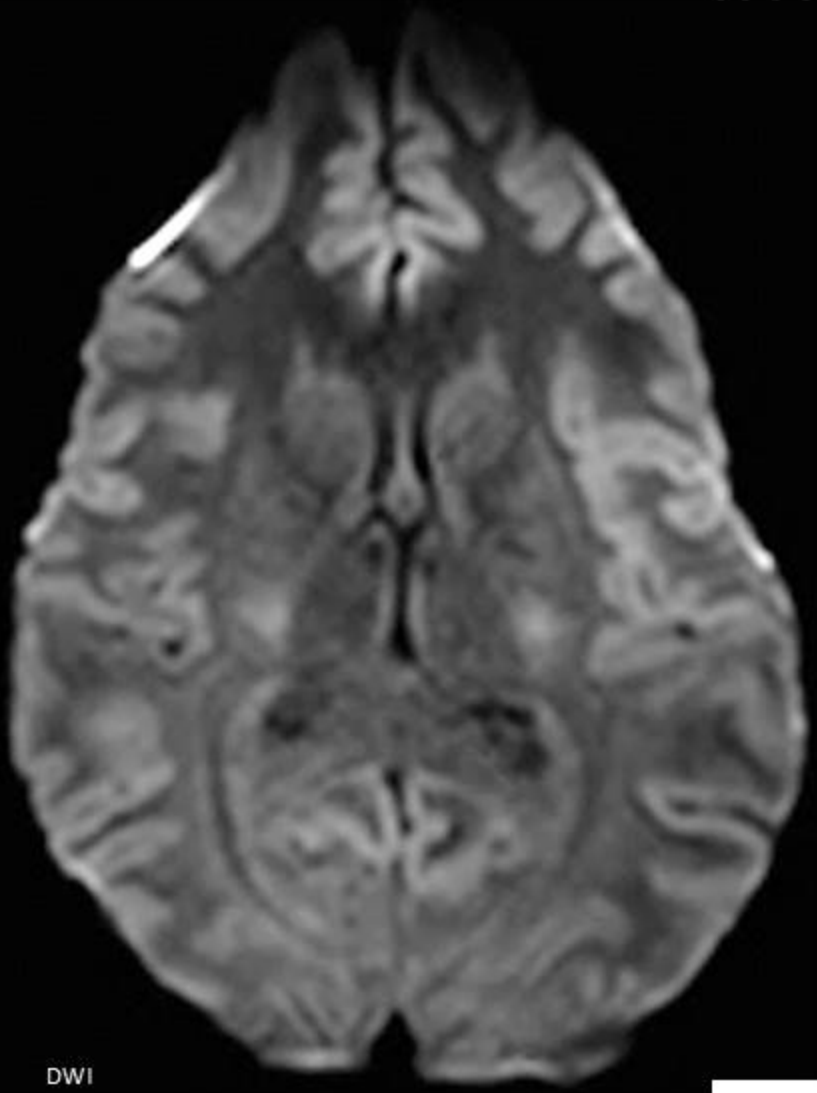
Sumit Pruthi MD
Vanderbilt Medical Center
Nashville, TN

Imaging

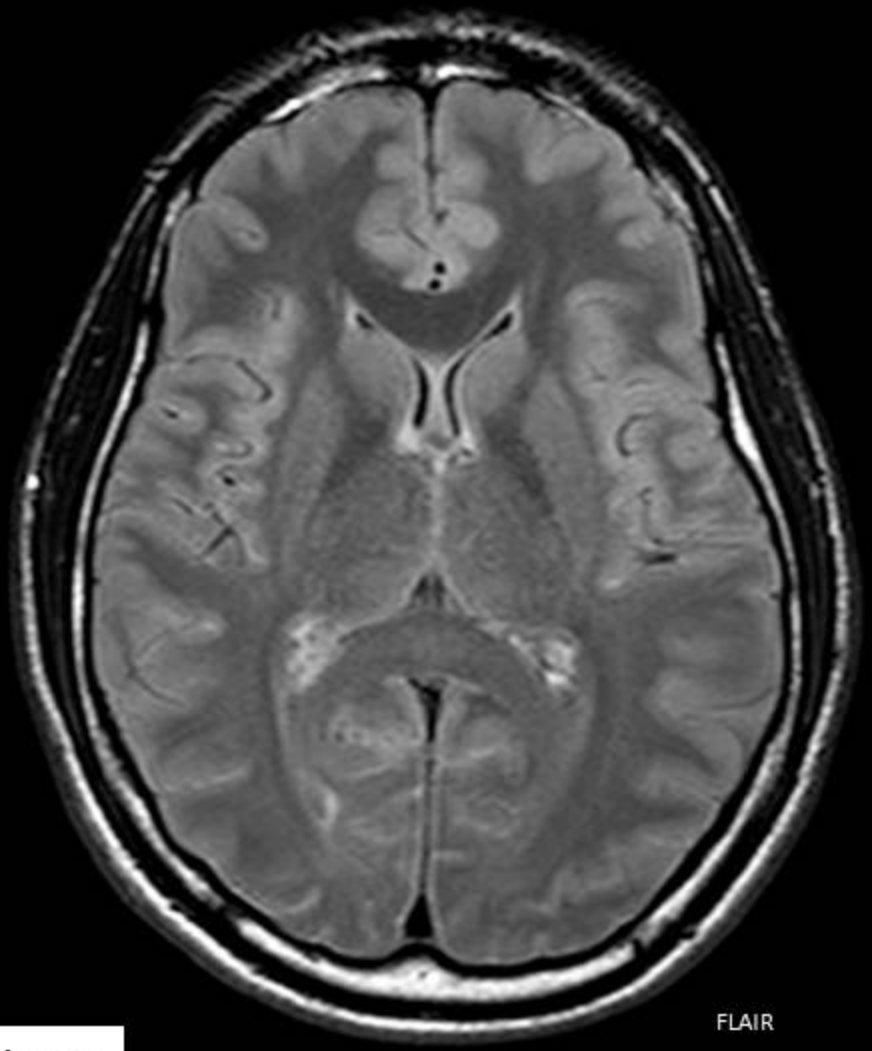




Imaging



DWI



FLAIR

6 weeks later

Findings

Initial axial DWI shows a hyperintense, well-defined, circumscribed splenial lesion. ADC map shows markedly restricted diffusion

No abnormal contrast enhancement of the lesion

Follow-up axial DWI and FLAIR images 6 weeks later show reversal of restricted diffusion and no residual T2 signal abnormality

DDx

- Transient Splenial Lesion
- Tumefactive Demyelination
- Focal Infarct

Diagnosis

Transient Splenial Lesion

Discussion

- Transient splenial lesion refers to a lesion in the splenium of the corpus callosum that is hyperintense on T2WIs, shows transiently decreased ADC values, and is without associated enhancement

- First described by Chason et al. as transient postictal focal edema denoting transhemispheric propagation of seizure through the corpus callosum

- Initially described with epilepsy, it is also associated with a variety of other disorders including patients with encephalitis/encephalopathy due to various organisms, high altitude cerebral edema, metabolic derangement etc.

Discussion

Because of a rich collateral blood supply, focal splenial infarcts are rare and usually are seen in the setting of shower emboli, major ischemic stroke, or subfalcine herniation with mass effect

Lack of contrast enhancement, isolated callosal involvement and reversibility of the lesion argues against tumefactive demyelination

Increased predilection of the splenium is still debatable and needs further research, because of lack of pathologic confirmation of such transient lesions in humans

Transient signal changes in the splenium appear to be the nonspecific end-result of varied disease processes. These lesions carry a good prognosis due to their reversibility and should not be confused with other pathologies

References

- Doherty MJ, Jayadev S, Konchada R, Hallam D, Watson NF. Clinical implications of splenium magnetic resonance imaging signal changes. Arch Neurol. 2005;62:433–7.

- Chason DP, Fleckenstein JL, Ginsburg MI. Proceedings of the 34th annual meeting of the American Society of Neuroradiology. Seattle, WA, USA. Chicago: Old Smith Printers; 1996. Jun 21-27, Transient Splenial Edema in Epilepsy: MR Imaging Evaluation.

- Mai-Lan Ho, Gul Moonis, Daniel T. Ginat, and Ronald L. Eisenberg. Lesions of the Corpus Callosum. American Journal of Roentgenology 2013 200:1, W1-W16