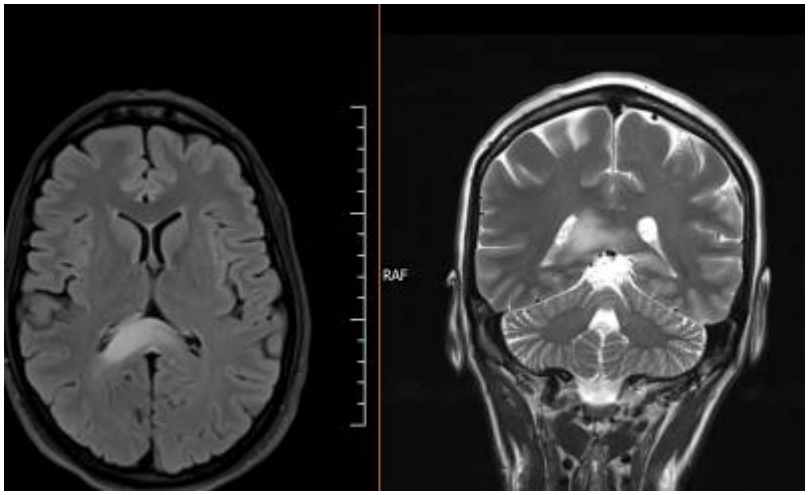
Splenium lesion



see Splenium glioma

Between 2013 and 2017, patients with splenium lesions were examined. Magnetic resonance imaging (MRI) was performed using a 1.5-T unit with FLAIR sequences. Additionally, diffusion-weighted imaging (DWI) and apparent diffusion coefficient (ADC) maps were examined.

The patients were 11 males and 5 females; the mean age was 52.3 ± 20.3 (22-87) years. The patients were admitted with the following conditions: consciousness disorder (n = 7, 43.7%), headache (n = 3, 18.7%), seizure (n = 3, 18.7%), ataxia (n = 3, 18.7%), hemiparesis (n = 4, 25%), meaningless speech (n = 2, 12.5%), fever (n = 3, 18.7%), perioral numbness (n = 1, 6.2%), and diplopia (n = 1, 6.2%). Hyperintensity in the splenium was observed in DWI sequences in all patients on MRI. Fourteen patients (87.5%) showed Hypointensity in the same region on ADC. In patients with ischemic infarcts, the splenium lesions were most commonly observed in the area of the posterior cerebral artery (n = 4, 25%). MRI showed splenial signal changes in DWI sequences in all patients. Hyperintensity in the splenium was observed in DWI sequences in all patients on MRI. Fourteen patients (87.5%) showed Hypointensity in the same region on ADC. The aetiologies were defined as multiple sclerosis (n = 1, 6.2%), ischemic infarction (n = 4, 25%), tuberculous meningitis (n = 3, 18.7%), viral encephalitis (n = 2, 12.5%), hypernatremia (n = 1, 6.2%), brain tumor (n = 1, 6.2%), Marchiafava–Bignami disease (n = 1, 6.2%), head trauma (n = 1, 6.2%), substance use (n = 1, 6.2%), and epilepsy (n = 1, 6.2%).

Not every restricted diffusion observed on MRI indicates an ischemic stroke. Although radiologic images of the splenium may suggest acute ischemia, the actual cause may be another pathology. Therefore, the symptoms and aetiologies of patients with splenium lesions should be considered and investigated from a wide range of perspectives [1].

1)
Balcik ZE, Senadim S, Keskek A, Ozudogru A, Koksal A, Soysal A, Atakli D. Does restricted diffusion in the splenium indicate an acute infarct? Acta Neurol Belg. 2018 Jan 6. doi: 10.1007/s13760-017-0876-6. [Epub ahead of print] PubMed PMID: 29307027.