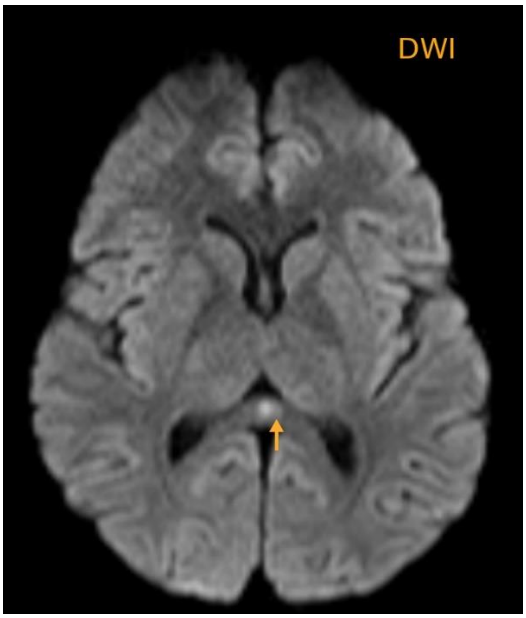
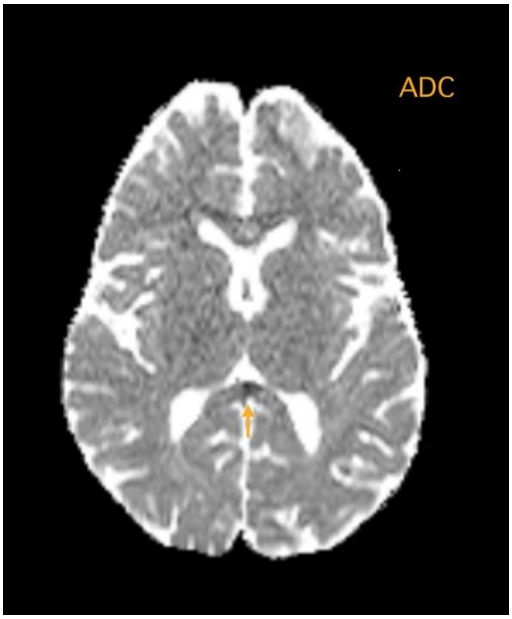
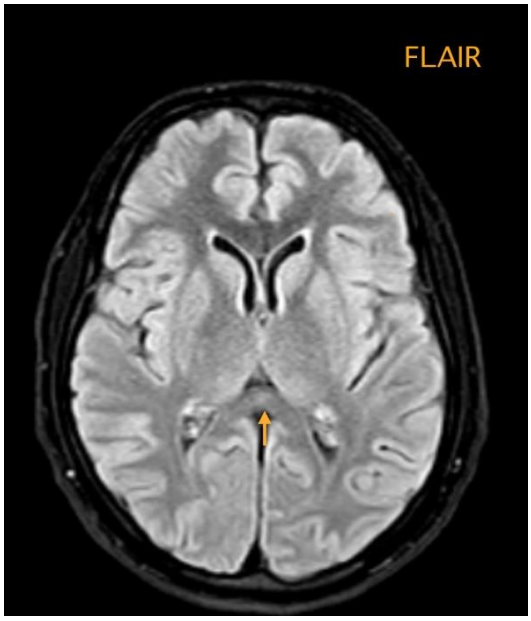
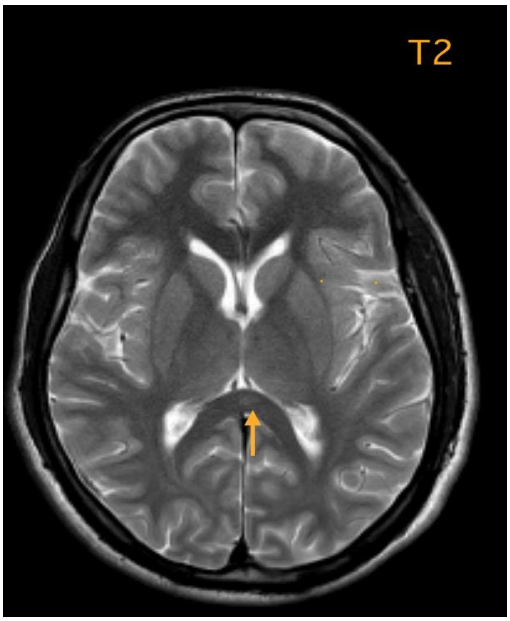
FROM THE CONSOLE ...









CLINICAL BACKGROUND:

40-year-old male patient - chronic alcoholic - complaints of acute onset of gait disturbance.

IMAGING FINDINGS:

MRI shows small diffusion restriction area in splenium of corpus callosum which appears hyper intense on T2 and FLAIR.

DISCUSSION:

Cytotoxic lesion of the corpus callosum (CLOCC) or the transient hyper-intensity of splenium of corpus callosum, is known to be associated with multiple pathological conditions which includes encephalitis, encephalopathy, metabolic disorder (hypoglycaemia and hypernatremia), antiepileptic drug withdrawal, alcoholism, infection, and seizure (1)

Marchiafava–Bignami disease (MBD) - is a rare neurological condition which is linked to chronic alcoholism. It is characterized by demyelination and necrosis, that is evidenced as DWI restriction and hyper-intensity in T2/FLAIR sequence. These lesions may be subtle in CT and hence, MRI is the imaging modality of choice (2). This condition does occur in chronically malnourished non-alcoholic patients with vitamin B deficiency (3).

The pathophysiology of this condition includes cytotoxic edema, blood–brain barrier break, demyelination, and necrosis. The splenium of corpus callosum has more myelin than its other parts and intramyelinic cytotoxic edema is detected as the abnormal signal changes in MRI (4). Extra-callosal lesions can also occur and are primarily seen in cortical areas, which could be due to Morel's laminar sclerosis (5).

Wernicke encephalopathy, another acute alcohol related neurological disease, is caused by vitamin B1 deficiency, and can occur together with MBD. But this condition typically involves the medial thalamic nuclei, hypothalamus, mamillary bodies and periaqueductal grey matter (2).

Important to note that, although corpus callosum is the typical site of involvement in MBD, extra-callosal regions of brain are affected late in this condition and are associated with poor prognosis / severe cognitive impairment. Under appropriate clinical background, early diagnosis of MBD is very important - as early diagnosis and intervention results in a favourable outcome (6).

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