CASE REPORT

WERNICKE'S ENCEPHALOPATHY WITH ATYPICAL FINDINGS ON MR IMAGING

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Wernicke's encephalopathy (WE) is a disease usually related to chronic alcoholism. The clinical diagnosis is often difficult to establish. MR imaging is a highly sensitive method for detecting lesions associated with Wernicke's encephalopathy. We report a case of atypical manifestation of hyperintense lesions on magnetic resonance imaging (MRI) in a 60-year-old male patient with Wernicke's encephalopathy.

KEY WORDS: Wernicke's; encephalopathy; thiamine; alcohol.

INTRODUCTION

Wernicke's encephalopathy results from vitamin B1 (thiamine) deficiency. Most patients affected are malnourished alcoholics; however, Wernicke's encephalopathy has also been associated with other conditions such as gastrointestinal neoplasms, chronic dialysis, prolonged IV therapy without vitamin supplementation, bowel obstruction, and hyperemesis gravidarum.[1] The usual findings at MR imaging in patients with Wernicke's encephalopathy are well documented and include high signal intensities in the medial thalami and periaqueductal regions of the midbrain.[2] We report a case of Wernicke's encephalopathy that showed an unusual location of hyperintense lesions on fluid-attenuated inversion recovery (FLAIR) and T2-weighted images.

CASE REPORT

This is a case of 61 year old male patient came in ER on 20-Jan-2007 with the presenting complaints of:

Slurred speech, imbalance when standing or walking (sways on either side or backwards), and vomiting for 1 day. He is a known smoker and alcoholic (drinks 1-2 pints daily).

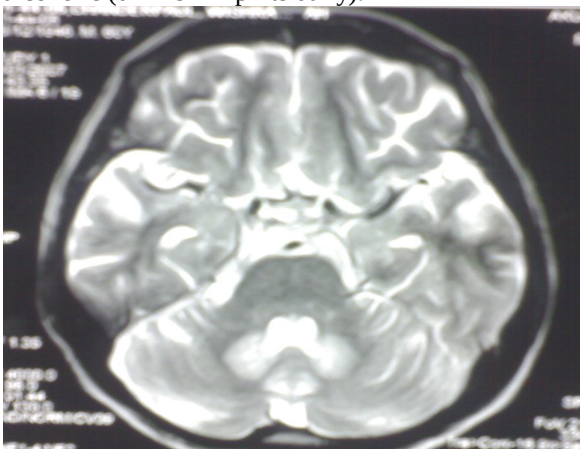

Figure-1: T2 weighted axial image shows abnormal hyperintense signal in bilateral dentate nuclei.

On neurologic examination horizontal nystagmus and finger past pointing were positive and coordination impaired especially in lower limb (heel-shin test). He had difficulty in walking and had a broad based gait.

MRI brain was done which showed T2 hyperintense signals in bilateral dentate nuclei symmetrically (Figure-1) and inferior colliculi (Figure-2). So, diagnosis of Wernicke's encephalopathy was made and patient was started on Thiamine 100 mg I/M which resulted in prompt improvement and patient was discharged subsequently.

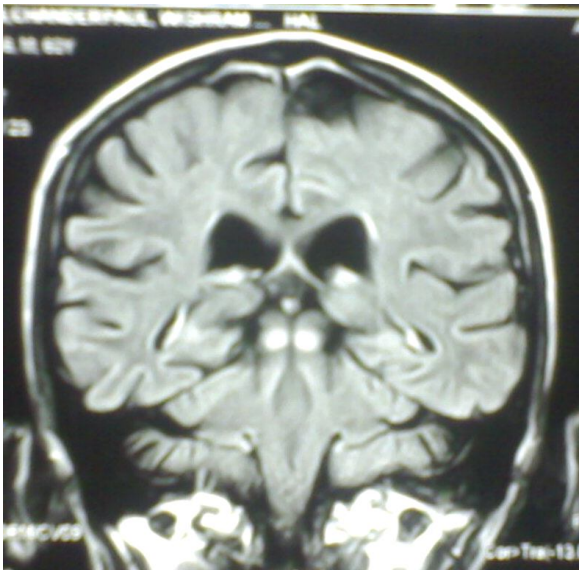

Figure-2: Coronal FLAIR image shows hyperintense signals in inferior colliculi bilaterally.

DISCUSSION

Wernicke's encephalopathy is a neurologic disorder classically characterized by the clinical triad of ophthalmoplegia, nystagmus, ataxia, confusion, and apathy. It is caused by a thiamine deficiency due to poor oral intake in chronic alcoholics, food refusal, or recurrent vomiting in a pregnant patient. Lesions on

pathological examination of the brain as well as MR are typically found in the mamillary bodies, medial periventricular thalami, tectum of the midbrain, periaqueductal region and the hypothalamus. In addition, the acute stage may show mamillary body enhancement,[3] while the chronic stage may show atrophy of the mamillary bodies[4] and midbrain tegmentum, as well as dilatation of the third ventricle.

In our case, the hyperintense lesions in the tectum of the midbrain were compatible with the previous literature, whereas the cerebellar dentate nuclei were unusual locations of involvement and was published in a case report by Sang *et al.*[5]

REFRENCES

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