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Misleading diagnosis in alcoholic patients complaining of lower limb weakness : a case report of MBD

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Introduction

Marchiafava-Bignami disease (MBD), Wernicke's encephalopathy (WE) and alcohol related polyneuropathy (ARP) are distinct diseases and all have strong relationship with chronic alcoholism. MBD is classically characterized by acute edema and necrosis of corpus callosum and subsequent symmetric demyelination and atrophy of this structure. To the best of our knowledge, MBD patient whose WE was diagnosed earlier is not previously reported in Northeast Asian patients. And this patient co-occurs with MBD and ARP. Moreover, We present a case of MBD with cortical involvement which was associated with poor prognosis.

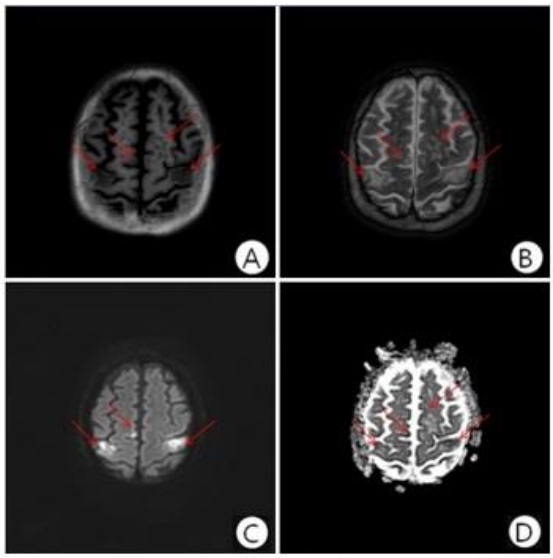
Case report

A 70-year-old male was admitted to our hospital neurology department with 6 months history of impaired walking, weakness of upper and lower limbs, ataxia and dysarthria aggravated on the day of admission. Three years ago, He also presented to our hospital with complaints of altered mentality and ataxia of both lower limbs. In brain MRI, T2-weighted image(T2WI) and fluid attenuated inversion recovery (FLAIR) image showed high signal intensity in the bilateral periventricular and periaqueductal area. After that event, the family reported that impaired walking and weakness of upper and lower limbs started gradually in the last 6 months ago and have been sitting or lying down. Since then, He didn't eat food and only drank the alcohol. In this time, his muscle strength was checked at 3/5 in the both upper and 2/5 in both lower limbs. The patient scored 0 on the Korean version of modified barthel index and 9 on the mini mental status examination Korea(MMSE-K), suggestive of total dependency of ADL and cognitive dysfunction. The initial nutrition evaluation was executed and revealed high risk of malnutrition. The laboratory datas revealed hypoproteinemia and hypoalbuminemia (total protein, 5.3 g/dl; albumin, 2.8g/dl). However, his serum level of vitamin B1(7.6 ㎍/dl) and vitamin B12(1016 pg/ml) was in the normal range. Before we did MR imaging, we suspected WE as before. However MR imaging showed hypointensities in T1WI and hyperintensities in T2WI in the body, splenium of corpus callosum, both precentral gyrus and both frontal cortex. Corresponding region in axial diffusion-weighted MR image (DWI) and FLAIR image showed hyperintensities with a decreased apparent diffusion coefficient (ADC) image.(figure1,2) The patient was eventually diagnosed with MBD. Despite the normal level of serum vitamins, the patient was treated with intravenous high-dose vitamin treatments and inserted L-tube for hyperalimentation. NCS-EMG was executed for

evaluating upper and lower limbs weakness and electrophysiological findings are suggestive of axonal demyelinative sensorimotor polyneuropathy, compatable with ARP.

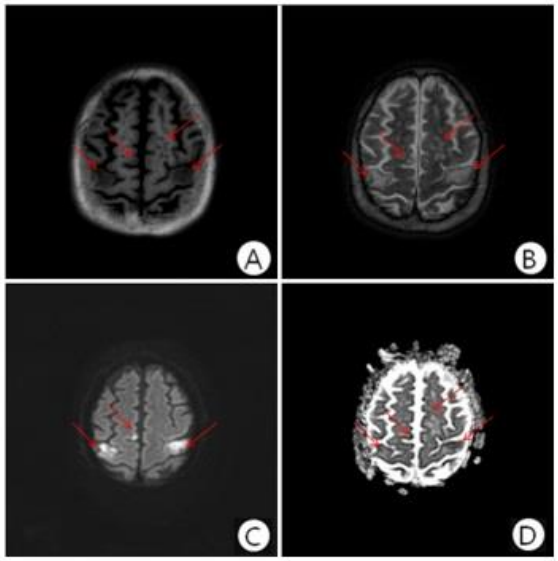
Conclusions

We suppose that co-occurrence of MBD and ARP in chronic alcoholic patient whose WE was diagnosed earlier is very rare report. And MBD which present poor prognosis is associated with cortical involvement.



MR imaging at cortex level showed hypointensities in T1WI(A) & hyperintensities in T2WI(B) in both precentral gyrus and both frontal cortex. Corresponding region in axial DWI(C) showed hyperintensities with a decreased ADC image(D). Arrow in (A), (B), (C), (D)

Figure.1 MRI of the patient when MBD was diagnosed.



MR imaging at cortex level showed hypointensities in T1WI(A) & hyperintensities in T2WI(B) in both precentral gyrus and both frontal cortex. Corresponding region in axial DWI(C) showed hyperintensities with a decreased ADC image(D). Arrow in (A), (B), (C), (D)

Figure.2 MRI of the patient when MBD was diagnosed.