ECRONICON OPEN ACCESS

EC EMERGENCY MEDICINE AND CRITICAL CARE

Case Report

Favorably Outcome in a Chronic Cannabis Addict Patient with Marchiafava-Bignami Syndrome: Case Report

Sabah Benhamza[1,2]*, Mohamed Reda El Abassi[1,2], Mohamed Lazraq[1,2], Abdelhak Bensaid[1,2], Youssef Miloudi[1,2] and Najib El Harrar[1,2]

[1]*Intensive Care Unit of the 20 August 1953 Hospital, CHUIR of Casablanca, Morocco*

[2]*Hassan II University, Faculty of Medicine and Pharmacy of Casablanca, Morocco*

***Corresponding Author:** Sabah Benhamza, Intensive Care Unit of the 20 August 1953 Hospital, CHUIR of Casablanca, Morocco.

Received: February 13, 2022; **Published:** April 29, 2022

Abstract

Marchiavafa Bignami is a rare and serious neurological disease, it is classically described in patients with chronic alcohol and/or undernourished. The peculiarity of this observation is the occurrence of this pathology in a young patient, nonalcoholic, known chronic cannabis and whose evolution was favorable under symptomatic treatment contrary to the poor prognosis described in the literature.

Keywords: *Marchiafava-Bignami Syndrome; Chronic Cannabis; Case Report*

Introduction

Marchiafava-Bignami syndrome (MBS) is a rare neurological disorder characterized by demyelination of the corpus callosum which may be accompanied by cortical necrosis involving the frontal and parietal lobes subsequently leading to atrophy. It is usually described in chronic alcoholics but in rare cases it has been described in non-alcoholic patients [1,2]. Its prognosis is variable [3-5]. We report the case of a cannabis addicted patient who presented with MBS with a favorable evolution.

Clinical Case

A 27-year-old patient, cannabis addicted, was brought to emergency department for coma having been preceded a few hours be- fore his admission by behavioral disorders, visual hallucinations, delusions and agitation. The patient was intubated on admission due to the profound alteration of his neurological state (Glasgow score 7/15), there was no neck stiffness, he was afebrile, hemodynamically stable, with no evidence of trauma, capillary glycaemia was correct. Initial laboratory tests including urinary and blood toxin screening were positive for cannabis, complete blood count, serum electrolytes, liver function tests were all within normal limits. An injected brain computed tomography scan and a lumbar puncture were normal. A magnetic resonance imaging scan of brain was obtained revealing a lesions of corpus callosum, isointense in T1, hyperintense in T2-weighted image and FLAIR evoking MBS (Figure 1). The patient received thiamine (300 mg/day) before the MRI and the toxicological results because of the notion of chronic cannabis use and fear of associated alcoholism. The patient's neurological status improved gradually. He was successfully extubated after 4 days of mechanical ventilation.

On neurological examination: conscious patient with a Glasgow score of 15/15, without motor deficit, the cranial pairs were intact. The evolution was marked by the persistence of a dysarthria, behavioral and mood disorders fluctuating for 3 days then regression of the disorders. He was then transferred to the neurology department where an electroencephalogram (EEG) was performed, it was normal.

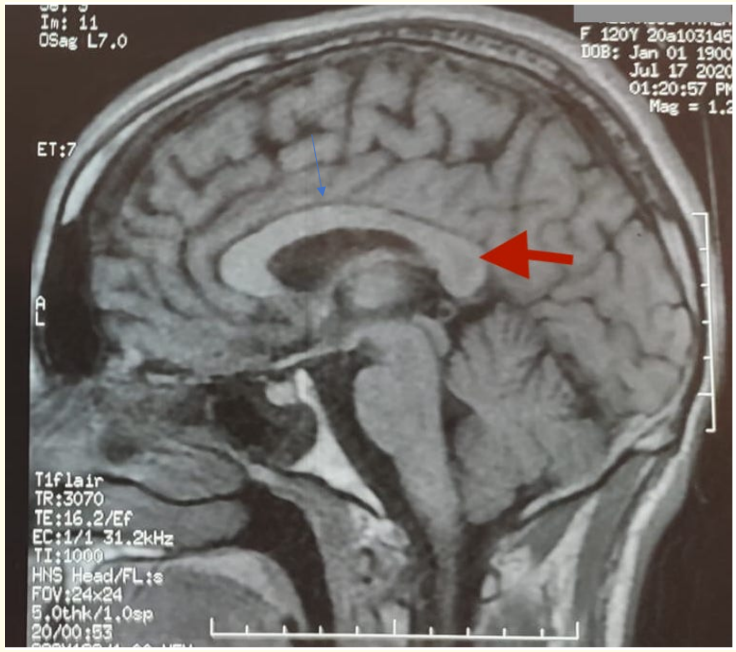

Figure 1: *MRI Flair sequence showing a lesion of the corpus callosum.*

Discussion

We describe a case of MBS occurring outside of any chronic alcoholism context and with a favorable course despite the severe-looking neurological involvement on admission.

Marchiafava-Bignami syndrome is a rare neurological disease initially described by Carducci in 1898 and 5 years later by two Italian anatomopathologists Amico Bignami (1862-1919) and Ettore Marchiafava (1847-1935) in Italian red wine drinkers [1]. The diagnosis was autoptic, but with the progress made in brain imaging, in particular brain MRI, the diagnosis is made earlier, it shows hyperintense lesions in T2 and FLAIR phase indicating edema and demyelination and hypointense on T1W1 of the corpus callosum, splenium times signifying bleeding and hemosiderin deposits, these lesions are symmetrical with dorsal and ventral edges of the corpus callosum spared (sandwich sign) [1,5].

Chen., *et al*. [6] reviewed 157 reports containing data on 168 subjects with Alcoholic MBS (AMBS) and 23 subjects with Non-Alcoholic MBS (NAMBS). The following data were extracted: demographic characteristics; delay from the onset of symptoms to admission; MRI features; location of the corpus callosum lesions; the presence of Wernicke's disease; drug treatment (thiamine, other vitamins and steroids); outcome. Results: The subjects with AMBS were more frequently men (84.5% vs 47.8, P = 0.000); the ones with AMBS were

frequently reported as suffering from malnutrition (81.3% vs 50%, P = 0.019), whereas the NAMBS was frequently reported as suffering from diabetes mellitus (30.4% vs 7.1%, P = 0.002). The lesions in the NAMBS are often located in the splenium (47.8%), whereas single splenial lesions are seen only in 18.7% of the AMBS. 43.5% (10/23) of the NAMBS was reported to have recovered completely, whereas only 15.4% (24/156) AMBS showed a complete recovery [6].

In our case, initial neurological examination presaged a type A given the severe neurological involvement but the MRI showed a focal involvement which could explain the favorable evolution of our patient, the favorable prognosis is generally explained by the regression of the radiological lesions in type B suggesting the presence of an edema rather than a true demyelination of the corpus callosum [4], but the severe neurological involvement of our patient suggests the presence of both.

MBS s described as a rare complication of alcohol intoxication [6,7]. Caulo., *et al*. [7] reported nine cases of MBS in non-alcoholic patients and discussed the possibility of a differential diagnosis of mild encephalopathy with reversible splenial lesion (MERS), especially since four of the nine patients died shortly after admission and did not have brain MRI, and the diagnosis was made postmortem, The other patients with a favorable evolution had a brain MRI that showed hyperintense lesions on T2 sequences and a slight swelling limited to the splenium of the corpus callosum in four patients, signal changes were observed bilaterally and diffusely in the corpus callosum in only one patient, DWI showed restricted diffusion in the splenium of two patients, three of these patients underwent control MRIs that showed complete disappearance of the anomalies. The authors raised the hypothesis of a misdiagnosis of MBS without alcohol intoxication when it was rather MERS which was an unknown entity at the time.

Conclusion

MBS is certainly a rare and serious complication of alcohol intoxication and in certain particular fields of severe malnutrition, however our clinical case showed the possibility of occurrence of MBS in a young non malnourished but cannabic field, this would impose perhaps more frequent MRI in this type of patients in front of any neurological manifestation including psychiatric disorders.

Conflicts of Interest

We declare that we have no conflicts of interest.

Contributions of the Authors

All authors actively contributed to the completion of this work.

Bibliography

1. Jagdeo Prasad Rawat., *et al*. "Chapter 58-Neuropathology in Neuropsychiatric Disorders Secondary to Alcohol Misuse". Neuropathology of Drug Addictions and Substance Misuse (2016): 627-636.

2. Dong X., *et al*. "Clinical and radiological features of Marchiafava-Bignami disease". *Medicine (Baltimore)* 97.5 (2018): e9626.

3. Hillbom M., *et al*. "Diagnosis and management of Marchiafava-Bignami disease: a review of CT/MRI confirmed cases". *Journal of Neurology, Neurosurgery and Psychiatry* 85.2 (2014): 168-173.

4. Heinrich Alexander., *et al*. "Clinicoradiologic subtypes of Marchiafava-Bignami disease". *Journal of Neurology* 251.9 (2004): 1050-1059.

5. Li W., *et al*. "Diverse MRI findings and clinical outcomes of acute Marchiafava-Bignami disease". *Acta Radiologica* 62.7 (2021): 904-908.

6. Chen X., *et al*. "Alcoholic and Non-Alcoholic Marchiafava-Bignami Disease: A Comparative Study". *Neuroscience and Medicine* 7.3 (2016): 99-105.

7. Caulo M., *et al*. "Non-alcoholic partially reversible marchiafava-bignami disease: review and relation with reversible splenial lesions. A case report and literature review". *Neuroradiology Journal* 22.1 (2009): 35-40.

Volume 6 Issue 4 April 2022