Marchiafava-Bignami Disease: A Rare Complication of Alcohol Abuse

Marinha Silva1 (https://orcid.org/0000-0002-5344-4794), Inês Carvalho2 (https://orcid.org/0000-0001-8023-842X), Eduardo Freitas2 (https://orcid.org/0000-0003-3197-2569), José Nuno Alves2 (https://orcid.org/0000-0003-3187-9938)

Introduction
Chronic alcohol abuse is a common disorder. Its effects include neurologic complications through both direct and indirect effects on the central and peripheral nervous systems. Marchiafava-Bignami disease (MBD) is caused by demyelination and necrosis of the corpus callosum and it has long been considered to be of either a toxic or nutritional etiology.1

Case Report
A 43-year-old man, with chronic alcoholism (over 120 g daily), was brought to the emergency department after a two-week period of behavioral changes. There was no history of illicit drug use. On initial assessment his mini mental state scale was 19/30, he was disorientated in time and place, with reduced speech output, psychomotor retardation, but with no focal signs. His blood pressure was normal and he had no fever. Cerebral computerized tomography revealed a callosal hypodensity and global atrophy, with no acute vascular lesions (Fig. 1A). Laboratory studies disclosed mild macrocytic anemia and elevated liver enzymes; renal, thyroid and liver function were normal; systemic inflammatory biomarkers and serum ethanol were negative. Abdominal ultrasonography showed signs of steatosis, with no splenomegaly or ascites. Brain magnetic resonance imaging (MRI) confirmed the callosal lesion, with restricted diffusion (Fig. 2B) and showed T2/FLAIR hyperintensities concerning callosal genu, body and splenium (Fig.s 1A and 2A), suggesting MBD. He was started on several vitamin supplementation (including thiamine), with a good clinical outcome.

Discussion
MBD pathophysiology includes cytotoxic edema, demyelination and callosal necrosis, presumably attributed to the combination of alcohol-induced neurotoxicity and deficiency.
of B-complex vitamins.\textsuperscript{2,4} The clinical course is broad and some cases may evolve to rapid mental state deterioration and death.\textsuperscript{1}

There are no treatment guidelines but some reports suggest a favorable response to thiamine, enhancing the synergism between alcohol neurotoxic effects and hypovitaminosis B1 (responsible for Wernicke encephalopathy).\textsuperscript{4} Our patient improved with thiamine reposition which shows the importance of early management.

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Correspondence / Correspondência:
José Nuno Alves – jose.nuno.aalves@gmail.com
Serviço de Neurologia, Hospital de Braga, Braga, Portugal
Sete Fontes – São Victor, 4710-243, Braga

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