

MARCHIAFAVA-BIGNAMI DISEASE: RARE PRESENTATION OF DEMYELINATING DISEASE FOR THE ALCOHOLIC

INTRODUCTION

Marchiafava-Bignami disease (MBD) is a rare neurological condition characterized by primary degeneration of the corpus callosum associated with chronic alcohol consumption.

CASE DESCRIPTION

A 39-year-old chronic alcoholic man presented to the Emergency Department (ED) for altered mental status. He had a fall while riding his bike then lying on the ground, semiconscious, eyes opened, slurring of speech with urinary incontinence. Glasgow Coma Scale on arrival was E4V4M5. He was normotensive, tachycardia (heart rate of 100 beats per minute) and tachypneic with respiratory rate of 30 times per minute. He had weak gag reflex with weakness more over left upper limbs and lower limbs. Lung findings noted crepitations over right lower zone. Complete blood count revealed leukocytosis (white blood count: $12.5 \times 10^3 \text{ mm}^3$) and thrombocytopenia (platelet 73 g/dL). No acute kidney injury seen while liver enzymes were deranged. He was hypoglycemic with glucose level of 3.6 mmol/L. Viral screening was negative. Initial blood gas showed severe metabolic acidosis with hyperlactatemia which improved significantly with a structured fluid resuscitation in ED. Computed Tomography of Brain showed splenium of corpus callosum hypodensity. Patient was treated with oxygen supplementation, parenteral thiamine, glucose supplement, antibiotics and fluids. Patient was admitted and discharged with full GCS recovery. He was able to ambulate independently with slight weakness over his left side.

DISCUSSION

There is no prototypical clinical presentation of MBD. Subtle clinical signs such altered mental status, seizures, hemiparesis, ataxia, and apraxia may be present as initial manifestations. However, their development can lead to coma and death. Toxic effects of alcohol include altered white matter protein expression, impaired lipid processing, decreased neural plasticity, and weakened vessels. These insults culminate in small vessel necrosis, blood-brain barrier disruption, and cytotoxic edema, which manifests as symmetric demyelination and ischemic damage to the corpus callosum. MBD often improves following the administration of vitamin B and can lead to full recovery however, the treatment must be rapidly initiated

CONCLUSION

The overall prognosis is poor, but the best outcomes result from prompt diagnosis and treatment initiation.

KEYWORDS

Marchiafava-Bignami Disease, Alcohol, Neurology