Marchiafava-Bignami disease: prompt diagnosis made by magnetic resonance brain imaging

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November 9, 2023

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Key Words

Marchiafava-Bignami disease

Magnetic resonance imaging

Alcohol consumption

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

Key Clinical Message

Marchiafava-Bignami disease, a rare condition often associated with alcoholism, shows myelin degeneration with tissue necrosis specifically in the corpus callosum. Urgent application of magnetic resonance imaging could lead to prompt diagnosis.

Abstract

A 66-year-old male with habitual alcohol drink complained acute deterioration of left-side muscle weakness as initial presentation. On the arrival, the patient was confused, with stable vital sign and unremarkable

pyramidal sign. Although several potential diagnoses could be considered, brain computed tomography did not provide diagnostic information, and subsequently-performed magnetic resonance imaging revealed hyperintense lesions on T2-flair images in corpus callosum, suggesting MBD as clinical diagnosis. Prompt diagnosis enabled us to introduce thiamine administration with subsequent favorable neurological outcome.

CASE

A 66-year-old male with habitual alcohol drink complained acute deterioration of left-side muscle weakness as initial presentation. On the arrival, the patient was confused, with stable vital sign (blood pressure 141/96mmHg, pulse rate 99/min, body temperature 37.2) and unremarkable pyramidal sign. Body mass index was 19.5 kg/m2 and decreased skin turgor suggested moderate dehydration. Although several potential diagnoses could be considered, brain computed tomography did not show any diagnostic information, other than ambiguous low-density area along with corpus callosum. We subsequently performed magnetic resonance imaging and found hyperintense lesions of both corpus callosum on T2-flair images and splenium on diffusion-weighted images (Figure), suggesting MBD as clinical diagnosis. The patient was treated initially with intravenous infusion including vitamin B1, and switched to its oral supplementation along with alcohol cessation. In response to the treatment, consciousness disturbance had been much improved within 12 hours after the thiamine supplementation, and no neurological deficit remains after 10 days hospital stay.

AUTHOR CONTRIBUTIONS

Satroi Akita: Conceptualization; data curation; resources; software; writing –original draft. Takeshi Takakuwa: Conceptualization; resources; software; supervision. Kouji Kajinami: Conceptualization; supervision; writing –review and editing.

ACKNOWLEDGMENTS

None.

FUNDING INFORMATION

None.

CONFLICT OF INTEREST STATEMENT

The authors have no pertinent conflicts of interest to report for this manuscript.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ETHICS STATEMENT

None.

CONSENT STATEMENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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Figure Legend

The patient showed hyperintense lesion in the corpus callosum area on fluid-attenuated inversion recovery (FLAIR)-weighted magnetic resonance images (right panel) and that in the splenium on diffusion-weighted images (left panel).