

Amputation over objection in a patient with Marchiafava-Bignami disease.

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Background

- Treatment over objection (TOO) may be pursued when a patient's decision-making capacity is irreversibly impaired or cannot be restored in a timely manner and/or there is no identifiable surrogate or previously designated proxy.
- These decisions are ethically and legally complex (Rubin & Prager, 2018).
- Questions of amputation over objection arise relatively infrequently (e.g., Fischkoff et al., 2021). However, they are expected to be especially fraught.
- *Here, we present a case of lower limb amputation over objection in a patient with impaired decision-making capacity due in part to a rare sequela of chronic alcohol use: Marchiafava-Bignami disease (MBD).*

Case

Mr B is a 49 year-old married man with no formal psychiatric history but a 30-year pattern of heavy alcohol use with past withdrawal symptoms who presented to the emergency department (ED) of another hospital within our system for treatment of a left ankle injury sustained during a fall down 12 steps while intoxicated. Imaging confirmed a displaced left ankle fracture that was externally reduced and splinted in the ED. The patient was discharged home with strict instructions to avoid ambulating on the injured limb.

Two days later, the patient presented to our hospital's ED complaining of severe pain due to re-injury of his left ankle. The splint, applied two days prior, was wet and broken. The patient was admitted to the orthopedics service and underwent closed reduction and external fixation of the fracture. Given the patient's regular alcohol use, he was started on CIWA protocol and received a course of high-dose thiamine. His subsequent hospital course was prolonged and complicated by, in succession, methicillin-sensitive *Staphylococcus aureus* (MSSA) bacteremia, a left tibial fracture, fungal infection, and an abscess (Fig.1). A below knee amputation (BKA) was ultimately recommended as definitive treatment.

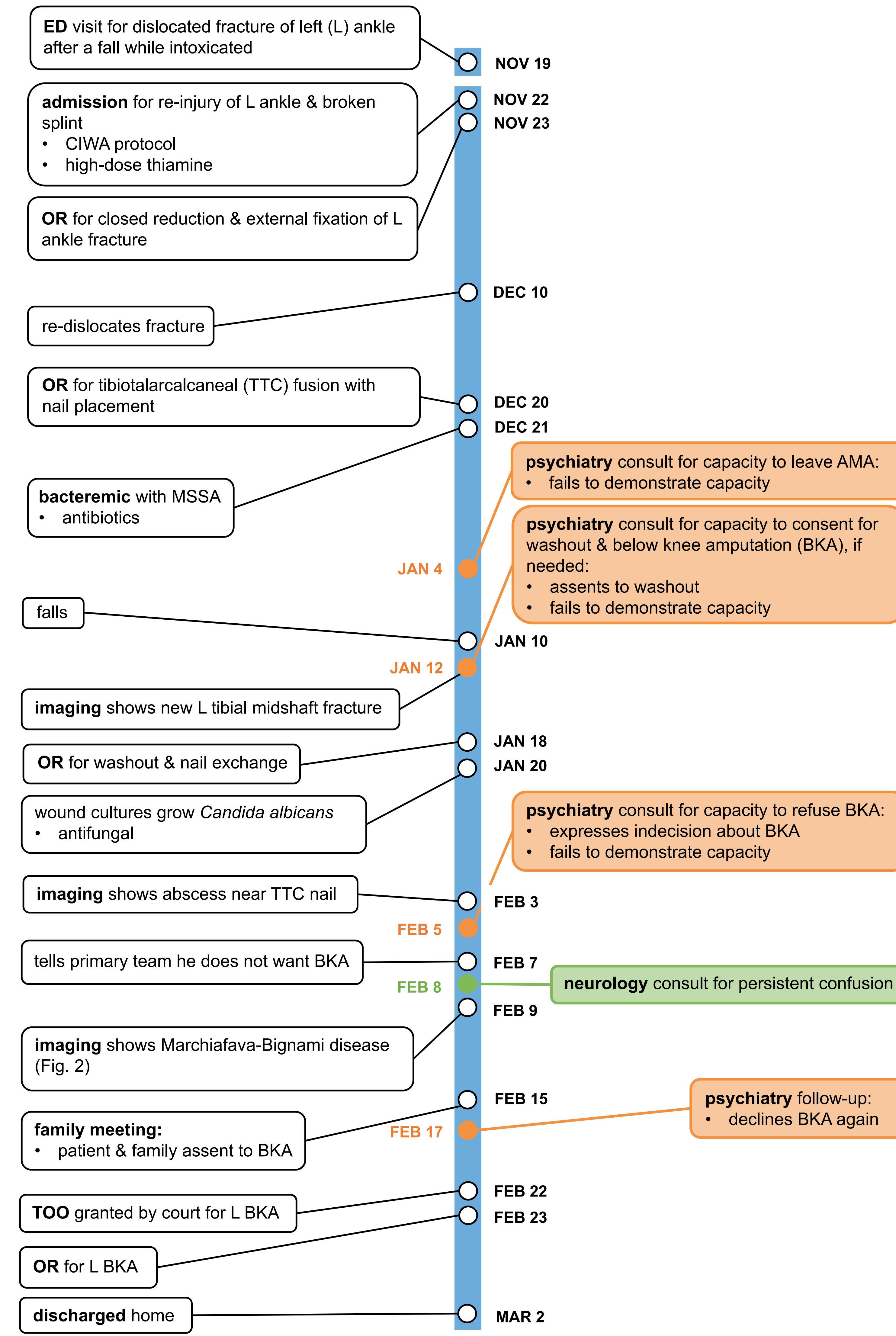


Fig 1. Key events from the patient's hospitalization (November 22, 2021 to March 2, 2022).

Case (con't)

During his three and a half month admission, the patient exhibited recurrent episodes of confusion and confabulation for which the differential included delirium, Wernicke's encephalopathy, and MBD (Fig. 2). Psychiatry was consulted to assess the patient's decision-making capacity as it related to three operative procedures culminating in a left BKA. In that evaluation, the patient adamantly declined BKA but failed to demonstrate decision-making capacity: he was unable to explain his choice or to appreciate his broader medical situation. Although his family, including surrogate, consented to BKA, the case was escalated to our hospital's ethics committee and legal counsel to formally weigh the patient's autonomy against medical necessity. A TOO was ultimately granted and a left BKA was performed on the patient. Family members were engaged by the team to assist with post-operative home care given his persistent cognitive impairment.

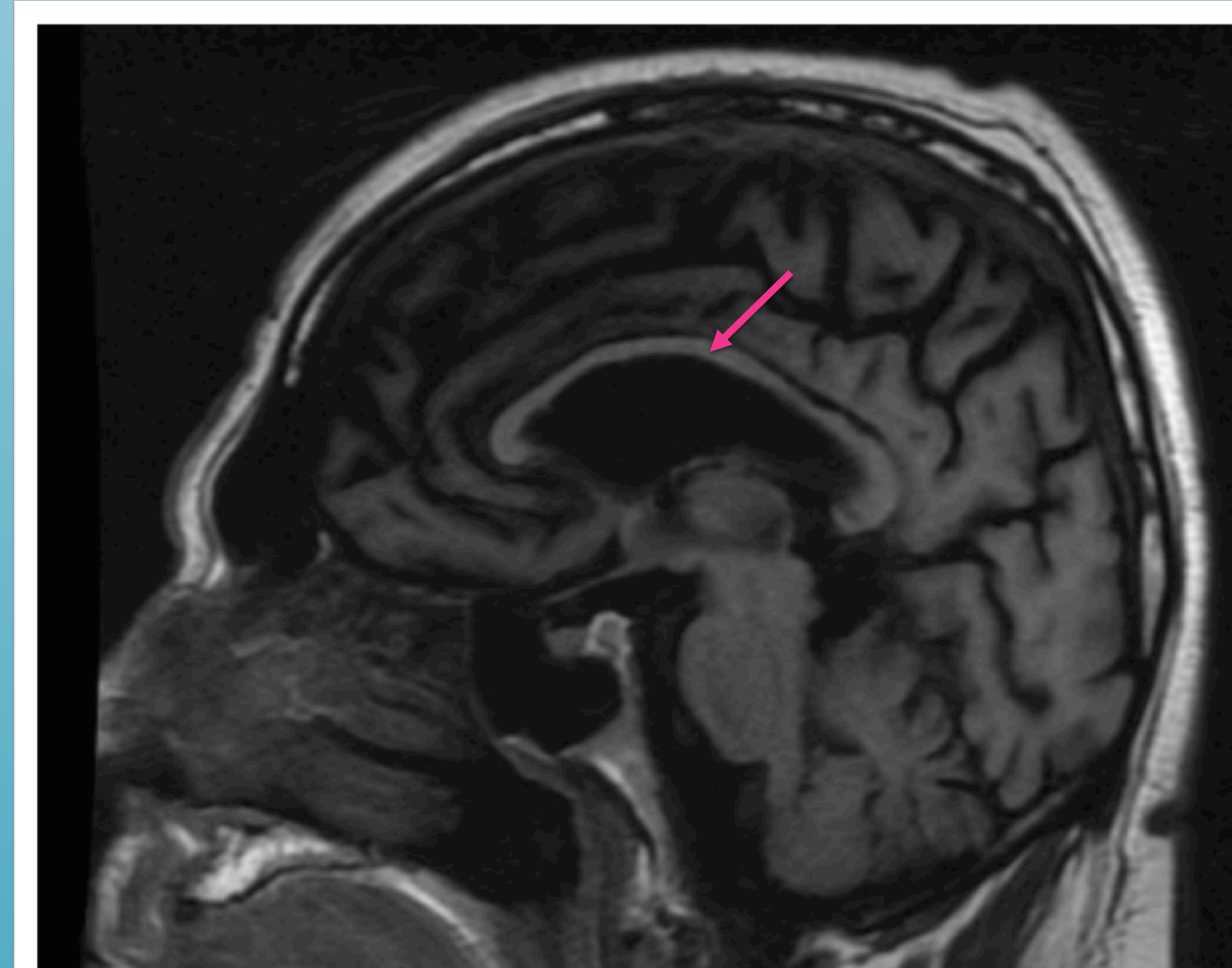


Fig 2. MRI brain without contrast, sagittal view of T1 sequence showing marked thinning of the corpus callosum.

Marchiafava-Bignami Disease

- Symptoms of MBD overlap with those of Wernicke-Korsakoff syndrome and include confusion, ataxia, memory deficits, and pyramidal signs (Estruch et al., 1997 & Hilbom et al., 2014).
- Both syndromes are thought to result from profound thiamine deficiency and can be treated with variable success by high-dose thiamine (Hilbom et al., 2014).
- MBD is characterized on imaging by thinning of the corpus callosum (Estruch et al., 1997).
 - *Our patient's corpus callosum is notably thin on imaging (Fig. 2).*
- Estruch and colleagues (1997), identified a correlation between decreased callosal volume and deficits in logical memory and so-called frontal tasks.
 - *This relationship, in addition to his overall confused state, could explain our patient's impulsivity and difficulty following instructions, especially those to avoid ambulating on his injured limb.*

Conclusions

- Amputation over objection occurs infrequently at both our hospital (one case in three years) as well as other institutions of similar size in our city (two cases in three years; Fischkoff et al., 2021).
- Ideally, sufficient time or appropriate medical treatment would have restored our patient's decision-making capacity.
- Unfortunately, BKA could not be delayed and the patient's mental status did not improve after high-dose thiamine, the only treatment shown to reduce morbidity and mortality in MBD (Hilbom et al., 2014).

Literature Cited

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