

A Curious Case of Intractable Hepatic Encephalopathy

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Introduction

- Hepatic encephalopathy (HE) is a complication of liver failure with wide-ranging sequelae.
- Triggers of HE include infection, bleeding, drug reactions, and electrolyte abnormalities.

Presentation

- A 65-year-old female with a history of non-alcoholic hepatitis, prior HE, morbid obesity, and heart failure with reduced ejection fraction, and surgical history of Roux-en-Y gastric bypass presented with altered mental status, respiratory distress, and vomiting.
- Trials with lorazepam, trazodone, and olanzapine provided marginal improvement in agitation and disrupted sleep cycle. Given the persistence of symptoms, an MRI of the abdomen was ordered and revealed a large splenorenal shunt but no definitive PVT. Given the identification of the shunt, a computed tomography angiogram (CTA) was performed and at last confirmed the presence of a PVT. Plans for shunt occlusion were aborted and warfarin was initiated for clot stabilization.
- The patient's mental status continued to wax and wane but the patient was eventually able to be successfully discharged to a skilled nursing facility.

Hospital Course

The patient's encephalopathy persisted for 8 weeks despite aggressive treatment with Rifaximin, lactulose, and two courses of antibiotic therapy. Trials of lorazepam, trazodone, olanzapine, and melatonin were employed for the patient's intermittent agitation and disrupted sleep-wake cycle, with marginal improvement.

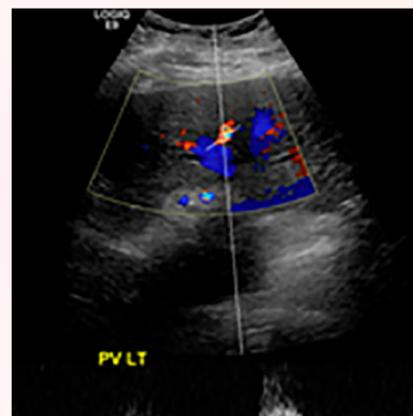


Figure 1 RUQ Ultrasound with minimal flow in L portal vein and undetectable in the main portal vein.

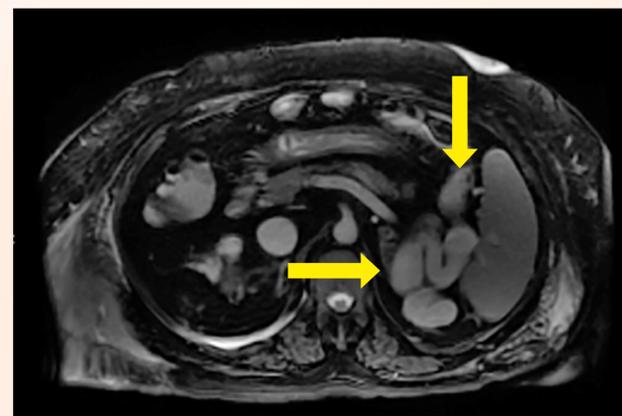


Figure 2 Contrast MRI axial view demonstrating evidence suggestive of splenorenal shunting (yellow arrow).

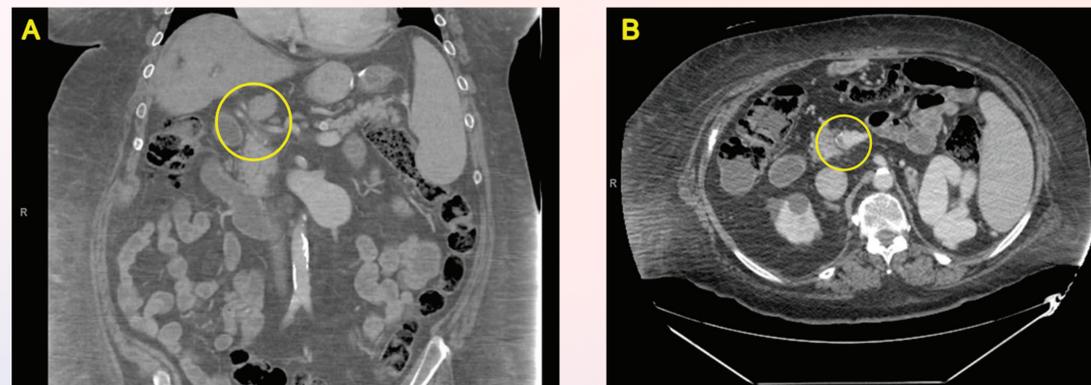


Figure 3 CT Angiography of the abdomen. a) Coronal image demonstrating portal vein diminutive in caliber suggesting a chronic thrombus (yellow circle); b) Axial image demonstrating dilated splenic and portal confluence (yellow circle)

Discussion

- Urinary tract infection was the suspected nidus for the patient's HE presentation. Initially, there was concern for vitamin deficiency given the patient's previous gastric bypass.
- Unfortunately, the patient was deemed ineligible for surgical remediation due to poor functional status, refractory encephalopathy, and multiple comorbidities.
- Warfarin therapy was added for PVT stabilization.
- The patient was discharged to a skilled nursing home following medical stabilization.

Conclusion

- This case demonstrates the importance of early imaging to evaluate for portosystemic shunting and thromboses contributing to HE, given the propensity of cirrhosis in inducing hypercoagulable states.
- We propose that further investigation of shunt occlusion in the setting of PVT and multiple shunts is warranted, with due consideration that HE carries a high mortality risk regardless.

REFERENCES

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2. Ferenci P. Hepatic encephalopathy. *Gastroenterol Rep (Oxf).* 2017 May;5(2):138-147. doi: 10.1093/gastro/gox013. Epub 2017 Apr 18. PMID: 28533911; PMCID: PMC5421503.

ADMISSION LABS	
Sodium	137 mmol/L
Creatinine	1.49 mg/dL
Albumin	2.1 g/dL
Total Br	1.8 mg/dL
PT INR	1.2
Ammonia	305 umol/L
Urine Cultures	Initial growth of Escherichia coli; subsequent culture grew Klebsiella.