

Herniated Umbilical Varix in a Patient With Cirrhosis

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CASE REPORT

A 45-year-old man with alcoholic cirrhosis presented to the clinic with progressive abdominal distension. On physical examination, the patient was noted to have bulging flanks and a fluid wave consistent with severe ascites. Furthermore, a 3 × 3 cm partially reducible hernia sac with a bluish hue was observed at the umbilicus (Figure 1). Auscultation of the sac revealed a continuous hum. The patient's Model for End-Stage Liver Disease score was 19, with a bilirubin of 6.1 mg/dL, creatinine of 1.0 mg/dL, international



Figure 1. A 3 × 3 cm partially reducible hernia sac with a bluish hue at the umbilicus.

normalized ratio of 1.6, and serum sodium of 143 mmol/L. Computed tomography demonstrated a large recanalized umbilical vein protruding through an umbilical defect; no bowel or omentum was identified within the hernia sac (Figure 2). Doppler confirmed hepatofugal, nonphasic blood flow at 72 cm/s in the sac (Figure 3). Given the uncomplicated nature of the hernia, repair was not attempted; instead, his ascites was aggressively managed with diuresis and serial paracenteses. During the patient's eventual liver transplant surgery, the varix was preserved to maintain portosystemic venous bypass as a means to prevent bleeding and splanchnic edema. Several months after



Figure 2. Axial computed tomography scan revealing a large recanalized umbilical vein protruding through an umbilical defect; no bowel or omentum was identified within the hernia sac.

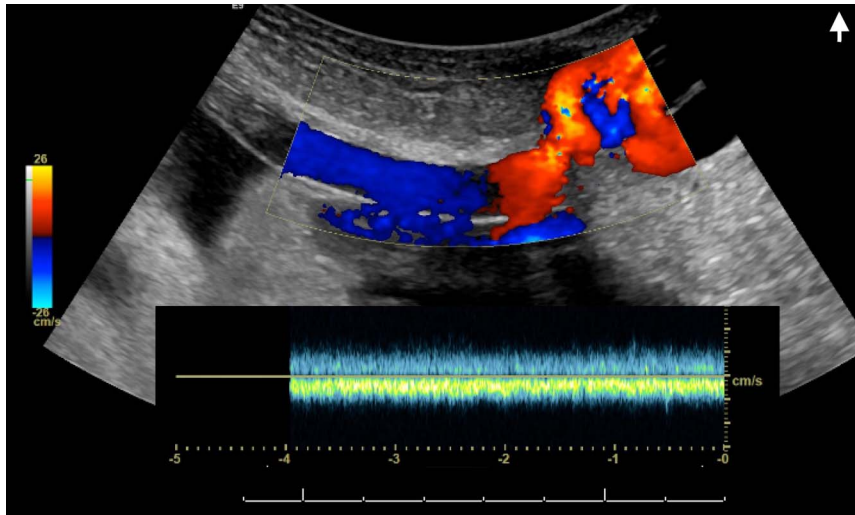


Figure 3. Doppler image demonstrating hepatofugal, nonphasic blood flow at 72 cm/s within the hernia sac.

liver transplantation, the remnant sac was contracted and no longer discolored because of normalization of portal venous pressure and subsequent thrombosis of the umbilical vein.

Umbilical hernias occur in up to 20% of patients with cirrhosis and ascites.¹ Although not readily recognized, varicosities can rarely mimic the bowel within hernia sacs in cirrhotic patients.^{2,3} Ligation of an umbilical varix during a hernia repair can lead to acute portal vein thrombosis and subsequent decompensation, requiring urgent liver transplantation.⁴ Conversely, as we uniquely demonstrated above, preservation of this portosystemic connection during liver transplantation can have beneficial consequences. Thus, determination of hernia contents through visual inspection, auscultation, and imaging is critical for surgical planning for both herniorrhaphy and liver transplantation.

DISCLOSURES

Author contributions: AE Mikolajczyk wrote the manuscript and is the article guarantor. All authors edited the manuscript.

Financial disclosure: None to report.

Informed consent was obtained for this case report.

Received January 13, 2019; Accepted May 31, 2019

REFERENCES

1. Coelho JCU, Claus CMP, Campos ACL, Costa MAR, Blum C. Umbilical hernia in patients with liver cirrhosis: A surgical challenge. *World J Gastrointest Surg.* 2016;8(7):476–82.
2. Cherbanyk F, Gassend JL, Martinet O. Unusual clinical umbilical hernia: Pitfall. *BMJ Case Rep.* 2017;2017:bcr-2016–219039.
3. Hung TH, Hsiao FT, Tseng CW. Umbilical hernia due to enlarged para-umbilical vein. *Clin Gastroenterol Hepatol.* 2011;9(9):A30.
4. Reissfelder C, Radeleff B, Mehrabi A, et al. Emergency liver transplantation after umbilical hernia repair: A case report. *Transplant Proc.* 2009;41(10):4428–30.

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