

Gastrointestinal hemorrhage in a liver transplant recipient

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A 39-year-old woman received a whole liver transplant for primary biliary cirrhosis. A standard surgical procedure, including lateral cavo-cavoplasty and arterial, portal, and duct-to-duct biliary anastomoses, was performed. Intraoperatively, a gastric banding device was removed after having been in place for approximately 20 years. *Candida glabrata* was identified on the device, but the patient did not show signs of infection in the postoperative course, especially no fever or chills and no abnormal biological infection markers. Therefore, no antifungal therapy was given. She received triple immunosuppression with cyclosporine, mycophenolate mofetil, and cortisone. The patency of all hepatic vessels was confirmed with repeated ultrasounds of the graft, and the patient was

discharged on postoperative day 9. The weekly follow-up in the outpatient department, including lab testing and ultrasound of the graft, showed normal hepatic enzymes and patency of all hepatic vessels. Two months after transplantation, the patient was admitted via the emergency department for sudden periumbilical pain followed by hematemesis and hematochezia. Her vitals upon arrival were 85/56 mmHg and 110 bpm, and Glasgow 15. Hemoglobin was 8.2 g/dl (11.7–15 g/dl), international normalized ratio 1.01 (<1.40), creatinine 0.62 mg/dl (0.55–1.02 mg/dl), total bilirubin 0.68 mg/dl (N<1.20), gamma-glutamyl transpeptidase 124 U/l (<40 U/l), aspartate aminotransferase 108 U/l (<31 U/l), and alanine aminotransferase 32 U/l (N<31 U/l). Emergency gastroscopy was performed after endotracheal intubation and revealed a normal esophagus, a small amount of clotted blood in the gastric fundus, and bright red blood in the duodenum without a visible bleeding source. A computed tomography scan of the abdomen and pelvis with intravenous contrast was obtained (Figure 1).



FIGURE 1 Homogenous lesion in contact with the hepatic artery

QUESTIONS

1. What is the most likely explanation for the finding in Figure 1?
 - a. Bile duct obstruction
 - b. Enlarged lymph node
 - c. Portal vein thrombosis
 - d. Hepatic artery pseudoaneurysm
 - e. Fluid collection
2. What is the next most appropriate exam for this patient?
 - a. Endoscopic retrograde cholangiopancreatography
 - b. Liver magnetic resonance imaging
 - c. Angiography
 - d. Lower gastrointestinal endoscopy
 - e. Liver biopsy

3. What is the most common vascular complication after liver transplantation?
- a. Portal vein thrombosis
 - b. Hepatic artery thrombosis
 - c. Portal vein stenosis
 - d. Vena cava thrombosis
 - e. Hepatic artery pseudoaneurysm
4. What treatment would you offer this patient?
- a. Ligation of the hepatic artery
 - b. Retransplantation of the liver
 - c. Endovascular stenting
 - d. Endobiliary stenting
 - e. Autologous venous bypass