



Very Late Hepatic Artery Thrombosis after Orthotopic Liver Transplantation

Aditya K Suresh MD¹, Anuj Chhaparia MD^{1,2}, Roshani Desai MD^{1,2}

1) Department of Internal Medicine, Saint Louis University School of Medicine, Saint Louis, MO; 2) Division of Gastroenterology & Hepatology, Saint Louis University School of Medicine, Saint Louis, MO



Background

- Hepatic artery thrombosis (HAT) is a serious complication after orthotopic liver transplantation (OLT) and is the most common vascular complication.
- It is often categorized into early HAT which is defined as occurring < 30 days after liver transplantation & late HAT defined as occurring > 30 days post transplantation.
- The etiology of HAT is often related to surgical factors, such as vessel kinking, anastomotic stenosis, and intimal dissection, but can factors such as hypercoagulability, elderly donors, and rejection episodes can contribute.
- Symptoms can often be vague with common complaints being abdominal pain, fever, nausea, & emesis.

Case Presentation

History of Presenting Illness:

- A 68-year-old male with history of OLT (20 years prior to presentation) from primary sclerosing cholangitis (PSC), & ulcerative colitis presents with a one month history of nausea, emesis, & weakness.

Vitals and Physical Exam:

- Temperature: 98.7 F
- Blood pressure: 124/73 mmHg
- Heart rate: 90 bpm
- Distended abdomen with positive fluid wave, scleral icterus is present

Labs

- Alkaline phosphatase: 630 U/L
- Alanine aminotransferase: 86 U/L
- Aspartate aminotransaminase: 138 U/L
- Total bilirubin: 9.1 mg/dL
- Conjugated bilirubin: 7.3 mg/dL

Imaging



Computed tomography angiography of the abdomen:

- Suggestion of focal filling defect in the hepatic artery seen in the venous phase images.

Hospital Course

- Ultrasound with doppler evaluation of the liver was performed which demonstrated an absence of flow in the left and right hepatic arteries within the liver
- Confirmatory computed tomography angiography (CTA) was performed which confirmed these findings. [See imaging]
- Due to the history of PSC, a magnetic resonance cholangiopancreatography was obtained that showed no biliary dilation or evidence of recurrent PSC.
- A liver biopsy demonstrated paucicellular ductopenia with cholestasis consistent with chronic arterial insufficiency and no significant fibrosis
- Transplant surgery and interventional radiology were consulted for potential recanalization
- However, due to prolonged elevations in liver enzymes >4 weeks, both teams determined that recanalization would likely provide no benefit yet held greater risk.

Discussion

- This case highlights an uncommon, very late presentation of HAT.
- In the literature, late HAT has been described in the order of months, not years as it was in this case.
- It is usually associated with a less fulminant presentation and a milder course, in comparison to cases of HAT that present earlier in the post-transplant course.
- This case highlights the importance of considering HAT as a diagnosis in a patient with history of OLT who presents with abdominal pain, nausea, and emesis.