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CASE REPORT

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Very late hepatic arterial thrombosis manifesting as central biliary necrosis: A rare presentation

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Key Clinical Message

Hepatic artery thrombosis should always be considered on a liver graft recipient with mild and nonspecific symptoms, even after a decade of the transplantation.

KEYWORDS

cholestasis, computed tomography, hepatic artery thrombosis, hepatic transplantation, magnetic resonance imaging

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A 58-year-old male presented to the emergency room with diarrhea, fever, weight loss, and pruritus since a month. On examination, he was icteric and emaciated. Laboratory blood tests showed elevation of bilirubin (direct bilirubin, 8.3 mg/dL; indirect bilirubin, 7.6 mg/dL), alkaline phosphatase (2052 U/L), and discrete increase in gamma-glutamyltransferase and aminotransferase levels. Serologies for virus infections were negative. He was a recipient of a liver graft 12 years ago and had type 2 diabetes, currently in use of tacrolimus and oral hypoglycemic agents. Dynamic CT showed marked dilatation of intra- and extrahepatic biliary tree and hepatic artery thrombosis (HAT), (Figure 1A,B), as confirmed by MR images (Figure 1B), which also depicted peripheral infarcted areas in segments IV and VI (not shown). He was treated with biliary drainage and antibiotic therapy for cholangiolitic abscesses, with transitory improvement, but remained with impaired liver function and recurrent cholangitis. The multidisciplinary team then decided for liver retransplantation, successfully achieved 2 months later. Histopathology of the excised graft confirmed the thrombosed hepatic artery (Figure 2A) and central biliary duct necrosis (CBN), with associated cholestasis (Figure 2B). HAT is very rare presenting after 5 years of transplantation, and CBN is also an unusual finding.

Hepatic artery thrombosis (HAT) is among the greatest complications of adult liver transplantation with a prevalence of 4%-12%, with high morbidity and mortality rates.[1] Late HAT usually manifests 30-90 days after transplantation, with fewer descriptions after 1-5 years. It can result in central biliary necrosis, strictures, dilatations, and intrahepatic collections. Its clinical presentation is quite variable, ranging from mild elevation of liver enzyme levels to frank cholestasis, sepsis, fulminant hepatic necrosis, and death if the condition is not promptly recognized.[1]

Biliary necrosis refers to the destruction of the intrahepatic biliary duct epithelium and usually manifests as hepatic

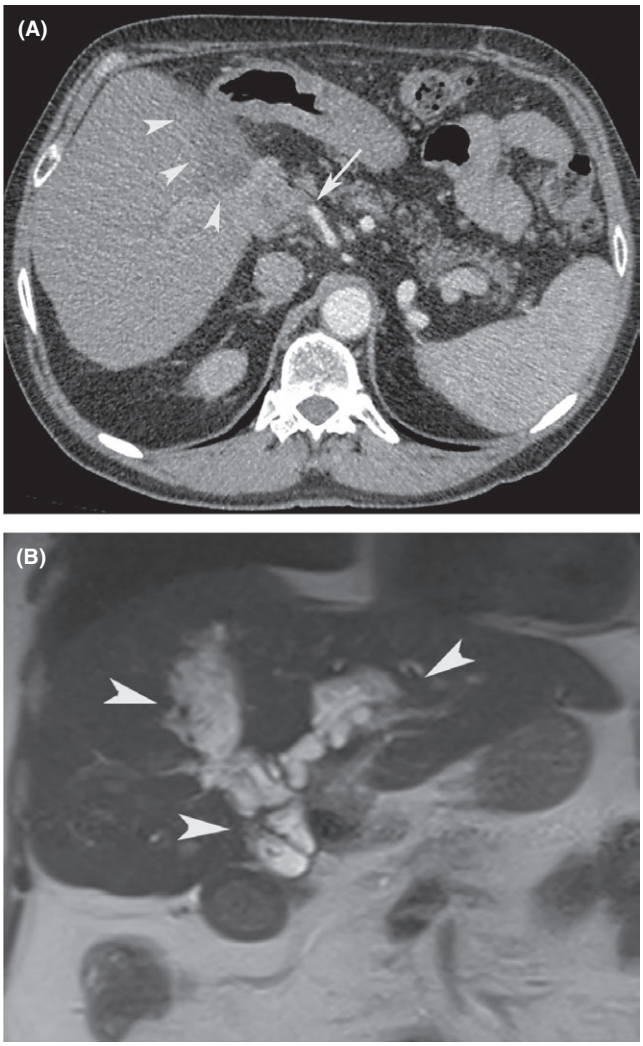

FIGURE 1 A, CT scan angiography of the abdomen shows hepatic artery thrombosis (arrow), associated with marked dilatation of the central biliary tree (arrowheads), characterizing central biliary necrosis. B, Coronal T2-weighted MR imaging better delineates the extension of the biliary tree dilatation (arrowheads)

infarction caused by hepatic artery thrombosis.[2] The intrahepatic biliary ducts are particularly vulnerable to ischemic necrosis because of their exclusive vascular supply from the hepatic artery via the peribiliary plexus.[2]

The differential diagnoses include other long-term orthotopic liver transplantation complications that can lead to biliary strictures and dilatations, such as hepatic artery stenosis, pretransplantation biliary diseases such as primary sclerosing cholangitis, or even infection.[3]

CONFLICT OF INTEREST

None declared.

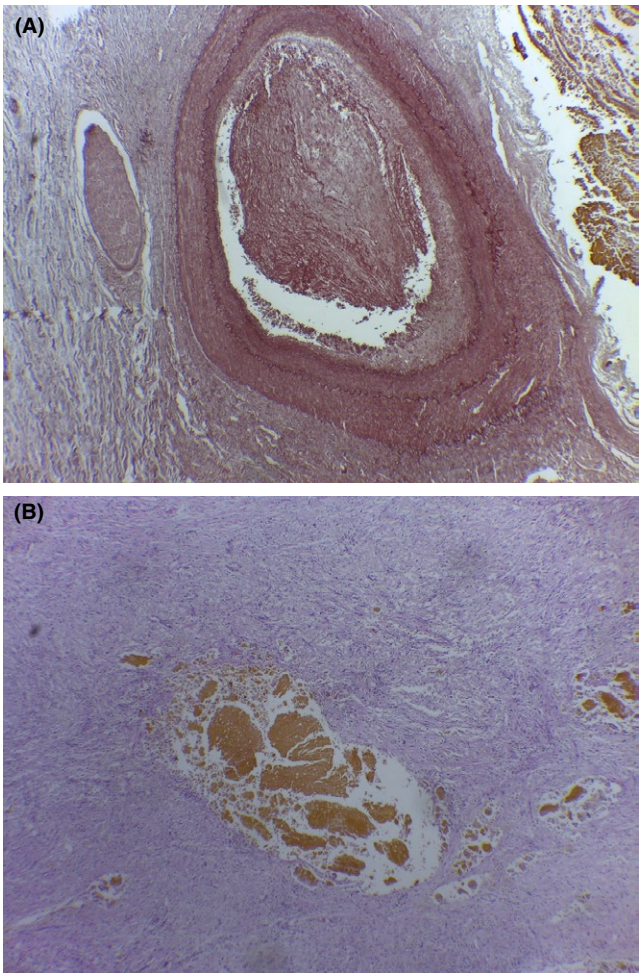

FIGURE 2 Histopathological analysis shows A, Massive thrombus partially attached to the wall that occupies most of the lumen of the hepatic artery (Hematoxylin-eosin, 40×). B, A cross-sectioned peripheral biliary duct with cholestasis due to extensive necrosis of the biliary epithelium, HE stain, 40×

AUTHOR CONTRIBUTION

All the authors made substantial contribution to the preparation of this manuscript and approved the final version for submission. VAS: contributed to write the case and identify the images. RAA: performed literature search and helped in identifying appropriate images. DBP: reviewed and edited the case report, and helped in identifying appropriate images.

CONSENT CONFIRMATION

Consent was obtained from the patient for publication of case details.

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