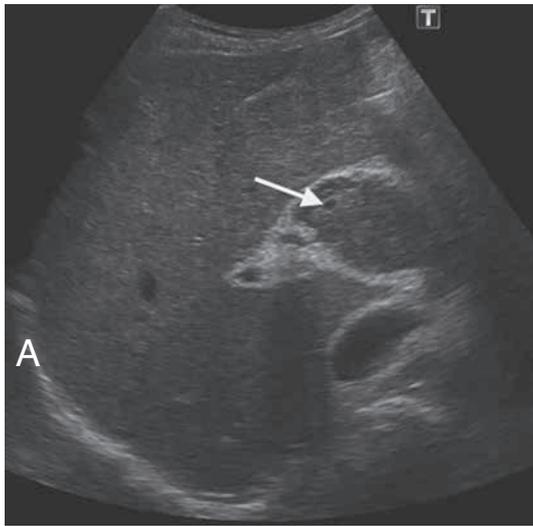


## IMAGES IN CLINICAL RADIOLOGY



### *Contribution of color Doppler sonography to the characterization of an unusual thickening of the common bile duct*

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A 36-year-old man living in Algeria developed abdominal pain, asthenia, jaundice, and vomiting. He had no medical or surgical history. Laboratory tests revealed anemia, leukopenia, cytopenia, cholestasis and hyperbilirubinemia. Gastroscopy showed esophageal varices and duodenal cap ulcerations suggestive of portal hypertension. Abdominal sonography displayed a thickening of the common bile duct, splenomegaly and absence of gallbladder stones.

Two months later, the patient was admitted in our institution for progressive asthenia. A contrast enhanced CT scan was performed, showing a tubular soft-tissue enhancing mass extending from the porta hepatitis to the head of the pancreas within the hepato-duodenal ligament. Intra and extrahepatic bile ducts were not dilated. The main portal vein and the intrahepatic branches of the portal vein appeared normal on axial CT scans. An additional ultrasound was performed, showing a non-dilated common bile duct (arrow Fig. A) with a marked thickening of the common bile duct wall and small serpiginous vessels within the thickening either in power Doppler as in color Doppler (arrowheads Figs. B and C). Additionally, a short and thigh narrowing of the main portal vein proximally to the portal division was disclosed, and secondarily confirmed on the multiplanar reformations of the contrast enhanced CT scan. A medullary biopsy was performed in the context of bicytopenia and splenomegaly and showed myelofibrosis.

#### *Comment*

Cavernous transformation of the portal vein refers to multiple wormlike vessels at the porta hepatitis and hepato-duodenal, which represent periportal collateral circulation. This pattern is observed in long standing portal vein thrombosis or occlusion. Usually, the portal vein cavernoma appears as a sponge-like mass around the main portal vein, and is independent of the biliary tree. Rarely,

veins within the wall of the common bile duct may be involved by the cavernomatous transformation, leading to an important wall thickening of the common bile duct. On B-mode sonogram, this thickening of the bile duct wall may be undistinguishable from other pathologic conditions like AIDS, cholangitis, cholangiocarcinoma, hepatocellular carcinoma, non-Hodgkin lymphoma or metastases. Color Doppler sonography easily helps to make a rapid distinction between portal vein cavernoma involving the biliary tree and other causes of bowel wall thickening. Myelofibrosis is a type of myeloproliferative neoplasm who is characterized by a disorder of the bone marrow. The annual incidence of myeloproliferative neoplasm is 2,1-3,5 per 100.000 peoples. In a retrospective study of 102 patients with myeloproliferative disorders, the rate of thromboembolic complications in patients with myelofibrosis was 13,8%.

#### *Reference*

1. Denys A., Hélénon O., Lafortune M., Corréas J.-M., Patriquin H., Moreau J.-F., et al.: Thickening of the Wall of the Bile Duct Due to Intramural Collaterals in Three Patients with Portal Vein Thrombosis. *AJR*, 1998, 171: 455-456.

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