

FALCIFORM LIGAMENT THROMBOSIS: A RARE COMPLICATION OF PANCREATITIS

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ABSTRACT

Falciform ligament is a thin and broad peritoneal ligament which usually contains the obliterated umbilical vein and connects the liver with the anterior abdominal wall. Thrombosis of the falciform ligament is a very rare entity which is likely inflammatory thrombophlebitis secondary to the local inflammatory process like cholecystitis and pancreatitis. We present here one such rare case of a falciform ligament thrombosis in a 50 years old male patient who presented with the complaints of post pancreatitis abdominal pain.

Keywords: Falciform ligament; Falciform ligament thrombosis; Pancreatitis.

Introduction

The falciform ligament is sickle-shaped broad and thin peritoneal ligament which derives its name from Latin origin (falciform = sickle-shaped) and is the remnant of the fetal ventral mesentery.¹ It is situated obliquely in an anteroposterior plane with its one surface in contact with the left hepatic lobe while the other lies in contact with the peritoneum posterior to the right rectus abdominis muscle and the diaphragm. The ligament contains obliterated left umbilical vein (ligamentum teres hepatis), fat, muscle fibers and if present the paraumbilical veins and falciform artery in its free edge.^{1,2} During the fetal period, the umbilical vessels allow the exchange of nutrients between mother and fetus and play a vital role in fetal development. Thrombosis of the falciform ligament can occur in neonates as a consequence of umbilical vein catheterization;³ however, there are only a few cases in the literature which describes the falciform ligament thrombosis in adults caused due to inflammatory thrombophlebitis secondary to acute pancreatitis.⁴

Case Report

We present here a case of a 50 years old male patient who presented to us with the history of pancreatitis 2.5 months back for which he underwent ultrasound and MRCP examinations which revealed moderately swollen pancreas with adjacent mild peripancreatic fluid and thick walled gall bladder for which he was treated conservatively and was symptoms free. Later, he developed colicky abdominal pain about 2 weeks back in the right upper quadrant and epigastrium which was on and off and moderate in severity; the pain was associated with vomiting and did not relieve on local analgesics. Subsequently, he underwent CT scan which revealed an ill-defined hypodense mass in the region of falciform ligament which itself appears markedly thickened with significant perifocal inflammatory reaction extending up to the thickened umbilical vein remnant (Fig. 1a, 1b, 1c). There was also mild intrahepatic biliary ductal dilatation. Gall-bladder and pancreas were normal without any obvious thickening or pericholecystic/peripancreatic fluid. Considering these findings in the light of prior

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clinical history diagnosis of falciform ligament thrombosis was made.

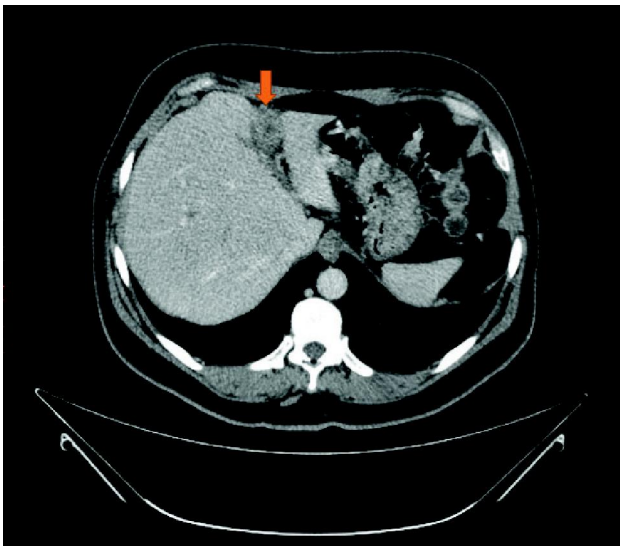


Figure 1a: Contrast enhanced CT scan (portovenous phase, axial view) showing ill-defined hypodense mass in the region of falciform ligament with associated significant perifocal inflammatory reaction (red arrow).



Figure 1c: Contrast enhanced CT scan (portovenous phase, sagittal view) showing ill-defined hypodense mass in the region of falciform ligament which itself is markedly thickened (red arrow), note the thickened umbilical vein remnant (green arrows).

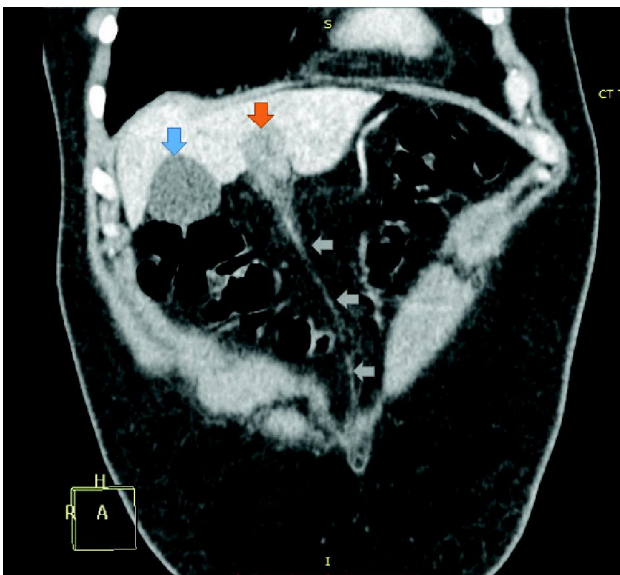


Figure 1b: Contrast enhanced CT scan (portovenous phase, coronal view) showing ill-defined hypodense mass in the region of falciform ligament which itself is markedly thickened (red arrow), note the thickened umbilical vein remnant (green arrows) and normal gall bladder (blue arrow).

Discussion

Diseases involving the falciform ligament are very uncommon with most recognized abnormalities being partial ligamentous defects, recanalization of umbilical

vein secondary to portal hypertension, falciform ligament cysts and tumors.⁵ The falciform ligament thrombosis is an extremely rare entity with only few cases described in the literature which suggests it to be a consequence of inflammatory thrombophlebitis⁴ in contrast to falciform ligament thrombosis in neonates which can occur due to catheterization of umbilical vein. Pancreatitis is one such inflammatory process described in the literature to cause falciform ligament thrombosis.⁴ Pancreatitis frequently causes the splanchnic venous thrombosis (SpVT) predominantly involving the splenic (SplV) and portal veins (PV)⁶ which usually resolves spontaneously following the resolution of pancreatitis.⁴ Portal vein thrombosis (PVT) can occur due to variety of conditions like cirrhosis, hypercoagulable states and endothelial disturbance like in local infections e.g. pancreatitis and ascending cholangitis. PVT can be broadly described as bland or malignant thrombus⁷ and results in portal hypertension which in turn can cause spontaneous recanalization of the umbilical vein commonly in cirrhotic patients to serve as a hepatofugal decompressing collateral vessel.⁴ In our case, the patient presented with a prior history of pancreatitis with falciform ligament thrombosis and left portal vein

branch thrombosis without any cirrhosis of liver. During the literature review, we came across one similar case of falciform ligament thrombosis reported by Lim et al. in which authors hypothesizes that the falciform ligament thrombosis occurs due to thrombophlebitis secondary to pancreatitis which may have spread to the falciform ligament through portal venous system causing spontaneous recanalization of umbilical vein and its thrombosis.⁴ We agree with this explanation and suspect that falciform ligament thrombosis in our patient also resulted secondary to the inflammatory thrombophlebitis due to pancreatitis which initially resulted in the thrombosis of left portal vein branch leading to recanalization of umbilical vein and ultimately thrombosis of the falciform ligament.

Conclusion

Falciform ligament thrombosis is an extremely rare and poorly known complication of pancreatitis which requires a good understanding by radiologists in order to avoid misdiagnosing this entity with some other more sinister pathology like tumor. It is also equally important for the clinicians to consider this rare differential amongst complicated cases of pancreatitis.

Conflict of Interest: None

Ethical Review board: Ethical approval for this case report was given exemption from institutional ethical review board.

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