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Original Research Paper

Radio-Diagnosis

A RARE CASE OF TRANSFALCIFORM OMENTAL HERNIATION

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ABSTRACT A falciform ligament hernia is a herniation through an abnormal opening in the falciform ligament of the liver which is a diagnosis which we come across very rarely . Available resources suggests only about 36 cases of falciform ligament hernia in the literature of which there are only about 4 cases of omental herniation reported.(1) The clinical presentation is often nonspecific and the rarity of the case further leads to delayed diagnosis. We report such a case of a 54 year old female patient who presented with right hypochondrial pain, in which MDCT examination allowed a definitive diagnosis pre operative diagnosis of transfalciform omental herniation along with associated left portal vein and umbilical vein thrombosis , choledochocholelithiasis and pancreatitis.

KEYWORDS : Falciform ligament, Herniation, Omentum

BACKGROUND

Epigastric pain can result from numerous pathologies. Internal herniae are a rare but important and treatable cause of such pain. A falciform ligament hernia is a herniation through an abnormal opening in the falciform ligament of the liver. Available resources suggests only about 36 cases of falciform ligament hernia in the literature of which there are only about 4 cases of omental herniation reported. [1] Herniation through the falciform ligament is extremely rare and the majority of cases are related to congenital defects involving malformation, hypoplasia, or complete failure of the development of the falciform ligament.[2] The clinical presentation is often nonspecific and the rarity of the case further leads to delayed diagnosis. Modern CT provides sufficient resolution to diagnose falciform ligament hernias preoperatively although it remains a challenging task.

We report such a case of a 54 year old female patient who presented with right hypochondrial pain, in which MDCT examination allowed a definitive diagnosis pre operatively.

CASE REPORT

A 54 year old female patient presented with right hypochondrial pain for the past 10 days. There was no other significant history of fever, vomiting or constipation. Patients gives history of few similar episodes in the past. No previous history of surgery or trauma. No significant family history.

On examination, there was severe tenderness in right hypochondrium and positive Murphy's sign. Other systemic examinations were normal. Patient's full blood count and electrolytes were within normal limits. C-reactive protein (CRP) was 14.3mg/L.

Plain abdominal radiograph showed no significant abnormality. On Ultrasonography, gall bladder showed evidence of multiple calculi with changes of cholecystitis. Pancreas showed altered echotexture. There was an area of significant omental fat stranding identified in epigastric region extending anterior to liver surface.

CT scan with intra venous contrast administration was done with 128 slice MDCT scanner. The study showed cholelithiasis with choledocholithiasis with changes of pancreatitis. In addition to these, In the region of the falciform ligament, anterior to the upper margin of the liver near the midline, there was herniation of omental fat through the ligament which showed unusual patency. The omental fat showed areas of fat stranding which herniating anteriorly and inferiorly to trace along the anterior surface of liver. The herniated omentum seemed to extend superiorly causing elevation of the crus of the diaphragm. There was also minimal area of fluid collection in the herniated region. There was no bowel loops in the herniated content. There was also evidence of recanalization of umbilical vein which along with left portal vein showed filling defect suggestive of thrombosis. A diagnosis of transfalciform omental herniation was reached upon.

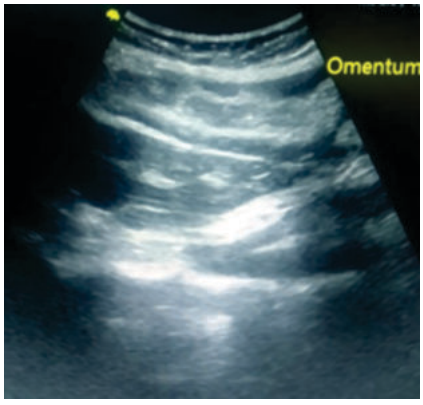

Fig 1: Ultrasonography Showing Area Of Omental Fat Stranding Seen Anterior To Liver.

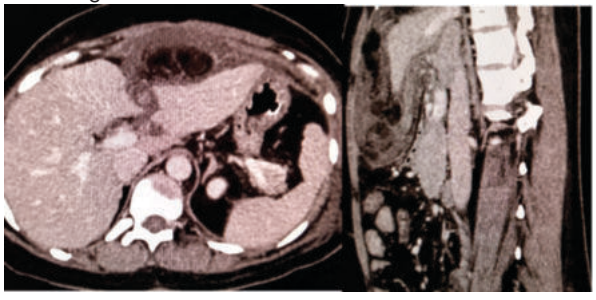

Fig 2: Axial And Sagittal Contrast Enhanced CT Sections Showing Omental Herniation Through Falciform Ligament With Fat Stranding.

After conservative management of associated pancreatitis, the patient was taken for surgery and the diagnosis was confirmed. Post operative period was uneventful and the patient recovered well.

Fig 3: Axial Contrast Enhanced CT Showing Thrombosis In Left Portal Vein.

DISCUSSION

An internal hernia is defined as an abnormal protrusion of a viscus through a normal or abnormal opening within the confines of the peritoneal cavity. The incidence of internal hernias has been reported in the range of 0.2%–2%).The distribution of internal hernias is paraduodenal (53%), pericaecal (13%), foramen of Winslow (8%), transmesenteric and transmesocolic (8%), intersigmoid (6%) and retroanastomotic (5%). Hernias through the falciform ligament are extremely rare and the actual incidence is unknown, but one study estimates it to be 0.2% of internal hernias.[1] Internal hernias can be intermittent or persistent and can be dangerous and fatal due to the risk of necrotic strangulation. These hernias are either congenital or acquired. The most common variant of falciform ligament hernia involves the small bowel, with about 36 cases reported in the literature.[3] The falciform ligament consists of two opposing layers of peritoneum and attaches the liver to the anterior abdominal wall. It has three borders: the diaphragm and liver superiorly, the abdominal wall to the level of the umbilicus anteriorly, and inferiorly, the round ligament (ligamentum teres) which represents the obliterated umbilical vein.[4] Failure of fusion of the two layers of peritoneum around the ligamentum teres and to the ventral abdominal walls on all borders leads to the unusual "nonfixation" of the falciform ligament, leaving only the ligamentum teres as a long intraperitoneal band extending from the liver to the umbilicus. Small intestinal loops usually, but sometimes also the greater omentum and the right hemicolon may then freely pass through this unusual opening between the abdominal wall and the free ligamentum teres and may become intermittently or persistently incarcerated through this unusual opening.[5]

Internal hernias are rare and usually appear without specific clinical symptoms and are rarely diagnosed preoperatively. Cross-sectional imaging studies may play an important role if accurate and reliable findings are obtained.[8] MDCT is currently the most widely recommended to identify the cause of small bowel obstruction and to facilitate the diagnosis of various internal hernias. The round ligament–ligamentum teres or obliterated umbilical vein—which runs within its free edge represents its only permanently visible component, and its identification is thus fundamental to diagnose pathological conditions implicating the falciform ligament.

CONCLUSION

Herniation through a defect in the falciform ligament is extremely rare but should be considered in the differential diagnosis of acute abdomen. The clinical manifestations of falciform ligament hernia are nonspecific and may lead to a delayed treatment. Computed tomography plays an important role in the timely diagnosis and planning of surgical intervention, precluding intestinal strangulation in case of intestinal herniation.

REFERENCES

1. Coulier B, Broze B, Mailleux P, Maldague P. Small-bowel internal herniation through the falciform ligament: 64-row MDCT diagnosis. Emerg Radiol 2010;17(1):73–8.
2. Esmat HA, Naseri MW. Small bowel obstruction due to internal herniation through a defect in the falciform ligament: a rare case report and review of the literature. Egypt J Radiol Nucl Med. 2021;52(1).
3. Stephenson R, McQueen S, Vedelago J, McGrillen K. Transfalciform greater omental herniation. BMJ Case Rep. 2017;bcr-2017-219563.
4. Zissin R, Hertz M, Gayer G, et al. . Congenital internal hernia as a cause of small bowel obstruction: CT findings in 11 adult patients. Br J Radiol 2005;78:796–802. 10.1259/bjr/87050272
5. Charles A, Shaikh AA, Domingo S, et al. . Falciform ligament hernia after laparoscopic cholecystectomy: a rare case and review of the literature. Am Surg 2005;71:359–61.
6. Sato S, Watanabe M, Nagasawa S, et al. . Laparoscopic observations of congenital anomalies of the liver. Gastrointest Endosc 1998;47:136–40. 10.1016/S0016-5107(98)70345-1
7. Lakdawala M, Chaube SR, Kazi Y, et al. . Internal hernia through an iatrogenic defect in the falciform ligament: a case report. Hernia 2009;13:217–9. 10.1007/s10029-008-0424-7
8. Gaster J. Internal hernia with strangulation of bowel due to a defect in the Falciform Ligament. Ann Surg 1948;128:248–52. 10.1097/00000658-194808000-00007
9. Crawford R, Anderson JR. Strangulated omental hernia of the falciform ligament. Br J Surg 1985;72:444 10.1002/bjs.1800720613.