

Torsion of a Fatty Fringe of the Falciform Ligament, a Rare Cause of Right Hypochondrium Pain

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Abstract

Torsion of the colonic epiploic fringe or omentum is a rare but well-known cause of acute abdominal pain, both from a clinical and radiological perspective.

Keywords: Intra-abdominal focal fat infarction [IFFI]; Complete blood count (CBC); Abdominal CT scan

Introduction

Torsion of the colonic epiploic fringe or omentum is a rare but well-known cause of acute abdominal pain, both from a clinical and radiological perspective. Recently, the notion of focal infarction of intra-abdominal fat (Intra-abdominal Focal Fat Infarction [IFFI]) has been proposed to categorize this clinical entity [1].

We Report the Case of Torsion of the Fatty Fringe of the Falciform Ligament

Observation

A 39-year-old housewife patient, who has been consulting the emergency room for severe pain in the right hypochondrium (HCD) developing for 15 days; she had no notable history of pathology. The interrogation did not reveal any triggering factors or analgesic elements in particular. Initial blood tests showed a complete blood count (CBC) and a C reactive protein (CRP) = 6. The initial ultrasound revealed a suprahepatic formation under the capsular, above the left liver that was taken for lipoma. Due to persistent pain, which progressed through remission, the patient received a second ultrasound which was completed by an injected abdominal CT scan that revealed (Figure 1).

- An oblong formation of fat density, between the rectus abdominis muscle and segment III of the liver in front of the

falciform ligament, with a linear hyperdensity at the center of the mass and an infiltration around it, measuring 10.5 X 5.3 mm.

- Intraperitoneal effusion blade.



Figure 1: Axial C+ abdominal stage in portal phase showing a Torsion of a fatty fringe of the falciform ligament.

Discussion

The falciform ligament is a vestige of the ventral mesogaster. It stretched sagittally from the upper surface of the liver to the lower surface of the diaphragm and the posterior surface of the anterior abdominal wall. The two layers forming it which follow the upper

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layer of the coronary ligament are formed by the reflection of the visceral hepatic peritoneum onto the diaphragmatic peritoneum. It contains the round ligament at its lower part, the paraumbilical veins, and a variable degree of fat [2,3]. The falciform ligament is extremely rarely involved in common pathology, or at least rarely diagnosed. We mainly find iatrogenic internal hernias through the ligament. Gangrene, most often related to acute necrotizing pancreatitis, and benign or non-benign tumors (lipomas and myxoid sarcomas in particular) have also been described at this level. Torsion of a fatty fringe of the falciform ligament is a very rare cause of acute abdominal pain. To our knowledge, only two cases with radio-surgical correlation have been published to date [4,5]. This entity can be compared to primitive appendagites both clinically and radiologically. The clinical-biological presentation is often non-specific and may wrongly suggest to the diagnosis of hepatic colic or cholecystitis. The pain is sudden, focal, and selective (the patient points to the pain) [6]. Biologically, there may be a moderate leukocytosis and an increase in CRP but the overall assessment is often normal.



Figure 2: Sagittal C+ abdominal stage in portal phase showing a Torsion of a fatty fringe of the falciform ligament.

Ultrasound may help to suspect the diagnosis. Examining the «painful point» using a superficial probe reveals a hyperechoic mass, oval in shape, non-compressible, surrounded by a hypoechoic peripheral halo, located at the opposite of the maximum painful point [7]. However, this technique has a lower sensitivity, probably due to a lack of knowledge of the pathology.

Above all, it makes it possible to rule out differential diagnoses. Persistent pain at a specific point with normal ultrasound may possibly guide the diagnosis. It is mainly computed tomography that makes the diagnosis, as in our case, and therefore appears as the reference examination. Contrast injection is not necessary for diagnosis. A skin landmark can potentially be used to locate the painful point. During painful periods, we find an ovoid nodule, of fat density, limited in periphery by a hyperdense ring, corresponding to the peritoneum [7,8]. The nodule sits under the anterior abdominal wall at the level of the falciform ligament. At the center of the inflamed epiploic appendix, a well-limited hyperdensity, linear or round, called a «dot sign». This «dot sign» corresponds to the thrombosis of the vessels at the center of the pathological fringe [7,9]. Fat infiltration is often found in the periphery of the epiploic appendix in question. The other possible differential diagnosis before this CT aspect could be an appendagitis of the right colon. Coronal and sagittal reconstructions clearly show the connection to the falciform ligament (Figures 2 and 3). The management of these two conditions being similar, this distinction is therefore minor. The treatment is primarily conservative, with a tendency for spontaneous favorable evolution.

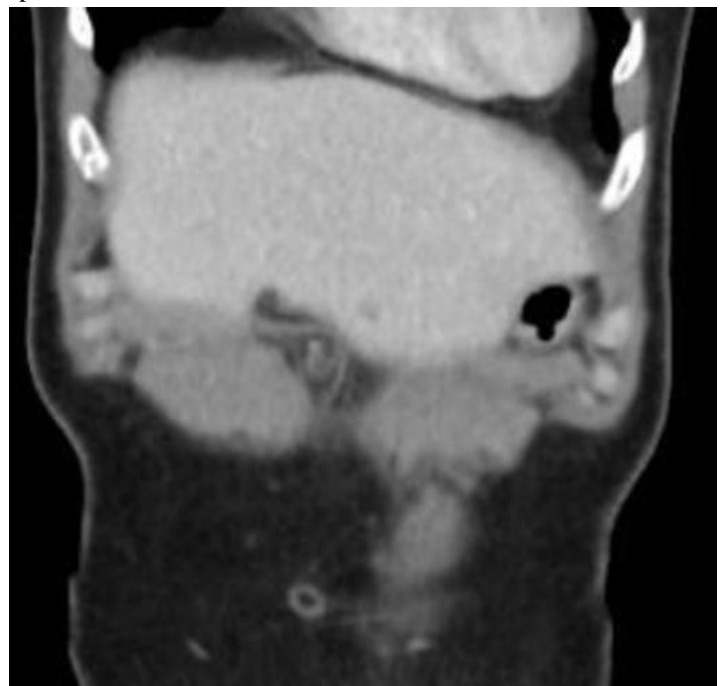


Figure 3: Coronal C+ abdominal stage in portal phase showing a Torsion of a fatty fringe of the falciform ligament.

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SUNTEXT REVIEWS

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