Acute cholecystitis as a potential cause of secondary omental torsion. A case report

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Case report

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Background: Omental torsion is an extremely rare condition in which a pedicle of the omental apron is twisted on its own axis, conditioning vascular compromise and necrosis, and can generate peritoneal irritation that simulates the main causes of acute surgical abdomen. We present the case of a 63-year-old male who underwent surgery under the diagnosis of acute cholecystitis, showing during diagnostic laparoscopy that it was an omental torsion apparently secondary to acute cholecystitis, which was resolved laparoscopically. Knowledge of this pathology is important for the general surgeon because it mimics the most common causes of acute abdomen, so a systematic inspection of the omentum in diagnostic laparoscopy is essential and should never be overlooked.

Keywords: Omental torsion, omentum, acute cholecystitis..

Omental torsion (OT) is a condition in which a pedicle of the omental apron is twisted about its longest axis to the point where its vascular supply is compromised. OT is an extremely rare cause of abdominal pain, of unknown etiology and difficult to diagnose. It was described by Eitel in 1899 and is related to obesity, chronic cough, surgical history and abdominal trauma. (1)

Although the actual incidence is still unknown, it has been estimated in short series that the incidence of OT simulating acute appendicitis is 1.1% and acute cholecystitis is 0.11%. (2) Kimber et al reported more than 8000 cases of appendectomy, citing torsion of the omentum as a finding in one of every 600 surgeries for suspected appendicitis, in which a normal appendix was found. (3) Anyone is susceptible to this condition, but it is most commonly seen in obese male adults (2:1 male to female ratio) between 30-50 years of age with less than 15% of cases occurring in children. (4)

OT is divided into primary or secondary. The primary occurs because a mobile segment of the omentum rotates around a proximal fixed point in the absence of any associated intra-abdominal pathology, although predisposing factors such as anatomical and vascular malformations are recognized. Secondary OT is the most frequent and is associated with pre-existing conditions, the most common being inguinal hernia. (5) Other causes of secondary OT are tumors, cysts, internal or external hernias, post-surgical wounds or scars, and intra-abdominal inflammatory foci that cause inflammation due to contiguity in the neighboring omentum; This is particularly true in cases of mild appendicitis or cholecystitis in which the original focus subsides, but the changes induced in the omentum persist, conditioning its torsion. (6)

Vascular alterations associated with torsion of the omentum or omentum are an infrequent cause of acute abdomen that can lead to septic peritonitis. OT can mimic a variety of other acute abdominal conditions, including cholecystitis, acute diverticulitis, acute appendicitis, Meckel's diverticulum, and others.

In either primary or secondary OT, the turning of the omentum around a pivot point (usually clockwise) is the determining point. Venous congestion conditions edema, and as it progresses, very characteristic hemorrhagic extravasations appear that condition a serosanguineous fluid in the peritoneal cavity, evolving to acute hemorrhagic infarction and finally to necrosis of the omentum. (7)

Clinical Findings

The typical symptomatology is abdominal pain of sudden onset, sometimes with a history of similar pain of lesser intensity. Clinically, 50% of patients present with low-grade fever and leukocytosis, and another 50% present with an abdominal mass with localized peritonitis. Gotti et al. report that 66% of cases simulate appendicitis and 22% cholecystitis. (8)

Diagnosis

Ultrasound may show a complex mass of hyper and hypoechoic zones associated with free fluid

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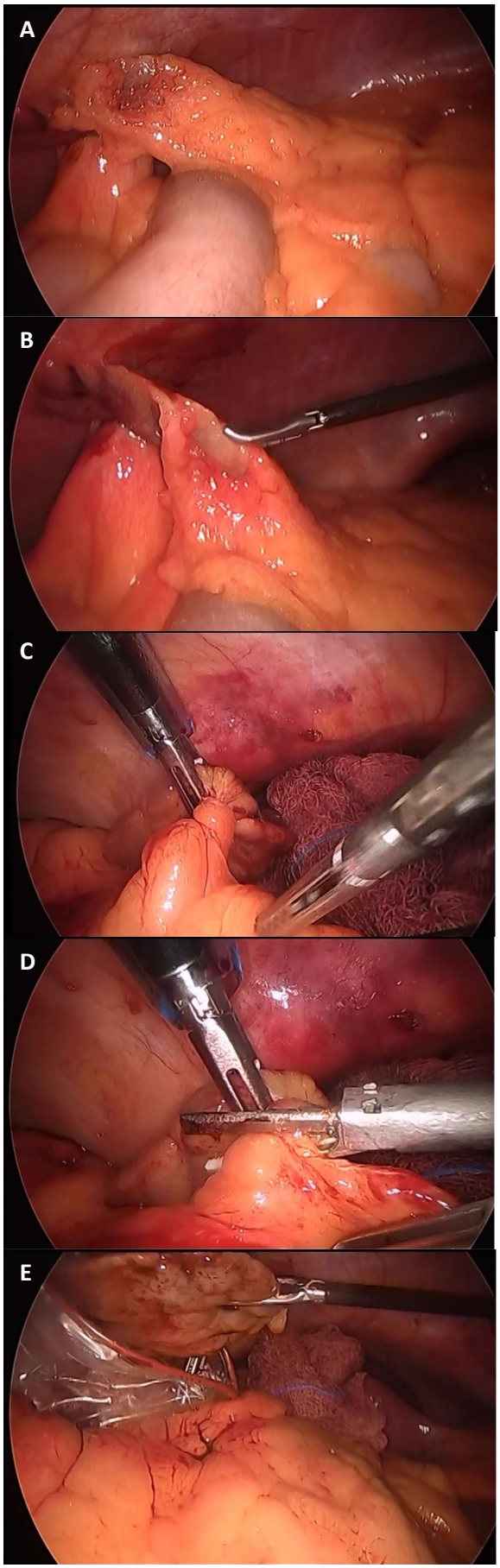

Figure 1. A. Ischemic segment of the omentum adhered to the anterior abdominal wall. B. Blunt dissection of the ischemic segment of the omentum. C. Torsion of the omental segment with 360º rotation in a clockwise direction. D. Laparoscopic partial

Figure 1. (*Continued*) omentectomy with ultrasonic energy. E. Extraction of ischemic omentum.

within the peritoneal cavity. Computed tomography is very sensitive to show an omental mass, but it is not specific, its classic signs being that of "whirlpool", a fatty mass with concentric linear strands in the greater omentum that rotates around a central rod between the abdominal wall and the colon associated with a moderate amount of free fluid. However, as mentioned above, it is not specific, so OT is rarely diagnosed before surgery. (9)

Treatment

Urgent resection is the treatment of choice, which can prevent the development of complications such as hemoperitoneum, purulent peritonitis, and intra-abdominal abscess formation. Currently, laparoscopic resolution is the choice.

Case report

It was a 63-year-old male patient with a history of diabetes mellitus 2 and systemic arterial hypertension of 15 years of evolution with a body mass index of 37, who came to our unit due to intense abdominal pain of gradual onset associated with copious intake of cholecystokinetics located in the right hypochondrium, accompanied by nausea and emesis of gastrobiliary characteristics, on physical examination a tumor in the right hypochondrium of approximately 5x5cm is palpable, present Murphy's maneuver, for which an ultrasound of the liver and bile ducts is requested on which shows hydropic gallbladder, with moderate biliary sediment of 89 x 40 x52 mm with a volume of 97cc and walls of 4mm. With perivesicular fluid, without dilatation of intra or extrahepatic bile ducts, so the diagnosis of acute cholecystitis was integrated and it was decided to perform laparoscopic cholecystectomy.

The diagnostic laparoscopy shows an 8x4cm lingual projection of the omentum with ischemic changes loosely adhered to the anterior abdominal wall below the right costal margin (Figure 1A) with little serosanguineous fluid in its periphery.

Release was proceeded by blunt dissection (Figure 1B) finding 360º clockwise torsion of said omental segment (Figure 1C), for which a partial omentectomy was performed using ultrasonic energy (Figure 1D and 1E).

When appreciating the gallbladder with inflammatory changes in its wall and given the ultrasonographic report, it was decided to perform cholecystectomy as usual.

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Subsequently, the histopathological report confirmed ischemic changes in the resected omentum segment and inflammatory infiltrate in the gallbladder. The patient had a satisfactory evolution being discharged after 24 hours of hospital stay.

Discussion

Knowledge of this pathology is important for the general surgeon as it mimics the most common causes of surgical acute abdomen. Patients usually present with nonspecific pain, without association with the typical gastrointestinal symptoms of the suspected pathology, so in the case of our patient who, if course with the clinical picture and typical evolution of acute cholecystitis associated with ultrasonographic alterations of the same, makes us suspect that it was actually an OT secondary to acute cholecystitis.

Some anatomical malformations and anomalies of the omentum such as the presence of a bifid or accessory omentum, irregular omentum or lingual projections, as in the case of our patient, have been recognized as predisposing anatomical factors and laparoscopic management is currently the most widely recommended in the literature.

Conclusion

OT is a rare pathological condition with generic symptoms that mimic most of the acute abdominal conditions amenable to emergency surgical management. Despite the rarity of this entity, we consider that systematic inspection of the omentum during diagnostic laparoscopy prior to any scheduled or urgent procedure is an essential and essential step in any intervention of this type and should never be ignored.

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