INTRODUCTION

Omental ischemia is a rare cause of acute abdomen; diagnosis is usually difficult because clinical signs and symptoms are similar to other common causes of abdominal pain. The most common differential diagnosis is acute appendicitis. Diagnosis is mainly based on ultrasound and especially computed tomography (CT) scan analysis. There is at present no standard treatment modality. When diagnosed by radiological imaging, omental infarction can be managed conservatively. We hereby report the case of a 42-year-old male presented with primary idiopathic partial omental ischemia and treated by laparoscopy.

CASE REPORT

A 42-year-old man, with no past medical history, presented to the emergency department with severe abdominal pain especially in the right lower quadrant (RLQ) that had developed three days earlier. He moves slowly, and prefers to lie supine. The pain was aggravated after meals, coughing or walking. The patient is known to be a heavy smoker. He did not have fever, nausea, diarrhea or constipation. Physical examination revealed (BMI: 35 kg/m²), a vague, dull, diffuse pain in the mid abdomen, with guarding and rebound tenderness in the RLQ. A positive Rovsing’s sign was noted. The rectal exam was normal.

Blood tests showed: White blood count (WBC): 8400/ mm³ with PMN: 64%; hemoglobin: 15.8 g/dl, hematocrit: 42%; C-reactive protein (CRP): 13.6 mg/L; creatinine: 72 micromol/L; potassium: 4 meq/L; sodium: 141 meq/L; platelets: 270000/mm³; amylase: 60 U.I.; SGOT: 19 U.I.; SGPT: 34 U.I.; lipase: 191 U.I.; gamma GT (glutamyl transferase): 18 U.I.

Contrast-enhanced abdominal CT scan showed ilio-caecal fat stranding with normal appearance of appendix (Figure 1).

Figure 1. Contrast-enhanced CT scan showing an ilio-caecal fat stranding with normal appearance of appendix.

ABSTRACT • Omental ischemia and infarction is a rare cause of acute abdomen. Clinical diagnosis is usually difficult because clinical signs and symptoms are similar to other common causes of abdominal pain. The most common differential diagnosis is acute appendicitis. Diagnosis is mainly based on ultrasound and especially computed tomography (CT) scan analysis. There is at present no standard treatment modality. When diagnosed by radiological imaging, omental infarction can be managed conservatively. We hereby report the case of a 42-year-old male presented with primary idiopathic partial omental ischemia and treated by laparoscopy.

Keywords: great omentum; ischemia; idiopathic; abdominal pain; laparoscopy.

RÉSUMÉ • L’ischémie du grand épiploon est une cause rare d’abdomen aigu. Le diagnostic clinique est souvent difficile car les signes cliniques et les symptômes sont semblables à d’autres causes fréquentes de douleurs abdominales. Le diagnostic différentiel le plus commun est une appendicite aiguë. Le diagnostic repose principalement sur l’échographie et le scanner. À l’heure actuelle aucun traitement standard existe pour l’ischémie épiploïque. Lorsqu’elle est diagnostiquée par l’imagerie, l’ischémie épiploïque peut être gérée de manière conservatrice. Nous présentons le cas d’un homme de 42 ans qui s’est présenté pour une ischémie partielle idiopathique du grand épiploon et qui a été traité par laparoscopie.

Mots-clés: grand épiploon; ischémie; idiopathique; douleur abdominale; laparoscopie.
After 24 h of close observation, we noted an increase of abdominal pain, guarding and rebound tenderness in the RLQ. He was then assigned for a diagnostic laparoscopy. Surgical exploration through a 10 mm ombilical zero degree optical laparoscop, showed a small amount of sero-sanguineous fluid, a normal appendix and an ischemic portion of the right part of greater omentum closed to the anterior abdominal wall in the RLQ (Figures 2 and 3).

We performed a dissection and liberation of greater omentum from abdominal wall, aspiration of the fluid, exploration of all quadrants of the abdomen and started intravenous anti-inflammatory drugs. Postoperative course was uneventful and the patient returned home at day 3 in good conditions.

DISCUSSION

Idiopathic omental infarction was first described by Bush in 1896. It was linked to trauma, increased abdominal pressure from Valsalva’s maneuver, or to engorgement of dependent omental veins after a heavy meal. Leitner et al. classified omental infarction into primary and secondary types. Torsion of the omentum (secondary to anatomic malformations, hernia, tumor, or adhesion), thrombosis due to various causes and congestion of the mesenteric veins (systemic diseases such as vasculities, hypercoagulable states, and pancreatitis) [1,3,10-12] were considered to be secondary, whereas cases with no identified causes are called idiopathic infarction of the greater omentum [2,6-8,13]. Obesity was considered, by some authors, to be a risk factor.

Aseptic peritonitis usually is present with varying amounts of free sero-sanguineous fluid in the peritoneal cavity. Omental ischemia and infarction is a rare cause of acute abdomen resulting from vascular compromise of the greater omentum. To our knowledge, approximately 400 cases of omental infarction have been reported so far, but its accurate incidence has not been yet determined. Although patients usually present with sudden onset of abdominal pain in the RLQ of the abdomen and tenderness with no signs of fever or gastrointestinal symptoms, this condition has a nonspecific clinical presentation and may mimic appendicitis, acute cholecystitis… Nausea and vomiting are sometimes present. Leukocytosis with increased levels of C-reactive protein of the plasma and elevated erythrocyte sedimentation rate are nearly always present.

An abdominal X-ray is nonspecific in most cases. Ultrasound imaging shows a hyperechoic, noncompressible, ovoid mass that is adherent to the abdominal wall at the site of maximal tenderness. A well-circumscribed ovoid area of heterogenous fat stranding with hyperattenuated streaks located within the omentum between the rectus abdominis and colon present the typical findings of omental infarction on CT. CT scan findings include the classic whirling pattern of fat and vessels, plus caking and stranding of omental fat. Unfortunately, except for the “whirl sign,” none of the other imaging findings seem specific enough for confident diagnosis and are dependent on the operator and interpreter. US and CT scan findings can be used to make a reliable diagnosis and establish the most appropriate treatment plan for the patient.

According to the literature it is very important to make a correct preoperative diagnosis because omental ischemia and infarction is a benign self-limiting disorder and it is proposed that it can be treated conservatively, avoiding surgery [7,8,12,14]. Two treatments are predominant: conservative medical treatment and early laparoscopic surgical intervention. Conservative treatment varies among physicians and includes all or part of the following: oral analgesics, anti-inflammatory drugs, and prophylactic antibiotics with optimal fluid manage-
Complications of conservative management include abscesses and adhesions induced by the persistence of necrotic tissue in the abdomen. Patients under conservative treatment should be under continuous observation. When the patient’s clinical, laboratory and radiological findings worsen or when diagnosis is doubtful the surgeon decides that surgical intervention is required. Surgical management, consisting in abdominal exploration and omental necrosectomy is recommended by some authors who believe that this approach will result in rapid amelioration of pain, enables patient discharge much sooner, and will prevent complications. Laparoscopy is the appropriate method for diagnosis and therapy [6,15,16]. It has the advantage of a swift resolution of symptoms and a short hospital stay, but it does carry the risks of general anesthesia and surgery. In our case, CT scan showed ileocecal fat stranding, with no signs of appendicitis and no signs of omental torsion or ischemia. The decision was made to use diagnostic laparoscopy. As high-quality ultrasound and CT have become part of the standard evaluation of acute abdominal conditions, the diagnosis of omental infarction has become more of a radiologic diagnosis, rather than found at the time of surgery. This has led to a push for nonoperative management.

CONCLUSION

In the absence of studies comparing conservative versus operative treatment, conclusions drawn from case reports are difficult to support. However, laparoscopic operative treatment should not be delayed more than 24-48 hours if no improvement is observed.

REFERENCES