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Case Report

Primary omental infarction: a rare cause of acute abdomen

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ABSTRACT

Primary omental infarction (POI) is a rare cause of acute abdomen. It frequently mimics other causes of acute abdomen. It is being diagnosed more frequently with the advancement of radiology. Here we report a case of a 35 years old man admitted in emergency with pain right side abdomen since past 2 days. On physical examination patient was febrile with tenderness and guarding over right side of abdomen, TLC (total leucocyte count) - 13.2×10^9/l, mild rise in bilirubin with rest blood investigations being normal. CT (computed tomography) abdomen was s/o omental infarction. On diagnostic laparoscopy gangrenous omentum with torsion over a vascular pedicle was noted, omentectomy was performed laparoscopically. In conclusion omental infarction should be kept as a differential diagnosis in acute abdomen especially right-side abdominal pathologies. It can be managed conservatively but if signs of sepsis are there it is wise to perform a diagnostic laparoscopy.

Keywords: POI, TLC, CT, Post-operative day

INTRODUCTION

Primary omental infarction (POI) is a rare cause of Acute abdomen. It can affect approximately all age groups ranging from (3-72) years.

It is noted more commonly in adults with the highest frequency in 2nd and 5th decades of life.[1,2] In the paediatric population (POI) accounts for (0.1-0.5) % of children undergoing abdominal exploration for acute appendicitis.[3]

Majority of cases reported in the literature were segmental involving the right side of omentum (90%) mimicking acute appendicitis, cholecystitis, perforated duodenal ulcer, ceacal diverticulitis, ureteric calculi, or epiploic appendagitis.[4]

POI was first described by Bush et al in 1896 and Eitel et al first described primary torsion of the omentum with no underlying pathology in 1899.[5,6]

Torsion of omentum is the main reason for omental infarction and it is classified as primary or secondary torsion. Primary torsion presents without any intraabdominal pathology and secondary torsion can present due to cysts, tumors, adhesions or hernia. POI occurs idiopathically when a mobile segment of omentum rotates around a proximal fixed point in the absence of any intraabdominal pathology.

POI can be predisposed by trauma, hyperperistalsis and anatomical variations of omentum itself e.g., accessory omentum, bifid omentum, irregular accumulation of omental fat in obese and narrowed omental pedicle.[7]

The right side of the omentum is more commonly involved because of its greater length and mobility, which allows it to tort along the long axis. As a result, these patients present with right sided abdominal pain. Crofoot observed that 90% of all OI were right sided.[8] Here we report a case of POI managed with laparoscopic omentectomy.

CASE REPORT

A 35 years old Indian male presented with chief c/o pain abdomen right side since past 2 days. Pain was sharp in nature, and gradually increased in intensity. Pain was most marked in right iliac fossa and right hypochondriac region, on palpation there was guarding and rigidity. There was no h/o loose stools or constipation. History of low-grade fever was present since past 2 days. Patient had a history of travel to Madagascar in the past week.

Blood investigations showed WBC 13.2×10^9/l, Liver function test showed mild rise in serum bilirubin, (total bilirubin- 1.54 mg/dl, direct bilirubin- 0.32 mg/dl, indirect bilirubin- 1.22 mg/dl), rest all lab parameters were normal. Patient was presumed to be a complicated case of acute appendicitis.

CECT whole abdomen was done which was suggestive of a focal area of omental inflammation/fat necrosis in the right lower abdomen. With a small focus of calcification within the inflamed area, and a normal appendix.

Patient was taken up for diagnostic laparoscopy in view of signs of sepsis. Upon laparoscopy approximately 200 ml of bloody ascites was found and evacuated, there was dark coloured necrotic omentum on right side measuring approx. 15×12 cm (Figure 1), which was lifted up to reveal the torsion over omental vessel (Figure 2).

Figure 1: Necrotic omentum.

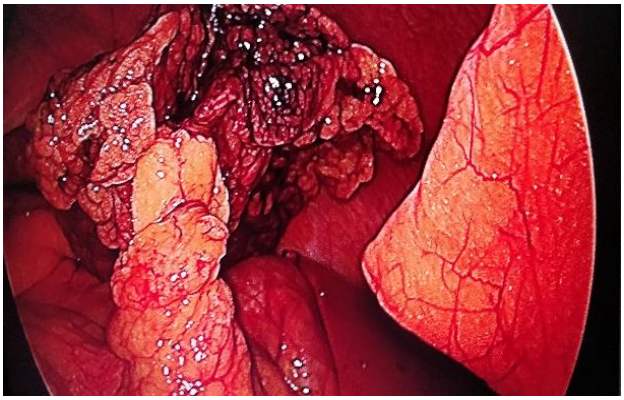

Figure 2: Torsion of omental pedicle.

The whole of large and small bowel and appendix were inspected for any signs of inflammation and were found to be unremarkable. Hence, it was diagnosed to be a case of POI. Laparoscopic excision with retrieval of infarcted omentum in an endo bag was performed (Figure 3).

Figure 3: Resected gangrenous omentum.

The omentum was seen to tort on a vascular pedicle axis. The patient was discharged on the second post-operative day.

DISCUSSION

Primary idiopathic omental infarction is a rare cause of acute abdomen. It presents most commonly with lower quadrant pain in right iliac fossa region.

The high incidence of right sided involvement with adherence to the ascending colon caecum or anterior peritoneum is explained by a developmental abnormality. Occasionally an abnormal extension of ventral mesogastrium develops and later becomes adherent with dorsal mesogastrium i.e., the greater omentum, this additional part may become adherent to the ascending colon or caecum or anterior peritoneum (Haller's ligament). It has precarious blood supply and is liable to develop infarction.[9]

Torsion can be triggered by patient position, coughing or after heavy meals that may cause vascular congestion.[10]

Ultrasonography (USG) and CT imaging provide diagnostic information that enables us to confidently rule out any other cause for the patient's symptoms. Ultrasonography examination generally shows a moderately echogenic, solid, non-compressible, ovoid lesion in the region of maximum tenderness. Real-time USG shows the lesion to be adherent to the peritoneum overlying the anterolateral bowel wall. CT gives a definitive diagnosis, it shows ill-defined heterogenous fat stranding with surrounding inflammation.[11]

It has been suggested that surgical treatment of omental infarction should be limited to those with complications such as omental abscess, bowel obstruction or adhesion formation after failure of conservative management, or in

cases of diagnostic uncertainty.[12] Physicians should therefore remain vigilant to persistent or worsening symptoms of abdominal pain when managing omental infarction conservatively.

On the other hand, laparoscopic surgery allows complete visualisation of the whole peritoneal cavity and confirms the diagnosis. Resection of infarcted omentum hastens the resolution of symptoms, thus enabling faster patient discharge. Moreover, removing the devitalised tissue reduces the incidence of secondary peritoneal abscess.[13-15]

CONCLUSION

Primary omental infarction is a rare cause of acute abdomen with symptoms quite similar to acute appendicitis and other abdominal emergencies. Hence, requires attention in acute abdomen. The exact etio-pathogenesis of omental torsion and infarction is still unknown. Increased awareness of this condition, combined with the use of ultrasonography or CT may reduce unnecessary surgery. However, in deteriorating symptoms and in signs of sepsis laparoscopic omentectomy enhances.

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