

lymphos: 23%, monocyte: 01%, eosinophils: 5%. Urine analysis was normal. A clinical diagnosis of acute appendicitis was made and patient was taken up for surgery. The abdomen was opened through a right transverse lower abdomen incision, haemorrhagic peritoneal fluid was present, and a mass was felt adherent to the peritoneum anteriorly more towards the medial side of incision. The incision had to be extended and the mass was delivered. This was a discoloured partly black necrotic omentum 3×10 cm long, twice twisted. This part of the omentum was excised. Rest of the bowel was found hyperaemic. Routine appendectomy was done. Blood loss was approximately 80 cc. Female genital organs were palpated and found normal. Closure of the abdomen was done without a drain. Histopathology confirmed focal areas of necrosis and acute inflammation of the omentum, consistent with torsion and a normal appendix. Recovery was uneventful and the patient was discharged on the third postoperative day.



Fig. 1 Showing the excised specimen of omental torsion.

Case 2

A girl aged 7 yrs, chubby and a student of karate was admitted on 11/04/1995 with a 24 hrs. history of pain right lower abdomen. Pain was sudden in onset and

colicky in nature. There was no history of gastrointestinal symptoms. There was history of blunt trauma abdomen three days ago. On examination the patient was afebrile. Abdominal tenderness and guarding was present in the right iliac fossa. Per rectal examination was normal. Clinical diagnosis of acute appendicitis was made. Ultrasound report was normal, haemoglobin: 11.3 gm %, TLC: 9400 cu mm, DLC : P-50%, L-56%, E03%, MO 1%. Urine analysis was normal. Under general anaesthesia, a lump was felt in the right iliac fossa. The abdomen was opened through a right transverse lower abdomen incision and haemorrhagic peritoneal fluid was present. The lump was 10×6 cm size black brown and adherent to the anterior abdominal wall in the right iliac fossa. This lump was the distal 1/4th of the greater omentum and revealed three twists upon itself. No other pathology was seen. Partial omentectomy and routine appendectomy was done. Abdominal closure was done without a drain. Recovery was uneventful and the patient was discharged on third postoperative day.

Discussion

Primary torsion of omentum is an unusual cause of abdominal pain in children. Mustard et al (4) established the incidence in 1969 to be 1:1,000 children having a laparotomy for acute appendicitis. Pierrede Marchetti is credited with reporting the first case of torsion of the omentum, now classified as a secondary type. The first case in a child was reported by Basky and Schwartz in 1937 (2).

Torsion of the omentum has been classified in many ways. It is important to differentiate between "primary" torsion where there is no intra-abdominal pathology except torsion and "secondary" torsion which is related to some preexisting pathologic condition. Secondary torsion may be caused by an inflammatory focus, adhesions, bands, diverticula or hernias, especially of



Primary Torsion of the Omentum in Children

Anita Dhar, M. Luthra

Abstract

Torsion of the omentum is an uncommon cause of abdominal pain in children. The patient usually presents with a clinical picture simulating acute appendicitis. We report on two children with primary omental torsion, who were managed by partial omentectomy with a satisfactory outcome in each case.

Key Words

Omentum, torsion.

Introduction

Torsion of the omentum is an unusual cause of acute abdomen in which the greater omentum twists upon itself, resulting in venous congestion, thrombosis and subsequent infarction. Torsion of omentum (TO) is of two types; primary and secondary. In primary torsion, no causative intraabdominal pathology is found and in secondary torsion, there is definite intraabdominal pathology.

It is seldom diagnosed pre-operatively and often mistaken for an atypical case of acute appendicitis. Clinically the patient presents with intermittent abdominal pain (1) and has signs and symptoms suggestive of acute appendicitis. The first case of primary torsion in an adult was reported by Eitel in 1899 (2). Since then, a total of 38 cases have been reported in children in English literature (3). We present two more cases and discuss the diagnosis and the management of this condition.

Case 1

A girl aged 5 year, weighing 15 kg was admitted to MCKR hospital on 5/3/95. She presented with a 24 hrs history of lower abdominal pain and low grade fever. Pain abdomen was colicky in nature, sudden in onset and more towards right iliac fossa. There was no history of gastrointestinal symptoms. On enquiring from the patient, there was a history of blunt trauma abdomen while playing, three days prior to admission.

Examination showed her pulse rate to be 100/min, regular, BP 100/70 mm Hg, temperature 100 degrees F. Abdomen examination revealed tenderness in lower abdomen with maximum tenderness in right iliac fossa, along with guarding of the abdominal wall. No rigidity or rebound tenderness, no mass was palpable and bowel sounds were normal. Per rectal examination was normal. Blood examination showed hemoglobin: 9.3 gm %, total leucocyte count : 14,600/cu mm, differential leucocyte count; polys : 71%.

...tion of the distal segment of the greater omentum. History of trauma was present in both girls and may have been the precipitating cause. Both cases were mistaken for acute appendicitis preoperatively and immediate surgical intervention was done. The involved omental mass was resected after careful ligation of its vessels.

The literature, pathogenesis, clinical presentation and pathology are briefly reviewed.

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inguinal type. The cause of primary TO is unclear. Among the many predisposing factors are anatomic variations of the omentum, such as malformation of the pedicle, tongue like projection along the edge, bifid, trifid or maldeveloped omentum, variations in size and deposition of fat in various parts of omentum. Especially in younger patients, obesity (5), sudden straining, exertion, have been blamed for precipitation or initiating torsion. Occurrence of venous tendency and vascular abnormalities that may produce venous congestion or segmental thrombosis, may also produce torsion (2,3,4).

Clinically, torsion of the omentum usually resembles acute appendicitis. The preoperative diagnosis in both of our cases was acute appendicitis. Torsion is seldom diagnosed preoperatively. In one series only one of 165 cases inclusive of children and adults was correctly diagnosed (6). The onset is acute and characterized by sudden abdominal pain, which begins or becomes localized in the right iliac fossa in most cases. The pain is constant, severe and often colicky in nature.

Nausea and / or vomiting are experienced by more than 50% patients. There may be a vague palpable mass or signs of peritoneal irritation such as tenderness, rebound tenderness, guarding or rigidity. Rectal examination may reveal fullness and tenderness in the pelvis. Total leucocyte count is usually $>10,000/\text{cu mR}$ with more than 80% polymorphs, The relative infrequency of gastrointestinal symptoms, especially nausea and vomiting, might alert the surgeon to the possibility of this diagnosis.

The limited data on the use of radiological investigations, including plain radiographs, ultrasound, and CT scanning, suggests that they are not helpful (7). Laparoscopy may have a role in both the diagnosis and

management of this condition in children and has already been used therapeutically in adults (7). The increasing use of laparoscopy in the investigation of children with abdominal pain (8) and, for the performance of appendectomies may allow a more accurate determination of the incidence of torsion of omentum.

Free serosanguinous fluid is usually present with frank gangrene of the affected omental segment in almost 40% of cases. In other cases the mass is oedematous with focal haemorrhages. Microscopic examination ranges from simple congestion with oedema and focal haemorrhage to gangrene of the involved portion of the greater omentum. Size of the affected segment has ranged from 2.5×2 , 5×2.5 to 27.5×20 cm. Complete torsion of the omentum has only been recorded in 3 cases and torsion of accessory omentum in three other cases (9). The left 1/2 of the omentum is more often involved than the right. Left side torsion is usually in a clockwise direction and right side torsion is counter clockwise. Rotation is usually more than three turns and 11 1/2 complete turns have been (2) recorded. One case involved sequestration from the main body of omentum. Spontaneous derotation of the twisted part was recorded in one case (10).

Resection of the involved omentum is advisable to prevent recurrence, even if the omentum is still viable (3). the remaining omentum must be thoroughly inspected for any tongue like projections or areas of abnormal fatty deposition and if present these are excised to prevent recurrence. Recurrent torsion is a definite possibility. Prognosis of uncomplicated cases is excellent.

Summary

Two cases of primary torsion of the omentum have been presented . Both the cases involved segmental