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Case Report

Lesser Omental Cyst in Adults: A Rare Intraabdominal Pathology and Literature Review

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Abstract

A lesser omental cyst is a rare entity that commonly presents as an abdominal lump. Its incidence is more in the pediatric age group than in adults. In adults, females are affected more than males. Ultrasonography abdomen and CT scans are mainly the tools for pre-operative diagnosis of omental cysts. Complete excision is the treatment of choice for omental cysts. Recurrence and malignant transformation are rare complications. We report a 45-year-old lady who presented with abdominal lump. CECT whole abdomen was done pre-operatively. The patient underwent exploratory laparotomy and an omental cyst was diagnosed intra-operatively. Complete excision was done and post-operative histopathology confirmed the diagnosis.

Keyword: Omental Cyst; Lesser Omental Cyst; Intraabdominal Cyst; Enucleation; Excision

Introduction

Omental cysts are any cyst that is confined to the greater or lesser omentum, the most common site being the greater omentum. The incidence of mesenteric and omental cysts is closer to one in 20,000 among children, and it is even lower in infants. So far, only about 150 cases have been reported, of which only 25% have been detected in children less than 10 years of age [1,2]. The symptoms are variable and non-specific, including pain (82%), nausea and vomiting (45%), constipation (27%), and diarrhea (6%). An abdominal mass may be palpable in up to 61% of patients [3]. Females and white people are more affected [4]. The first report of an omental cyst was published in 1852 by Gairdner [4].

Case Report

A45-year-old female presented to our hospital Out-Patient Department with a lump in the abdomen for 3 months which was insidious in onset and gradually progressive in size. An ill-defined lump of size 16cm extending from epigastrium to right lumbar region was noted which was non-tender, smooth-surfaced, tense cystic in consistency with a very little mobility in any direction (Figure 1).

Figure 1: Showing abdominal lump.

The lump was intra-abdominal and retro-peritoneal fixity was not well appreciated by the Knee-elbow test because of the large size of the lump. No other remarkable findings were noted in physical examination. Her routine hematological and biochemical investigations like CBC, Blood Sugar, RFT, LFT, and serum amylase were found to be within normal limits. Ultrasonography revealed a large cystic lesion of approx volume 1916 cc probably arising from mesentery extending from umbilicus up to epigastrium. The rest of the abdominal organs were normal.

Figure 2a and b: CT scan of Omental Cyst.

Contrast-enhanced CT abdomen (Figure 2a and b) revealed a large 13x 12 cm size cystic mass in the abdominal cavity extending from epigastrium to lower mid-abdomen causing peripheral displacement of solid and viscous abdominal organs and surrounded by a thin layer of fluid, very thin imperceptible septations in septic mass without any soft tissue nodule. No obvious signs of the infiltration of surrounding solid or viscous organs by cystic mass. No extension of cystic mass into pelvic cavity or adnexa seen. Bulky uterus and cervix with normal appearing both ovaries were seen.

The patient underwent exploratory laparotomy and a large cyst of size 12cm x12 cm arising from the omentum was seen (Figure 3a and b).

Figure 3a and b: Intraoperative image showing omental cyst.

The content of the cyst was Sero hemorrhagic fluid. It was found extending from the xiphisternum extending into the umbilicus. The cyst was found enclosed within the layers of the lesser omentum. The cyst was enucleated completely (Figure 4) and the specimen was sent for histopathology which revealed that the wall of the cyst was lined by cuboidal epithelium. No malignant or dysplastic cell was identified.

Figure 4: Intraoperative image after excision of the omental cyst.

Discussion

A mesenteric cyst was first described by Benevienion an 8-year-old boy in 1507.Gairdner described an omental cyst as a cyst within the lesser or greater omentum, with endothelial lining, representing one-third to one-tenth of mesenteric cysts [4]. About 1000 cases have been reported till now. Tillaux performed the first excision of an omental cyst in 1880.Omental and mesenteric cysts are rare entities, differentiated by the location in which they occur, with a reported incidence of one in twenty thousand admissions to a children's hospital [5] Due to its rarity genesis of the omental cyst is still not clear. A purported mechanism for the development of a primary omental cyst is the abnormal fusion of the omental bursa's ventral and dorsal lamellae [6]. Omental cysts are thought to represent the benign proliferation of ectopic lymphatics that lack communication with the normal lymphatic system [7]. Other etiologic theories include failure of the embryonic lymph channels to join the venous system, [2] failure of the leaves of the mesentery to fuse, [3] trauma, neoplasia, and [5] degeneration of lymph nodes. Additional categories include mature cystic teratomas and pseudocysts. Lymphatic and mesothelial cysts are the most common and can be differentiated by the presence of locations as well as a propensity to arise from certain structures, Omental cysts are confined to the lesser or greater omentum [7].

They are present in the lesser or greater omentum and are lined by endothelium mainly cuboidal epithelium. Omental cysts may be simple or multiple, unilocular or multilocular, and may contain hemorrhagic, chylous, serous, or infected fluid [4]. These may vary in size from 2 or 3 cm to 30 cm. Mesenteric cysts are 4.5 times more common than omental cysts [8].

Omental cysts are generally asymptomatic but large cysts cause compressive symptoms. The most common symptoms are pain and distension of the abdomen. Omental cysts in children may present with complications like torsion of the pedicle, intestinal obstruction due to volvulus, intracystic hemorrhage, infection, or rupture. The differential diagnosis involves consideration of intestinal duplication cyst; ovarian, choledochal, pancreatic, splenic, or renal cysts; hydronephrosis; cystic teratoma; hydatid cyst; and ascites [9,10] omental cysts are commonly mistaken for ascites on ultrasound [11], the presence of mass effect and the absence of intermixing between the fluid and loops of bowel may be a clue to the presence of an omental cyst [8].

A correct preoperative diagnosis of omental cyst has been made in only about 13-25% of the reported cases [12] Plain abdominal radiography may reveal a gasless, homogeneous, water-dense mass that displaces bowel loops laterally or posteriorly in the presence of an omental cyst [2,13]. Fine calcifications can sometimes be observed within the cyst wall [14]. Ultrasonography reveals fluid-filled cystic structures, commonly with thin internal septa and sometimes with internal echoes from debris, hemorrhage, or infection [8]. CT and MRI are the most useful investigations to diagnose the condition preoperatively. Management of mesenteric cyst entails complete intestinal resection however it is not required in an omental cyst. Complete enucleation of the entire omental cyst should be done. Conservative procedures like percutaneous aspiration, marsupialization, or laparoscopic unroofing are associated with an increased incidence of infection and relapse. If marsupialization is performed, the cyst lining should be sclerosed with 10% glucose solution [10], electrocautery, or tincture of iodine to minimize recurrence. Laparoscopic management and hand-assisted laparoscopic tumorectomy and aspiration for large cysts have been advocated by some authors but emphasized the risk of spillage from the cyst if it is found not to be benign. A laparoscopic operation proves a suitable approach because of the advantages of lower costs and decreased operative morbidity and hospital stay as compared to the results of open surgery [15,16]. Overall outcome after complete enucleation of omental cyst is favorable. The recurrence rate ranges from 0-13.6% [8,9,13]; averaging about 6.1% in a series of 162 adults and children [17]. Conlon., *et al*. [18] described the excision of a 13-cm omental cyst in a 33-year-old male, and Yao., *et al*. [9] operated on a 15-year-old girl who had torsion of an omental cyst. If the diagnosis is confirmed, the main treat-

ment would be surgery. Laparoscopic resection of the small cysts can be performed by an experienced surgeon, but in large types or in case of any doubt of malignancy, open surgery is strongly recommended.

Conclusion

Though omental cysts are rare in adults, they should be considered a differential diagnosis in cystic abdominal lumps which may mimic mesenteric cysts. In spite of radiological evaluation, sometimes it can be difficult to diagnose preoperatively. Once diagnosed it can be dealt with by open as well as laparoscopic surgical excision safely.

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