

Lesser Omental Cyst: A Rare Case Of Abdominal Lump: A case Report And Review Of Literature

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Abstract: Lesser omental cyst is a rare entity which commonly presents as an abdominal lump. Its incidence is more in paediatric 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. In our study, we described a 30 year old lady presented with abdominal swelling and vague abdominal pain. CECT whole abdomen was done pre-operatively. The patient underwent exploratory laparotomy and omental cyst was diagnosed intra-operatively. Complete excision was thus done and post-operative histopathology confirmed the diagnosis.

I. Introduction

Mesenteric and omental cyst are the rare intraabdominal pathologies occurring in approximately one of 105,000 to 140,000 hospitalized patients (1,2). Only 2.2% of these cysts are omental cysts (3). It is mainly common in paediatric age group occurring in one in 20000 paediatric hospital admissions (4). Females and white people are more affected (5). The first report of an omental cyst was published in 1852 by Gairdner (6).

II. Case Report

A 30 year old female presented to our hospital OPD with abdominal distension and vague abdominal pain for last 6 months. A non-tender, globular lump having a diameter of 20 cm was noted in the left hypochondrium and epigastric region. It was smooth-surfaced, tense cystic in consistency with a very little mobility in any direction. The lump was intra-abdominal and retro-peritoneal fixity was not well appreciated by Knee-elbow test because of the large size of the lump. No other remarkable finding are there in physical examination. Her routine haematological and bio-chemical investigations like CBC, Fasting sugar, urea, creatinine and LFT was found to be within normal limits. Her serum CEA and CA-125 was also normal. Contrast enhanced CT abdomen revealed a well-circumscribed hypodense cystic lesion of 14.6cm x 14.8cm with incomplete septae extending superiorly abutting the body & tail of pancreas, inferiorly abutting the left kidney and anteriorly upto the anterior abdominal wall (Figure- 1,2).

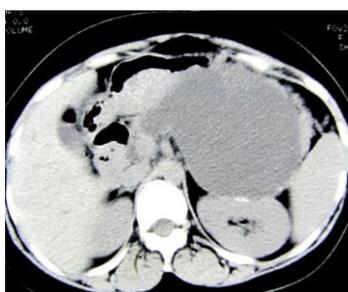


Figure-1: CECT abdomen showing large cystic lesion abutting pancreas and left kidney.



Figure-2: Axial cuts of CECT abdomen of same patient showing large cystic abdominal mass.

The patient underwent exploratory laparotomy and a large cyst was found extending from the xiphisternum extending into the pelvis (Figure 3). The cyst was found enclosed within the layers of lesser omentum . It was adhered to the anterior surface of the body of pancreas (Figure 4). The cyst was enucleated completely (Figure 5) and the specimen was sent for histopathology (Figure 6).

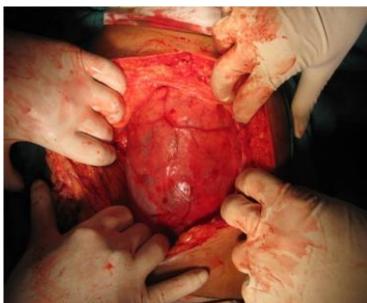


Figure- 3: Intra-operative picture showing a large cyst extending from the xiphisternum into the pelvis.

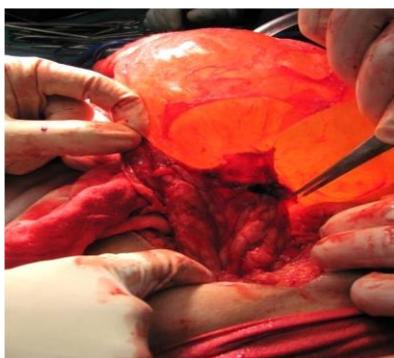


Figure- 4: The cyst found adhered to pancreas.

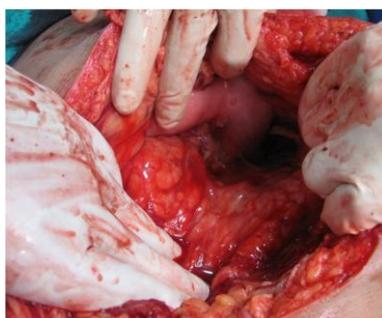


Figure- 5: After complete enucleation of cyst.

The cystic mass was sent for post-operative histopathology (Figure 6) which revealed that the wall of the cyst was lined by cuboidal epithelium. No malignant or dysplastic cell was identified (Figure 7). Immunohistochemical staining for S100, CD31 and calitirinin was done; and CD31 was found to be positive. Thus, the diagnosis of the omental cyst was confirmed.



Figure- 6: Specimen of the cystic mass.



Figure- 7: Histopathology of cyst wall.

III. Discussion

Mesenteric and omental cysts are thought to represent benign proliferations of ectopic lymphatics that lack communication with the normal lymphatic system that had failed to communicate normally with the lymphatic system (7). They are present in the lesser or greater omentum and are lined by endothelium mainly cuboidal epithelium.

Gairdner published the first report of an omental cyst in 1852 (6). Tillaux performed the first successful surgery for a cystic mass in the mesentery in 1880 (8). Mesenteric and omental cysts are rare; the incidence is about 1 per 140,000 general hospital admissions and about 1 per 20,000 pediatric hospital admissions (5). Approximately one third of cases occur in children younger than 15 years (9, 10). The mean age of children affected is 4.9 years (11). Mesenteric cysts are 4.5 times more common than omental cysts (12).

As proposed by Gross, mesenteric and omental cysts are thought to represent benign proliferations of ectopic lymphatics that lack communication with the normal lymphatic system (13). Another proposed etiology is lymphatic obstruction; however, experimental occlusion of lymphatic channels in animals does not produce mesenteric or omental cysts because of the rich collaterals in the lymphatic system, which sheds doubt on this particular theory (14, 15). Other etiologic theories include (1) failure of the embryonic lymph channels to join the venous system, (2) failure of the leaves of the mesentery to fuse, (3) trauma, (4) neoplasia, and (5) degeneration of lymph nodes (2).

Omental cysts are confined to the lesser or greater omentum (16). In the present case, it was found to arise from the lesser omentum and was adhered to the anterior surface of the body and tail of the pancreas and also to the left kidney. They usually present with painless abdominal lump. Omental cysts may be simple or multiple, unilocular or multilocular and may contain haemorrhagic, chylous, serous or infected fluid (2,4). They range in size from 3cm to 30 cm in diameter (17). In our case report, it was an omental cyst of around 15 cm diameter.

Clinical presentations include abdominal distension, painless mass or just pain in abdomen. Compression of the portal vein and respiratory disorder are another symptoms caused by the massive enlargement of the cyst. Between 11% and 19% of patients present with acute abdominal symptoms due to torsion, bleeding, or rupture of the cyst (18).

The differential diagnosis involves consideration of intestinal duplication cyst; ovarian, choledochal, pancreatic, splenic, or renal cysts; hydronephrosis; cystic teratoma; hydatid cyst; and

ascites (11). A correct preoperative diagnosis of omental cyst has been made in only about 13-25% of the reported cases (18).

Imaging modalities are the primary tools for diagnosis of omental cysts as no specific blood investigations are available. 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, 19). Fine calcifications can sometimes be observed within the cyst wall (20). Ultrasonography reveals fluid-filled cystic structures, commonly with thin internal septi and sometimes with internal echoes from debris, hemorrhage, or infection (21). Abdominal CT scanning adds minimal additional information, although it can reveal that the cyst is not arising from another organ such as the kidney, pancreas, or ovary (4).

The preferred treatment of mesenteric cysts is enucleation (4, 6, 11); although intestinal resection is frequently required to ensure that the remaining bowel is viable. Bowel resection may be required in 50-60% of children with mesenteric cysts, whereas resection is necessary in about one third of adults (6, 9). Any resulting mesenteric defect must be closed to prevent an internal hernia. In our case, the patient had undergone complete enucleation of the cyst without requiring any bowel resection.

If enucleation or resection is not possible because of the size of the cyst or because of its location deep within the root of the mesentery, the preferred option is partial excision with marsupialization of the remaining cyst into the abdominal cavity (16). Approximately 10% of patients require this form of therapy (6). 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 has 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 comparable to the results of open surgery (17, 22).

Overall outcome after complete enucleation of omental cyst is favourable. The recurrence rate ranges from 0-13.6% (9, 11, 12); averaging about 6.1% in a series of 162 adults and children (6). However, after complete enucleation of the cyst, our patient is not having any recurrence in these first one and half year of follow-up.

So, in brief, omental cysts occur very rarely, but when encountering an abdominal mass it should be taken into consideration. The initial diagnosis should be made by performing CT scanning and ultrasonography. If the diagnosis is confirmed, the main treatment 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.

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