

CASE REPORT

Idiopathic Benign Retroperitoneal Cyst : Uncommon Retroperitoneal Mass

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ABSTRACT:

Retroperitoneal cysts are uncommon, with an estimated incidence of 1/5750 to 1/250,000 .

A 54 year old female patient presented to Al-Karama Teaching Hospital with sensation of mild left lower abdominal pain colicky in nature with mild backache , ten days duration. No dysuria, normal bowel motion .

On physical examination we palpated a fixed mass in the left lateral side of abdomen.

Ultrasound revealed thin walled large cystic mass ,CT-scan showed large regular cystic mass in left side of abdominal retroperitoneum .

During the operation we found a retroperitoneal cyst at the lateral side of sigmoid colon and extend posterior to the descending colon . The cyst arising within the retroperitoneum outside the major organs.

CT scan, and MRI help in confirming the diagnosis, but surgery is the keystone in confirming the diagnosis, and surgery remains the best treatment option.

KEY WORDS: Cysts , Retroperitoneal , mesenteric cyst .

INTRODUCTION:

Retroperitoneal cysts (RPCs) are uncommon with an estimated incidence of 1/5750 to 1/250,000 ⁽¹⁾.

Approximately one third of patients with retroperitoneal cysts are asymptomatic and the cyst is found incidentally. The cyst can grow to a considerable size before becoming symptomatic.

CT scan might help in confirming the diagnosis, and surgery remains the best treatment option.

Retroperitoneal cystic masses, which arise within the retroperitoneal space but outside the major organs within that compartment, are uncommon.

However, the widespread use of computed tomography (CT) for evaluating abdominal and

retroperitoneal diseases has increased the detection rate for retroperitoneal cystic lesions. Because the clinical implications of and therapeutic strategies for retroperitoneal cystic masses vary depending on the cause, the ability to noninvasively differentiate between cystic masses is important .

CT is ideal for the assessment of retroperitoneal disease because it provides discrete sectional images of the organs and retroperitoneal compartments.

Some case reports of different types of retroperitoneal cystic masses have been published; to our knowledge, however, no large series focusing on retroperitoneal cystic masses has been reported. Furthermore, many overlapping characteristics have been shown to exist among the various retroperitoneal cystic masses, which has led to a long list of disease entities in the differential diagnosis.

In some cases, however, familiarity with the most relevant radiologic features, in combination with clinical information, allows adequate lesion characterization. In this article, we review the relevant literature and discuss the CT and clinical features as well as the histopathologic appearances of different types of retroperitoneal cystic masses. These masses are divided into neoplastic (cystic lymphangioma, mucinous cystadenoma, cystic teratoma, cystic mesothelioma, mullerian cyst, epidermoid cyst, tailgut cyst , pseudomyxoma retroperitonei, perianal mucinous scarcinoma) and non-neoplastic (pancreatic pseudocyst, non-pancreatic pseudocyst, lymphocele, urinoma, hematoma) lesions.

CASE PRESENTATION

A 54 year-old woman presented to our surgical clinic in Al-Karama Teaching Hospital with a left –sided abdominal pain which had been present for ten days duration with sensation of fullness of lower abdomen .

General surgery specialist in Al-Karama Teaching Hospital.

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She also complained of feeling of stretching of abdomen particularly during squatting position and mild back pain. There was no history of fever, loss of appetite, no change in bowel habit or gross weight loss, and no evidence of urinary tract symptoms or pressure on adjacent structures . Furthermore, there was no history of trauma .

She had previous history of DM ,HT & ischemic heart disease on oral hypoglycemic agents and antihypertensive drugs .

On physical examination there was large lump about (14 x 7 x 5) cm size in the left side of abdomen fixed,and not tender,well defined edges ,smooth surface ,not pulsatile ,dull on percussion. No another significant sign.

Investigation:- Routine laboratory tests (FBC, GUE) within normal limits,FBS about 160mg/dl , and all another laboratory tests were normal, including C-reactive protein, leukocyte count, and *Echinococcus* serology. Radiological examination(CXR) was normal.

U.S & CT-scan show thin walled large cystic mass(13.6 x 6.7 x 5.8)cm filled left (middle and lower)abdomen,contain few tiny echogenic patches ,not solid component , not vascular on CDI,it is away from left ovary, and probably a mesenteric cyst. No other abdominal or pelvic mass,no gross LAP,no ascites or pelvic collection. No obvious pathological bowel loop can be detected by US or CT-scan.

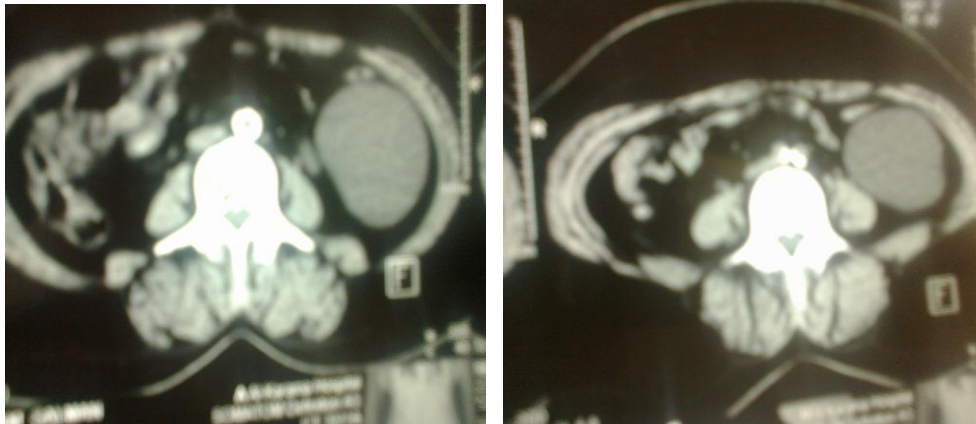


Figure 1: Axial CT-scan with intravenous contrast enhancement showed large regular cystic mass in left side of abdomen.

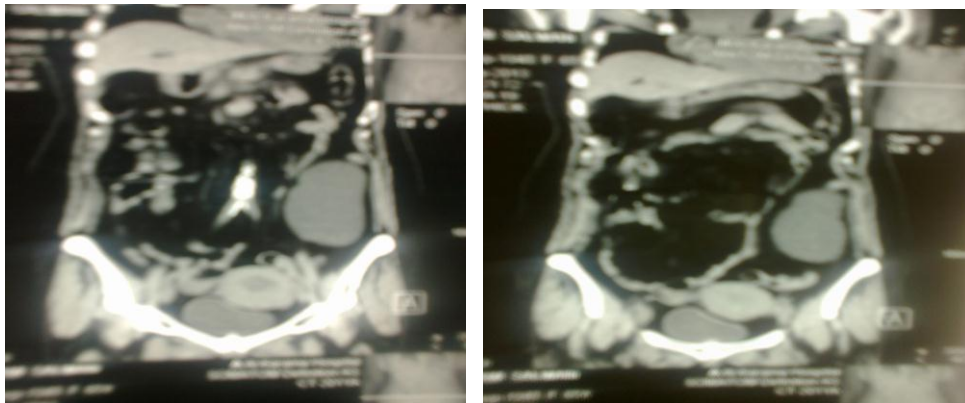


Figure 2: Coronal Ct-scan section with intravenous contrast enhancement showed thin walled large cystic mass in the left lateral side of abdomen .



Figure 3: Ultrasonography show thin walled large cystic mass .

On operation:

The patient operated on 30th of September 2013, under general anaesthesia ,in supine position, lower mid-line incision was performed . Sigmoid colon delivered medially and outside of the midline incision, we found large cystic mass not related to sigmoid mesentery but lateral to it and

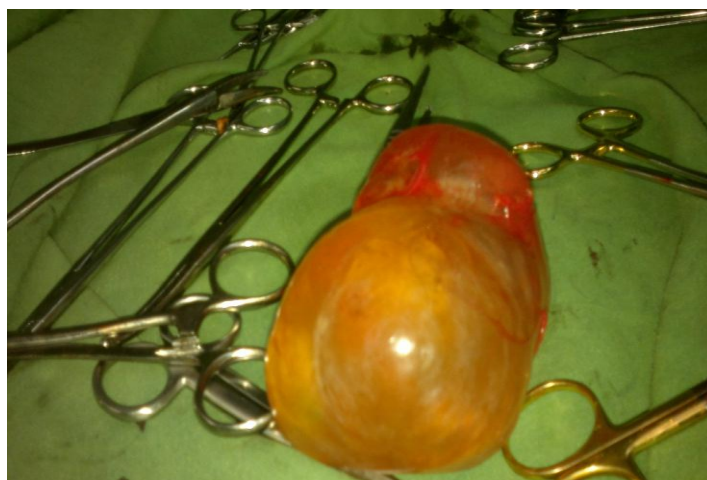
extended under the left colon as in the (Fig:4) dissection has been done and the large cystic mass was excised completely about (14 x 7 x 6) cm in size, and not related to the major retroperitoneal organs ,no other abdominal or pelvic mass,no gross LAP . The specimen sent for histopathology as in the figures(5,6, 7,8).



Figure 4: Showed large cystic mass not related to sigmoid mesentery but lateral to it and extended under the left colon,after delivering of sigmoid colon outside of incision.



Figure (5,6) : Showed deliver of the large cyst from the incision .



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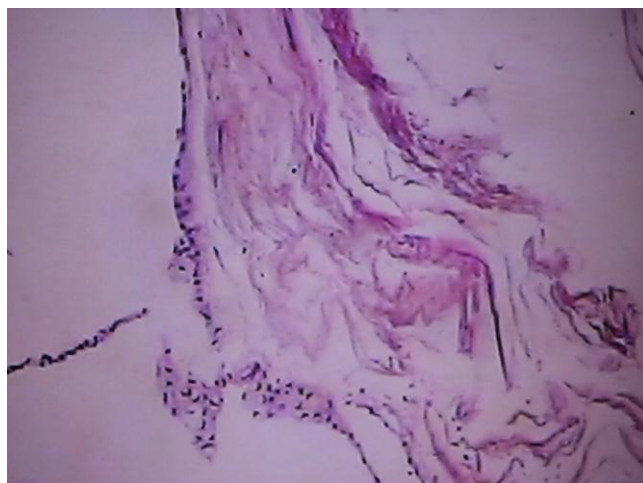
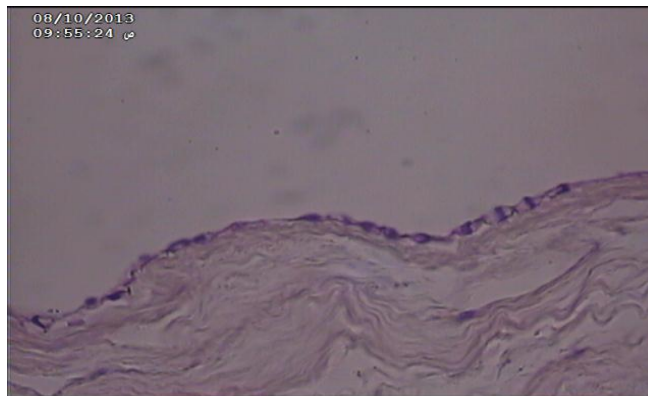


Figures (7,8) : Showed complete excision of large cystic mass.

Histopathological examination :

Gross exam : One piece of tissue cystic like structure measure about (14 x 7 x 6) cm ,cut section, soft , clear fluid as in the figures(7,8).

Microscopical exam : Multiple pieces of tissues showed cyst lined by flat epithelia , no granuloma, no malignancy as in the figures(9 ,10 ,11).



Figures (9 , 10 , 11) : Histopathological features showed cyst lined by flat epithelia , no granuloma , no malignancy .

DISCUSSION:

Based on embryologic origin and histological differentiation, RPCs are classified into

(a): Urogenital. (b): Mesocolic; (c): Cysts arising in cell inclusions; (d): Traumatic; (e): Parasitic and (f): Lymphatic^(1,2).

Only those cysts that lie in the retroperitoneum without connection with any adult anatomical structure, except by areolar tissue, are included in this group of cysts⁽³⁾.

The majority of urogenital cysts occur near the kidney, behind the colon, and near the head or tail of the pancreas. They arise from the vestiges of the embryonic urogenital apparatus and can be classified into pronephric, mesonephric, metanephric, and mullerian. When these cysts are exposed and seen in situ, they appear bluish thin-walled cysts and rather flabby with no visible vessels in their walls, and when removed, they are translucent and lose their bluish tinge.

They have no pedicle and no connections apart from the areolar tissues with the surrounding structures. When opened, they have a smooth, glistening lining membrane; are single, not multilocular; and contain a clear serous fluid of low specific gravity in which there is occasionally cholesterolin. Under the microscope, the wall is thin and consists of a cellular fibrous tissue usually lined by a low columnar epithelium, or cubical and rarely flattened⁽²⁾.

The lymphatic cysts are subdivided into those formed in the lymphatics returning from the intestine and known as chylous cysts, and those arising in the lymphatic field behind the peritoneum and not connected with the intestine and are analogous in their origin to the single cystic lymphangioma seen in the head and neck⁽²⁾.

They are unilocular or multilocular cysts containing clear or milky fluid and lined with a single layer of flattened endothelium⁽⁴⁾. Mesocolic are found only in the area between ascending and descending colon and below the transverse mesocolon, anterior to the spermatic or ovarian vessels, and are composed of a fibrous wall lined by a delicate flattened epithelium⁽²⁾.

Cysts arising in cell inclusions such as dermoid cysts are found not infrequently in the retroperitoneum, have thick walls and usually filled with sebaceous material and hair⁽²⁾.

Traumatic blood cysts may be due to haematoma resulting from an injury, ruptured abdominal aortic aneurysm, anticoagulant therapy, or blood dyscrasia, and they usually present as an

emergency^(4,2). If the haematoma is not large enough, the development of a cyst is a well-recognised result⁽²⁾.

Parasitic cysts such as hydatid cysts are not infrequent in the retroperitoneal space. They may reach this location by the blood stream, by transcaelomic implantation after the rupture of a cyst in the liver, or by penetrating the intestinal wall⁽²⁾.

The complete differential diagnoses of retroperitoneal cysts in males and females is included.

There are no pathognomonic signs or symptoms for RPCs, and in approximately one third of patients, the cyst is found incidentally^(3,5).

Two thirds of patients present with an abdominal mass or chronic abdominal symptoms, most of them are omental in origin⁽³⁾. Other symptoms include back pain, referred pain to the lower limbs, oedema of the lower limbs, weight loss or fever^(6,7). The mass tend to be mobile in a transverse plane, or in all directions when the cyst is omental.

More commonly, only a soft tissue mass with displacement of the bowel is seen⁽³⁾.

CT is ideal for assessing RPCs because it provides discrete sectional images of the organs and retroperitoneal compartments, and in some case, familiarity with the most relevant radiologic features, in combination with clinical information, allows adequate lesion characterization⁽⁴⁾.

Mullerian cyst, for example, manifest as a unilocular or multilocular thin-walled cyst containing clear fluid, and clinical history may help differentiate it from other retroperitoneal masses as it is more common in obese patients with menstrual irregularities⁽⁴⁾.

A mature teratoma manifests as a complex mass containing a well-circumscribed fluid component, adipose tissue, and calcification. The presence of hypoattenuating fat within the cyst is considered highly suggestive of this cyst. The CT appearance of a retroperitoneal haematoma depends on the time elapsed between the traumatic event and imaging. Acute or subacute haematoma has a higher attenuation value than pure fluid due to clot formation.

However, chronic haematoma has decreased attenuation because of the breakdown of blood products⁽⁴⁾. Cystic lymphangioma typically appears as a large, thin-walled, multiseptate cystic mass.

Its attenuation values vary from that of fluid to

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that of fat. An elongated shape and a crossing from one retroperitoneal compartment to an adjacent one are characteristic of the mass, and calcification of the wall is rare⁽⁴⁾.

Symptomatic cysts should be enucleated or excised, while preserving the surrounding vital structures. At times, the cyst can be marsupialised or drained if surgical enucleation is difficult or the cyst is infected⁽⁸⁾.

However, draining the cyst usually result in a recurrence . They also required marsupialisation more often.

In our patient; the diagnosis was done incidentally from the intra-operative finding , pre-operative we suspected mesenteric cyst (which characterised by smooth , mobile, spherical swelling in the centre of the abdomen ,and it moves freely at right- angles to the line of the root of the mesentery ,it is dull to percussion⁽⁹⁾ , while in our patient , the physical examination show large fixed mass not mobile and this in contrast to mesenteric cyst which is mobile [A mesenteric cyst moves freely at right angle to the attachment of the mesentery(Tillaux's sign)⁽¹⁰⁾].

CT-scan , abdominal ultrasound , and MRI all have been used to evaluate patients with mesenteric cysts . [Each of the afore-mentioned imaging modalities reveals a cystic structure without a solid in the central abdomen⁽¹¹⁾] , while in our patient the cystic structure found in the left lateral side of abdomen(peripheral of the abdomen) as in the Fig:1, 2 .

CONCLUSION:

Retroperitoneal cysts are very rare, and most of the time they are discovered incidentally. Patients may be asymptomatic or present with abdominal pain, referred pain to the legs or weight loss.

CT scan might help in confirming the diagnosis, but surgery is the keystone in confirming the diagnosis, and surgery remains the best treatment option.

This case is very rare and very educational as it highlights an unusual presentation of a benign retroperitoneal cyst.

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