A huge retroperitoneal lymphatic cyst presenting as a mesenteric cyst, managed laparoscopically

Manash Ranjan Sahoo, Leesa Misra, Raghavendra Mohan Kaladagi, Manoj Srinivas Gowda, Abinash Panda, Syam Sundar Behera

ABSTRACT

Introduction: Retroperitoneal lymphatic cysts are uncommon in occurrence. Due to presence of large potential space in the retroperitoneum, the cyst grows to a considerable size in abdomen before it presents clinically and the presentation noted in most of the cases are non-specific, confusing to the surgeons leading to delay in diagnosis. The treatment of choice is complete excision of cyst. Nowadays minimal access procedures are tried.

Case Report: We report a case of a huge retroperitoneal lymphatic cyst which had complex presentation mimicking as mesenteric cyst in a 22-year-old female, which was managed laparoscopically.

Conclusion: Retroperitoneal cysts are uncommon, with a very low estimated incidence. Approximately, one-third of patients with retroperitoneal cysts are asymptomatic and the cyst is found incidentally. Retroperitoneal lymphatic cysts are an uncommon lesion in adults. With complete surgical excision these tumors have an excellent prognosis, with great symptomatic relief. In such selected cases laparoscopy is helpful both as a diagnostic and therapeutic modality.

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CASE REPORT

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Keywords: Erythropoietin, EPO, Miliaria, Eccrine sweat glands

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INTRODUCTION

Retroperitoneal cysts are uncommon with an estimated incidence of 1/5,750 to 1/250,000 [1]. Approximately, one-third of patients with retroperitoneal cysts is asymptomatic and found incidentally. Sometimes they pose challenge for proper preoperative diagnosis because of their location. With the recent development of surgical equipment and advance surgical techniques, a number of minimally invasive procedures are employed for treatment of such tumors. This case report describes a patient with lymphatic cyst mimicking as a mesenteric cyst who underwent a successful laparoscopic resection.

CASE REPORT

A 22-year-old female presented with mass per abdomen in right lower region since four months which was gradually increasing in size and associated with vague abdominal discomfort which was diffuse, constant, dull aching, nothing alleviated the pain. There were irregularities in her monthly cycles from last one year, no history of loss of appetite or weight, no history of tuberculosis or any surgeries (appendicectomy) and

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no significant changes in the bowel and bladder habits. Past history was insignificant except the menstrual changes. There was also no history of any gynecological malignancies in family members.

On examination, general condition was satisfactory, moderately built and nourished with mild pallor, no neck or axillary gland enlargement, with stable vital parameters. Abdominal examination reveals a mass in the right lower abdomen involving the lumbar, iliac region with extension in infra umbilical area; the mass was soft to cystic in consistency, mobile freely in transverse direction while less mobile in vertical direction, no shifting dullness and no thrill noted. Per vaginal examination revealed anteverted uterus and fullness in the right fornix with cystic feeling. Per rectal examination revealed a tense cystic fullness in pouch of Douglas with definite lumpy feeling.

On investigations, routine hemogram showed hemoglobin 8.6 g/dL with other normal parameters. Chest radiography was normal. Ultrasonography showed heterogenous hypoechoic lesion to right of psoas muscle. Computed tomography (CT) scan revealed a well-marginated low attenuating SOL with attenuation value of +13 to +34 HU in right lower abdomen and pelvis, deforming the right psoas muscle, displacing the aorta and IVC to left side (Figure 1). There was loss of interface between right ovary and the cyst. Other pelvic organs are normal.

The patient was taken up for surgery with a few possibilities such as retroperitoneal cyst, mesenteric cyst, ovarian cyst. Under general anesthesia, one 10 mm umbilical port given and diagnostic laparoscopy was done. It was found that a cystic mass measuring about 15x15x8 cm in the retroperitoneal region just below the cecum displacing the bowel loops medially. Two 5 mm ports given to proceed with the surgery, one in left iliac fossa and the other in right pararectal area just above umbilicus level. A large bore (18 Gz) spinal needle was passed into the cyst from the abdominal wall under laparoscopic vision to aspirate the cystic fluid (Figure 2) for confirmation and complete decompression. Later, the cyst wall was completely resected out taking care not to injure the right iliac vessels which were in close proximity to the cyst (Figure 3). Finally, reperitonealization was done, after the cyst wall was removed in toto (Figure 4) and sent for histopathological examination which came out to be as a lymphatic cyst. There were no intraoperative or postoperative complications. The postoperative period was uneventful and the patient discharged on fourth postoperative day. Follow-up At fifth month, the patient was good and he is doing fine till date.

DISCUSSION

Embryologically, there are five regional primitive lymphatic sacs which normally develop into chains of lymph nodes [2] the paired jugular sacs lateral to the

Figure 1: Contrast-enhanced computed tomography scan showing cystic lesion in the right iliac fossa region.

Figure 2: Diagnostic laparoscopy showing cystic lesion just below the cecum, fluid aspirated percutaneously.

Figure 3: Bed of the cyst after its complete excision.

Figure 4: Reperitonealization after cyst excision.

internal jugular veins, an unpaired retroperitoneal sac at the root of the mesentery, and the paired sacs adjacent to the sciatic veins. These sacs form chains of lymph nodes which drain the head, neck, arm, mesentery, hip, back, and leg, respectively. These regional primitive lymph sacs are generally thought to be developmental sites of lymphangiomas. Many agree for the note—lymphangiomas arise at these sites by continued growth of congenitally misplaced primitive lymphatic tissue which fails to acquire venous connections or as continued endothelial outgrowth of veins, where as others believe that its due the lymphatic channel obstruction caused by trauma, fibrosis, node degeneration, inflammation genetic component and disorders of endothelial lymphatic vascular secretion or permeability.

In 1877, Wegner histologically divided lymphangiomas into three classifications: (i) lymphangiomas simplex (capillary lymphangioma), small, thin-walled lymphatic channels not common or found intra-abdominally, (ii) cavernous (sometimes malignant), larger thin-walled channels, more common but rare intra-abdominally, (iii) cystic (always benign) composed of large cystic spaces lined with flat endothelium, but common retroperitoneally and intra-abdominally [3]. Based on embryologic origin, retroperitoneal cysts are classified into (i) urogenital, (ii) mesocolic, (iii) cysts arising in cell inclusions, (iv) traumatic, (v) parasitic and (vi) lymphatic [1].

Approximately, 50% of lymphangiomas are present at birth, and almost 90% are diagnosed before the age of 2–5 years. These cysts can occur in any part of body where lymphatics are normally encountered. The most commonly affected sites are the head and neck (75%), where these are commonly referred to as ‘cystic hygromas’ (seen in newborns), followed by the axilla (20%). The remainder (approximately 5%) of the lymphangiomas are intra-abdominal arising from the mesentery,

retroperitoneum or greater omentum [4], where they are referred to as ‘omental or mesenteric cysts’. The retroperitoneum is the second-most common location for the abdominal lymphangiomas after mesentery of the small bowel.

In Thrupp’s [5] series, 57.2% had asymptomatic abdominal masses, while 23.8% had infections or hemorrhagic complications, and 19% were postmortem or operative findings. Intestinal obstruction, peritonitis, rupture or infection may also be presenting symptoms. However, most tumors present with an increasing abdominal or flank mass and a dull flank pain with a “full sensation.”

The differential diagnosis of cystic tumor in the retroperitoneum raises several possibilities. These include both malignant and benign tumors, such as cystic mesothelioma, teratoma, undifferentiated sarcoma, cystic metastases (especially from ovarian or gastric primaries), cysts of urothelial and foregut origin, benign tumors such as lymphangioma, and other tumors such as retroperitoneal hematoma, abscesses, duplication cysts, ovarian cysts [6]. Computed tomography scan is ideal for assessing retroperitoneal cysts because it provides discrete sectional images of the organs and retroperitoneal compartments, and in some cases, familiarity with the most relevant radiographic features, in combination with clinical information, allows adequate lesion characterization [7].

The treatment of choice for such retroperitoneal cyst is simple total excision. The recurrence is not commonly noticed unless you go with treatment options such as aspiration or drainage procedures or marsupialization. Dissemination in the retroperitoneum is a very rare, but potentially fatal complication [8].

Cysts arising within the retroperitoneum outside the major organs, within that compartment are very rare and one-third of them are asymptomatic. Retroperitoneal cystic lesions, although are benign, can be technically difficult to excise because of the proximity to major vessels or other organs. These rare tumors can be cured by complete excision. With advance in minimal access surgeries, we can tackle such diseases by laparoscopic cysts excision, which is feasible and safe, more on provides excellent cosmesis and has all the other advantages of laparoscopy. Laparoscopic approach may be attempted in selected cases to prevent large scars and morbidity associated with it including good results as in our case.

CONCLUSION

Retroperitoneal lymphatic cysts are uncommon lesions in adults. Since the disease is rare, investigations may not provide accurate diagnosis and in such a case diagnostic laparoscopy is helpful. These rare tumors have an excellent prognosis, with symptomatic relief and definite cure after complete surgical excision. In the modern era of minimal access surgery, this condition has

a definite treatment by laparoscopy, avoiding the need of laparotomy in selected cases.

Author Contributions

Manash Ranjan Sahoo – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Final approval of the version to be published

Leesa Misra – Acquisition of data, Analysis and interpretation of data, Drafting the article, Final approval of the version to be published

Raghavendra Mohan Kaladagi – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Manoj Srinivas Gowda – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Abinash Panda – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Final approval of the version to be published

Syam Sundar Behera – Acquisition of data, Drafting the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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