Unusual presentation of mesenteric cyst in a 3-year-old child - A case report

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ABSTRACT

Mesenteric lymphatic cysts are rare congenital benign malformations of the lymphatic system. Rarely, the wall of the lymphatic cyst can undergo calcification mimicking other conditions. In the literature, about six cases of calcified lymphatic cyst have been reported. Here, we present the case of a 3-year-old child who presented with vague abdominal pain and diagnosed to have an intra-abdominal calcified cyst. On exploration, the cyst was arising from the mesentery and the child required excision of the cyst with the involved intestine. The biopsy was suggestive of a mesenteric lymphatic cyst.

Key words: *Calcification, Lymphatic cyst, Mesenteric cyst*

Mesenteric lymphatic cysts are rare congenital benign malformations of the lymphatic system. Calcification of the cyst wall is a rare pathological event, with just around six cases of calcified mesenteric cysts reported [1], the first of which was reported in 1957 by Bishton *et al.* [2]. Till now, no cases have been reported from Indian Subcontinent. Mostly asymptomatic or incidentally detected, abdominal mesenteric cysts may present as an intestinal obstruction, acute abdomen due to torsion, hemorrhage, or volvulus [3] or may mimic a tumor such as teratoma [4]. Treatment of choice is complete excision. Here, we report the case of a 3-year-old male with a calcified mesenteric cyst.

CASE REPORT

A 3-year-old male child presented to the outpatient department with a history of vague abdominal pain for 6 months. The pain was intermittent involving the upper abdomen. Symptomatic treatment was obtained by the parents from a local physician, but there was no relief. The child did not have any other abdominal symptoms. The other complaint the parents had was that the child was unable to protrude the tongue beyond the lower lip.

On clinical examination, the child was within 95th percentile with respect to weight and height. The blood pressure was normal, pulse rate of 92 beats/min, and respiratory rate of 20/min with no evidence of pallor, icterus, and cyanosis. The child had associated tongue tie. On per abdominal examination, the abdomen was soft, non-tender with no organomegaly.

An ultrasonography of the abdomen was done which revealed a cystic lesion measuring 5.5 cm × 4.5 cm in the right upper quadrant with calcification. With the above ultrasound findings, it was decided to do a computed tomography (CT) of the abdomen. CT abdomen revealed a multicystic lesion with calcification (Fig. 1). A differential diagnosis of cystic teratoma, mesenteric lymphatic cyst, and duplication cyst of the bowel was considered. The routine blood investigations were within normal limits. In view of suspected teratoma, alpha-fetoprotein, beta human chorionic gonadotropin, and lactate dehydrogenase were sent. All the tumour markers were within normal limit. The parents were counseled regarding surgery, and the child was posted for surgery.

The child underwent laparotomy with a supraumbilical right transverse incision. On exploration, a multicystic, lobulated lesion was seen arising from the mesentery of the jejunum about 25 cm from the duodenojejunal flexure (Fig. 2). The lesion had few areas of calcification containing yellowish fluid. The lesion was extending for about 8–10 cm of the mesentery. The lesion was inseparable from the mesentery; hence, the child underwent resection of the lesion with the jejunum. An end-to-end jejunal anastomosis was done in two layers (Fig. 3).

Histological section from the mesentery showed dilated cystic spaces lined by flattened endothelium along with few ectatic vascular spaces. Some of the cystic spaces showed proteinaceous material with stroma in between the cyst-containing smooth muscle fibers. Stroma also showed large areas of dystrophic calcification along with giant cells and sheet of foam cells (Fig. 4). A diagnosis of the mesenteric lymphatic cyst was made with the above findings.

The child had an uneventful post-operative recovery. Oral feeds was started on post-operative day 5 and discharged on the post-operative day 7. The child is on regular follow-up.

DISCUSSION

Mesenteric lymphatic cysts are rare congenital malformations. Mesenteric cysts have an incidence of 1/100,000 hospital

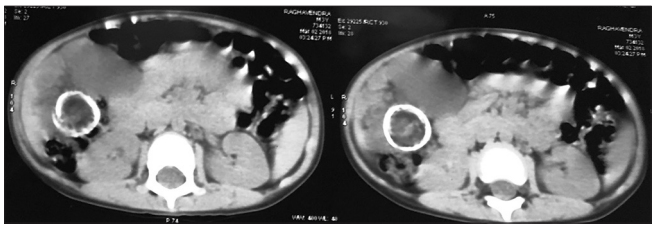

Figure 1: Computed tomography showing intra-abdominal calcified lesion

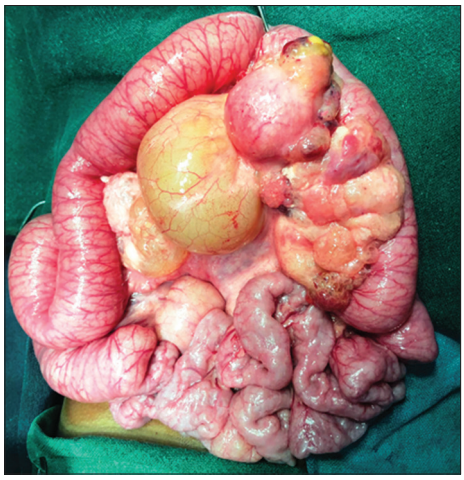

Figure 2: Intraoperative picture of the mesenteric cyst

admissions in adults and 1/20,000 in children [5,6]. The male-to-female ratio varies in literature from 1:1[5] to being slightly more common in males [7]. Most of the congenital lymphoid malformations [5] are found in the head and neck, with abdomen being a rare location, but when intra-abdominal, they are typically found on the small bowel mesentery, or less commonly omentum, mesocolon or retroperitoneum [8].

Mesenteric lymphatic cysts are thought to be arising from the benign multiplication of ectopic lymphatic channels lacking communication with the remaining normal lymphatic system, as an aberration of normal development [9]. Cysts can occur anywhere in the mesentery and may occasionally extend into the retroperitoneum [10]. Mesenteric cysts can be classified according to the thickness of the cyst wall (thick or thin walled) and by their location (unilocular or multilocular) [10]. In our case, the cyst was found to be multiloculated, thick walled. Mesenteric cysts may be lymphatic (simple lymphatic cyst and lymphangioma), mesothelial (simple mesothelial cyst and mesothelioma), enteric (enteric cyst and enteric duplication cyst), urogenital, mature cystic teratoma, or non-pancreatic pseudocysts (infections and traumatic cysts) [6].

The natural history of mesenteric cysts is variable. They may remain static, shrink and undergo fibrosis, rarely malignant change, and calcification [1]. In our case, the cyst wall was calcified, leading to the dilemma in diagnosis, since very few cases of calcified mesenteric cysts have been reported. In view of calcification, it is important to consider cystic teratoma as a differential diagnosis and evaluate accordingly.

Mesenteric cysts may remain asymptomatic for extended periods and be only incidentally detected. Most commonly, they present with

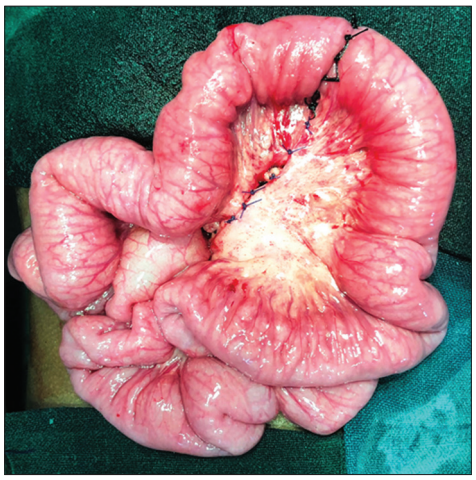

Figure 3: Post-operative picture of the mesenteric cyst

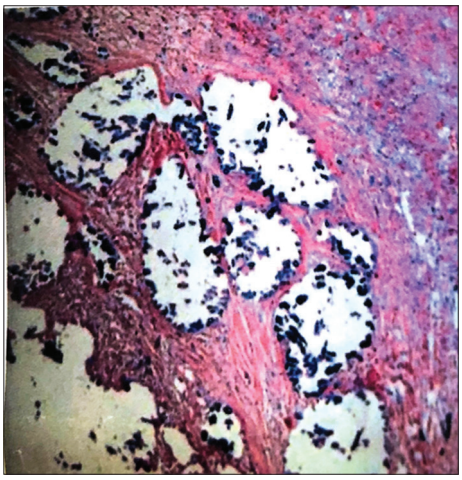

Figure 4: Histopathology of the excised cyst

either non-specific abdominal complaints or with acute abdominal pain due to complications [11,12]. Occasionally, a cyst may be involved in hernial processes such as umbilical hernia [13], inguinal hernia [14], or femoral hernia [15] and may be diagnosed when a patient presents with complications like strangulation [15]. Other rare presentations of cyst may be intestinal obstruction due to external compression and obstructive uropathy [16]. Cysts may rarely rupture following abdominal trauma [17], and spillage of contents can result in peritonitis [18]. An acute abdomen may be caused by torsion, infarction, volvulus, perforation of the cyst, or infection [17]. Very rarely, a malignant transformation may occur [6].

Diagnosis is mainly radiological. Ultrasound is a sensitive and specific tool and useful for both diagnosis and follow-up [7]. CT is gold-standard [19]. Treatment is surgical either laparotomy or laparoscopic [19]. Treatment of choice is complete excision since recurrence and malignant transformation can occur [20].

CONCLUSION

Mesenteric lymphatic cysts are a rare cause of calcified intra-abdominal mass but must be considered as a differential diagnosis to similarly presenting cystic tumors. Prognosis is usually good, with surgery being the treatment of choice.

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