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Case Report

A rare case of cystic lymphangioma of the ascending colon mesentery in an adult woman: clinical, radiological, and histopathological findings

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ABSTRACT

Cystic lymphangiomas are rare benign vascular lesions with lymphatic differentiation, most commonly diagnosed in childhood and typically located in the cervical and axillary regions. Intra-abdominal presentations are exceedingly uncommon in adults. We present the case of a 36-year-old woman with a large cystic lymphangioma arising from the mesentery of the ascending colon. Diagnosis was based on radiological imaging and confirmed by histopathological examination after surgical resection. This case highlights the diagnostic challenges and successful surgical management of a rare abdominal lymphatic malformation in an adult, discussed in the context of current literature.

Keywords: Cystic lymphangioma, Abdominal lymphatic malformation, Adult intra-abdominal mass, Mesenteric tumor

INTRODUCTION

Cystic lymphangiomas are rare benign vascular lesions characterized by lymphatic differentiation. They are congenital malformations that arise from sequestrated lymphatic tissue due to failure of embryonic lymphatic channels to connect to the central venous system.[1,4] These malformations typically manifest in early childhood, with 90% of cases diagnosed before the age of two.[1,6] The most common anatomical sites are the head and neck regions, though abdominal presentations occur in approximately 7% of cases and are even less frequent in adults.[1,6] Within the abdomen, they tend to arise in the mesentery, followed by the greater omentum, mesocolon, and retroperitoneum.[6,7] In adults, these lesions may develop secondarily due to factors such as abdominal trauma, inflammation, malignancy, previous surgeries, or radiatioochen exposure.[1,6,8]

CASE REPORT

A 36-year-old woman presented with nonspecific abdominal discomfort. On physical examination, a palpable mass was detected in the right hemiabdomen. Contrast-enhanced abdominal CT imaging (Figure 1) revealed a well-circumscribed, multiloculated cystic lesion measuring 14.7×6.5×15.2 cm, located within the mesentery of the ascending colon. Based on imaging characteristics, differential diagnoses included a duplication cyst and cystic lymphangioma.

The patient was admitted for elective surgical intervention. During median laparotomy, a large, mobile, cystic mass was identified within the mesocolon ascendens (Figure 2) shows the intraoperative view, clearly delineating the lesion's boundaries in relation to the surrounding mesenteric tissue. The mass was carefully dissected and completely excised with maximal preservation of vascular structures. A minor arterial bleed at the ileocolic branch was repaired intraoperatively. Indocyanine green (ICG) angiography confirmed good perfusion of the remaining colon.

The postoperative course was uneventful. Gastrointestinal function resumed normally, and the patient was discharged on postoperative day four in good condition.

Pathological findings

Gross examination of the resected specimen (16×13×7 cm, 446 g) showed a spongy, cystic mass with milky fluid content. Microscopically, the lesion consisted of variably dilated lymphatic channels lined by bland endothelial cells, with fibrous walls containing smooth muscle and lymphoid follicles. No signs of malignancy were observed. These findings confirmed the diagnosis of a cystic lymphangioma.

Figure 1 (A-C): Axial, sagittal and coronal CT images of the abdomen with intravenous contrast.

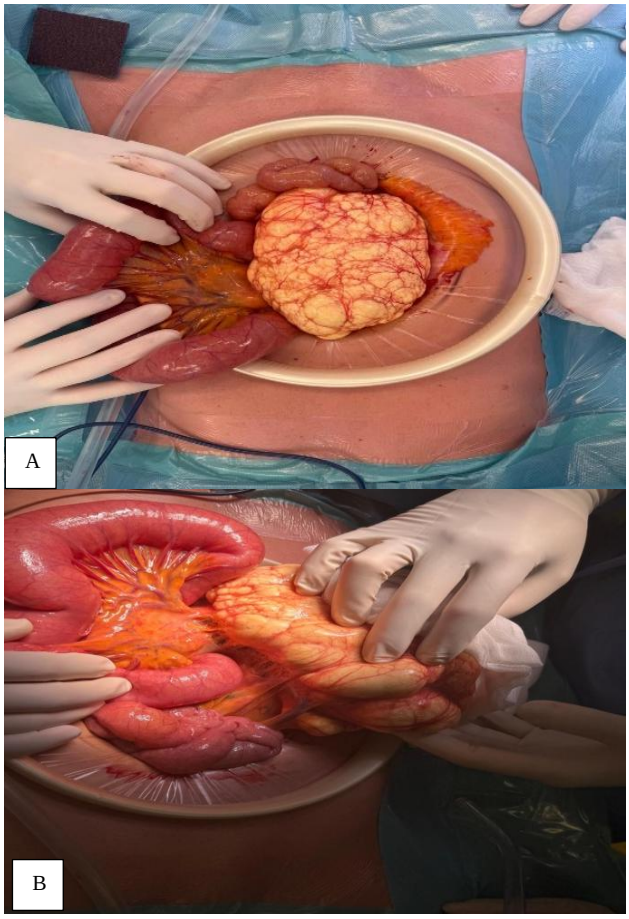

Figure 2 (A and B): Intraoperative image demonstrating a well-defined, multiloculated cystic mass embedded within the mesocolon ascendens. The boundaries of the lesion are clearly visualized, illustrating its separation from adjacent mesenteric structures.

DISCUSSION

In adults, abdominal cystic lymphangiomas (ACLs) are rare and often difficult to identify prior to surgery. Symptoms vary widely-from no complaints to abdominal pain or mass effect symptoms such as bloating or discomfort.[1,6] In our patient, the lesion was detected after vague abdominal discomfort and a palpable mass. Imaging studies, especially ultrasound, CT, and MRI, can show thin-walled, multilocular cysts without solid components or contrast enhancement.[2,4,9] These features can guide early diagnosis, which is essential for timely treatment.[6] In our case, CT imaging revealed a well-circumscribed cystic mass with internal septations measuring 16 cm, prompting surgical intervention.

The definitive diagnosis of cystic lymphangioma requires histopathological analysis. Typical microscopic findings include dilated lymphatic channels lined by flat endothelial cells, sometimes surrounded by lymphoid tissue and filled with protein-rich fluid.[1,4,6] Our case confirmed these findings, with cystic spaces containing

milky fluid, and histology showing bland endothelial lining with stromal lymphoid aggregates.

Surgical removal is considered the first-line treatment, especially for symptomatic patients. Complete excision is crucial because recurrence rates increase significantly after partial removal.[1,4-6,9] In a Chinese cohort by Xiao et al no recurrence occurred during follow-up in cases where the lesion was completely excised.[3] Interestingly, only two of their twelve patients received an accurate diagnosis before surgery, highlighting how challenging preoperative recognition can be. Similarly, in our case, the lesion was initially thought to be a duplication cyst based on imaging, with lymphangioma only confirmed postoperatively.

The sizes of ACLs vary considerably, with dimensions ranging from around 4-5 cm up to 27 cm.[3,6,9] Our patient's lesion, at 16 cm, falls within this common range and was considered large enough to cause mass effect without acute complications.

Although open surgery is frequently performed, laparoscopic resection is possible for smaller or more accessible lesions, such as those on the periphery of the mesentery.[4,6] Due to the size and deep mesocolic location of the lesion in our case, an open approach via laparotomy was chosen, which allowed for safe dissection while preserving vascular integrity.

Sclerotherapy has been explored-particularly in pediatric cases-with agents like bleomycin, doxycycline, or OK-432.[4,6,9] However, adult cases have shown variable results, and the risk of recurrence remains a concern, especially after aspiration alone. Pharmacologic options like sirolimus or propranolol have shown promise in microcystic cases and may provide adjunctive therapy when surgery is contraindicated.[4]

In patients without symptoms, some experts recommend close observation with periodic imaging. Spontaneous regression has been observed in select cases, supporting a conservative approach in specific contexts.[6,8] Our patient, however, had symptomatic discomfort and radiological evidence of mass effect, which supported the decision to proceed with surgery.

The overall incidence of lymphangiomas is estimated at 1 in 100,000 to 250,000 hospital admissions, and only a small portion are found within the abdomen.[1] Cystic lymphangiomas make up approximately 7% of abdominal cystic lesions.[6]

CONCLUSION

This case illustrates how ACLs, though rare in adults, should be considered in the differential diagnosis of cystic abdominal masses. Imaging plays an important role in early detection, but histological analysis remains essential for confirmation. Complete surgical resection offers the best long-term outcome. While conservative and non-surgical approaches exist, they should be approached with caution due to the elevated risk of recurrence.

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