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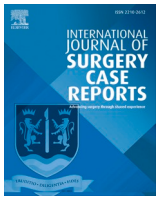

Case report

A rare pediatric case: Mesenteric cystic hygroma in a 5-year-old child

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ABSTRACT

Introduction and significance: Lymphangiomas are benign vascular malformations commonly found in the head and neck region, although they can occur elsewhere. Clinical manifestations vary based on location and size. Surgical resection remains the primary treatment modality.
Case presentation: A male child presented with progressive abdominal distension without associated symptoms. Emergency department evaluation revealed a palpable abdominal mass. Abdominal ultrasound and computed tomography (CT) scans confirmed a large abdominal cyst. The cyst was surgically removed, and pathological examination diagnosed mesenteric lymphangioma.
Clinical discussion: Despite their infrequent occurrence, mesenteric cysts should be included in the differential diagnosis of pediatric abdominal masses.
Conclusion: Complete surgical resection is essential for the definitive management of mesenteric lymphangioma. Partial resection or aspiration should be avoided due to the risk of complications and potential recurrence.

1. Introduction

Mesenteric lymphangiomas are rare, benign malformations originating from lymphatic vessels. Their incidence ranges from 1 in 1000 to 1 in 16,000 live births [1]. Although most commonly found in the neck, they can also occur in the axilla, upper mediastinum, mesentery, pelvis, and lower extremities [2]. Approximately 5 % of lymphangiomas are abdominal, with half involving the small intestine [3].

Despite their benign nature, lymphangiomas can cause complications such as intestinal obstruction, intussusception, or volvulus. Early diagnosis and treatment are crucial, as the growing mass can precipitate these surgical emergencies.

Complete surgical resection remains the cornerstone of treatment for lymphangiomas.

This case is described in accordance with the criteria of SCARE [4].

2. Presentation of case

2.1. Patient information

We present the case of a 5-year-old male child with a progressively enlarging, painless abdominal mass present since infancy. He maintained good oral intake without vomiting or constipation. The mother reported no history of abdominal surgeries, hepatitis, or a family history of tumors or deformities for the child.

3. Clinical findings

On presentation to the emergency department, the child was in good general condition without pallor or jaundice, and weight was appropriate. Abdominal examination revealed a soft, distended abdomen without signs of inflammation. Other systems were unremarkable.

4. Diagnostic assessment

Laboratory investigations showed a hemoglobin of 12.6 g/dL, a white blood cell count of 13,000/mm^3, and a platelet count of 523,000/mm^3. Tumor markers, including carcinoembryonic antigen (CEA), CA 125, CA 19–9, alpha-fetoprotein (AFP), and beta-human chorionic gonadotropin (β-HCG), were within normal limits. Abdominal ultrasound revealed a large, multilocular cystic mass in the left upper quadrant extending into the pelvis. A CT scan confirmed a large, multiseptate cystic mass in the left upper abdomen, measuring

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Abbreviations

CT	Computerized tomographic

approximately 8.5 cm in diameter (Fig. 1).

5. Therapeutic intervention

Based on imaging findings, an exploratory laparotomy was performed. A large, characteristically butterfly-shaped mesenteric cyst adherent to a segment of the jejunum was identified (Fig. 2). Complete resection of the cyst, including the involved portion of the small intestine, was performed followed by a jejunum -to- jejunum anastomosis. The abdomen was closed in layers. Postoperative pathological examination confirmed the diagnosis of lymphangioma. The child recovered well and was discharged after 5 days in stable condition.

6. Discussion

The precise pathophysiology of these malformations remains unclear, and the exact etiology is unknown. Some theories suggest a genetic predisposition, as lymphangiomas are often associated with specific genetic syndromes such as Turner, Noonan, Down syndrome, cardiac abnormalities, and fetal hydrops [5]. Others propose that these malformations arise from developmental failures in lymphatic channel formation [6].

Lymphangiomas are benign vascular malformations relatively rare in children, constituting about 5 % of all pediatric benign tumors [7]. They primarily occur in the head and neck region, with mesenteric lymphangiomas significantly less common, representing only 1 % of all lymphangiomas [8].

the primary site for abdominal lymphangiomas, accounting for approximately 70 % of cases. The ileal mesentery is the most common location within the small bowel. Other less common sites include the omentum, mesocolon, and retroperitoneum.

The differential diagnoses for mesenteric lymphangiomas include duplication cysts, mesenteric cysts, teratomas, and lipomas [9]. Most mesenteric lymphangiomas present as painless abdominal masses, but symptoms like abdominal pain, obstruction, or distension may occur depending on the malformation's location and size [10]. In our case, the large mass was easily palpable and filled the abdomen.

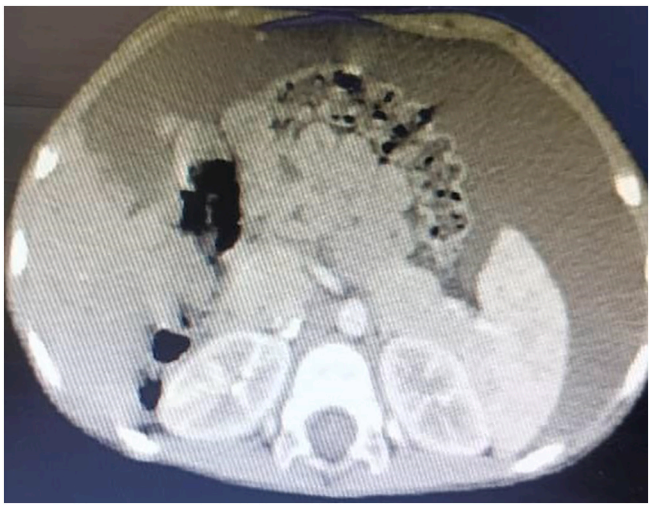

Fig. 1. A: CT scan (axial view) shows a developing cystic formation containing fluid and compressing adjacent bowel loops.

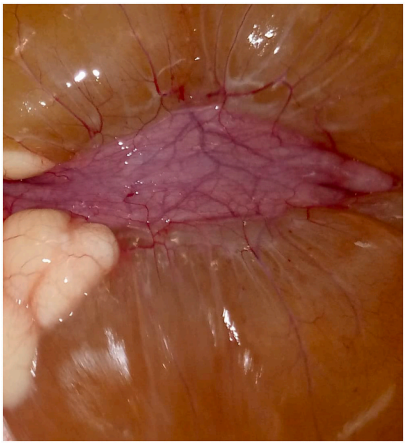

Fig. 2. A: Intraoperative image reveals a large lymphangioma adhering to the intestine on both sides.

Abdominal ultrasound is the initial radiological investigation due to its accessibility and low cost. Computed tomography (CT) is also used for diagnosis, while magnetic resonance imaging (MRI) is considered the gold standard for delineating these malformations and their relationship to surrounding structures [11].

Treatment options for mesenteric lymphangiomas vary depending on location. Bleomycin injection, inducing fibrosis through a non-specific inflammatory process, can be used in very small doses for specific cases [12].

Research indicates that intralesional bleomycin is effective in treating various types of lymphangiomas, including intra-abdominal forms. A study reviewed 32 cases of intra-abdominal lymphangiomas treated with bleomycin, showing significant volume reduction in lesions and minimal complications [13].

Drainage carries risks of recurrence and perforation. Partial resection is another option, but it is associated with infection, bleeding, and lymphatic fistula risks [10].

7. Conclusion

The prognosis for mesenteric lymphangiomas is generally favorable. Complete surgical resection leads to a low recurrence rate. However, complications such as bleeding, infection, and damage to surrounding structures are potential risks.

Consent of patient

Written informed consent was obtained from the patient's parents/legal guardian for publication and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Ethical approval

Ethical approval for this study (Ethical Committee N° NAC 207) was provided by the Ethical Committee NAC of Al-Sham Private University, Damascus, SYRIA on 12 July 2024.

Guarantor

Marwa Jaweesh.

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Author contribution

Marwa Jaweesh: Conceptualization, resources, who wrote, original drafted,

edited, visualized, validated, literature reviewed the manuscript,

and the corresponding author who submitted the paper for publication.

Shkri Jaweesh: Supervision, visualization, validation, resources, and review of the manuscript.

Hasan Alokla and Wais Khalil: Visualization, validation, and review of the manuscript.

Shahed Obaid: Visualization, validation, and review of the manuscript.

Khaled Alhomsi.: Vice President Of Education Quality and Scientific Research Council, Supervising, writing and proofreading the manuscript.

All authors read and approved the final manuscript.

Conflict of interest statement

The authors declare that they have no competing interests.

Data availability

The datasets generated during and/or analyzed during the current study are not publicly available because the Data were obtained from the hospital computer-based in-house system. Data are available from the corresponding author upon reasonable request.

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