A Rare Presentation of Omental Lymphangioma Masquerading as Malignancy in an Adult Patient

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ABSTRACT

Abdominal lymphangiomas are benign vascular neoplasms of the lymphatic vessels. Most are believed to be congenital, and they rarely present in the abdomen in adults. Omental lymphangiomas, in particular, are especially rare and can masquerade as malignancy, which requires further invasive workup. We report the case of an otherwise healthy man with abdominal discomfort, ascites, and a presentation initially concerning for malignancy. However, imaging and pathologic analyses later elucidated the lesion as an omental lymphangioma requiring different management. Treatment options are either resection or sclerotherapy, and the prognosis is generally excellent.

INTRODUCTION

The differential diagnosis of ascites in the clinical setting may be arduous because of the wide span of underlying pathologies that may be implicated. Roughly 85% of cases of ascites are believed to be secondary to alcoholic cirrhosis.1 However, malignancy may also be a common source of ascites, acting via mechanical blockage of lymphatic vessels and, even to a lesser degree, via secondary paraneoplastic effects. One rare but potential source of ascites involving lymphatic compromise is the development of lymphangioma. Lymphangiomas are rare, benign vascular neoplasms characterized by malformations in the lymphatic vessels. However, more than 90% of lymphangiomas are diagnosed as congenital anomalies, and of these, most are distributed in the cervical region.2 The presence of abdominal lymphangiomas is rare, with sources in the literature noting an incidence as high as 1:250,000 in the adult population.3 Because acute complications such as disfigurement, infections, bowel obstruction, or hemorrhage may occur, it is prudent to consider lymphangioma within the differential diagnosis of patients who present with ascites and a form of mechanical disease process, such as distention, once other diagnoses have been ruled out to provide prompt treatment.4 We report a case of an adult male with abdominal symptoms concerning for malignant ascites, later diagnosed as an omental lymphangioma.

CASE REPORT

A 22-year-old man with no significant medical history and noncontributory family history presented with a 2-week duration of abdominal distention associated with generalized abdominal pain, myalgia, fatigue, decreased oral intake, nausea, and unintentional weight loss. A physical examination was only remarkable for a distended abdomen with shifting dullness. Vital signs at the time of the encounter were within normal limits. Noteworthy laboratory values of the patient included a white blood cell count of 10.6 × 109/L, a hemoglobin level of 7.3 g/dL, and platelet count of 557,000/μL. Abdominal and pelvic computed tomographies with contrast was sought out to delineate the anatomy of the abdomen and was remarkable for an omental mass measuring 4.7 × 3.3 cm in the lower pelvis associated with moderate ascites and hepatosplenomegaly (Figure 1).

Paracentesis yielded 3.2 L of gross, bloody ascitic fluid with a low serum-ascites albumin gradient. Analyses of the fluid were significant for a red blood cell count >900,000 and total nuclear cells numbering 3,382/μL with a differential of 41% neutrophils, 30% lymphocytes, 0% eosinophils, 1% monocyte, and 28% other cells. Fluid cultures for organisms were negative, and ascitic fluid
Pathology revealed mononuclear cells of possible mesothelial origin, inflammatory cells, and histiocytes within a hemorrhagic background. The patient subsequently underwent laparoscopic biopsy of the omental mass that revealed membranous fragments of fibroadipose tissue lining the serosa, with several foci of lymphatic proliferation. In correlation with the clinical impression of cystic mass and immunohistochemical staining, the diagnosis of lymphangioma was made. The presence of inflammation and mesothelial hyperplasia was presumed to be secondary to previous rupture of the lymphangioma. Flow cytometry was negative for immunophenotypic features to support the diagnosis of a lymphoproliferative disorder. The patient opted not to undergo surgical resection; hence, he then underwent drain placement and 4 sessions of doxycycline sclerotherapy, resulting in a reduction of the mass to 1 cm and symptomatic improvement (Figure 2).

**DISCUSSION**

Most lymphangiomas are reported in the pediatric population, with more than 95% of lymphangioma cases involving the head and neck. Moreover, of the less than 5% of extracervical lymphangiomas, the most common site involves the mesentery with scant mention of the omentum in the literature.\(^5\) Given this extremely rare finding with potential to mimic more common disease, we report the case of a 22-year-old man with an omental lymphangioma. The patient presentation, examination findings suggestive of intraabdominal fluid collection, anemia, hepatosplenomegaly, and presence of a mass raised the index of suspicion for ascites secondary to malignancy, with lymphoma being the most likely culprit. Meanwhile, pertinent negatives in the physical examination, including unremarkable cardiopulmonary findings, examination of the sclerae as well as skin, and medical history diminished concern for other causes of ascites, such as systemic tuberculosis or vasculitides. Interpretation of imaging studies aids in the diagnosis of abdominal lymphangioma. In Figure 1, a lobular mass anterior to the intestines may be appreciated, consistent with an omental neoplasm. One of the challenges in diagnosing lymphangiomas on imaging is differentiating them from other fluid-containing masses and from ascites itself.\(^6\) One key difference between ascites and lymphangioma is the absence of fluid collection in gravity-dependent positions—namely, the recesses of small bowel mesenteric structures, paracolic gutters, and pelvic recesses.\(^6\) The collection of fluid in an omental lymphangioma tends to opt in compressing local structures, such as the small intestine. Moreover, laparoscopic biopsy and subsequent analyses were consistent with lymphangioma.

The architecture of lymphangiomas is purported to be the probable underlying cause of anemia in our patient, with the main theory being that networks of fragile capillaries feeding the lesion break as they converge into empty lymphatic channels. They subsequently bleed and cause the lymphangioma to expand, rupture, and bleed externally.\(^7\) Profound hemorrhage of omental lymphangiomas into the abdomen may present as acute abdomen per reports in the literature, necessitating surgical consult and exacerbating the toil of a hospitalization from the perspective of the patient.\(^8\) Treatment options for lymphangioma include surgical removal or sclerotherapy. Options for agents used in sclerotherapy traditionally include doxycycline, with bleomycin emerging as a secondary option.\(^9\) Our patient responded well with sclerotherapy.\(^10,11\) In conclusion, given the paucity of clinical presentations involving omental lymphangioma masquerading as more traditionally observed disease processes, awareness of encounters such as these hold utility in acquainting providers with an expanded differential when treating patients who present similarly.

**DISCLOSURES**

Author contributions: A. Alameri, A. Museedi, M. Nashawi, and A. Ghalli wrote the manuscript. R. Nathanson revised the
manuscript for intellectual content and approved the final manuscript. A. Alameri is the article guarantor.

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Informed consent could not be obtained from the patient despite several attempts. All identifying information has been removed from this case report to protect patient privacy.

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