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**Rupture of a giant jejunal mesenteric cystic lymphangioma misdiagnosed as ovarian torsion: A case report**

Xu J *et al.* Jejunal mesenteric cystic lymphangioma

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**Abstract**

**BACKGROUND**

Cystic lymphangioma is a rare benign tumor that affects the lymphatic system. Mesenteric lymphangiomas in the small bowel are extremely uncommon.

**CASE SUMMARY**

We present the patient of a 21 years woman who complained of abdominal pain. The diagnosis of ovarian torsion was suspected after an abdominopelvic unenhanced computed tomography and ultrasound revealed a large cyst in contact with the bladder, ovary, and uterus. The patient underwent emergency laparotomy performed by gynecologists, but it was discovered that the cystic tumor originated from the jejunum. Gastrointestinal surgeons were then called in to perform a cystectomy. Pathological examination confirmed the diagnosis of cystic lymphangioma of the mesentery. The patient had an uneventful postoperative recovery.

**CONCLUSION**

Mesenteric lymphangiomas can cause abdominal pain, and imaging techniques can help determine their characteristics, location, and size. Complete surgical excision and pathological examination are considered the standard treatment and diagnostic method.

**Key Words:** Rupture; Jejunum; Mesenteric cystic lymphangioma; Ovarian torsion; Surgical excision; Pathological examination; Case report

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**Core Tip:** Cystic lymphangioma is a benign malformation tumor of the lymphatic system. Mesenteric lymphangiomas in small bowel were rare.

## **INTRODUCTION**

The lymphangiomas are benign tumors which may be evolved from congenital malformations of lymphatic vessels<sup>[1]</sup>. Lymphangiomas are rare cystic tumors which usually located in the axilla and neck of children<sup>[2]</sup>. Mesenteric lymphangiomas of small bowel in adults are extremely rare which is less than 1% of all lymphangiomas<sup>[3]</sup>. In this article, we present a case wherein the misdiagnosis of ovarian torsion occurred due to the rupture of a sizable jejunal mesenteric cystic lymphangioma.

## **CASE PRESENTATION**

### ***Chief complaints***

A 21-year-old woman suffered abdominal pain for one day.

### ***History of present illness***

She suffered abdominal pain for one day.

### ***History of past illness***

She had no history of kidney disease, coronary heart disease, hypertension or diabetes.

### ***Personal and family history***

Her personal and family history was normal.

### ***Physical examination***

Tenderness was found around the umbilicus.

### ***Laboratory examinations***

Most laboratory test results, including serum amylase, glutamic-pyruvic transaminase, and creatinine levels, were within normal limits. However, the serum C-reactive protein level was significantly elevated (90 mg/L) (Table 1).

### ***Imaging examinations***

Based on the ultrasound (US) (Figure 1A) and abdominopelvic unenhanced computed tomography (CT) (Figure 1B), the diagnosis of ovarian torsion was suspected. The imaging studies revealed a large cyst (14 cm × 12 cm) in contact with the bladder, ovary, and uterus.

### **FINAL DIAGNOSIS**

The final diagnosis was cystic lymphangioma of mesentery.

### **TREATMENT**

Emergency laparotomy was performed by gynecologists, but during the procedure, it was discovered that the cystic tumor originated from the jejunal mesentery (Figure 2A). A small rupture in the cyst led to the leakage of chylous fluid. Gastrointestinal surgeons were then called in to perform a cystectomy (Figure 2B-D). Pathological examination confirmed the diagnosis of cystic lymphangioma of the mesentery (Figure 3). The patient's postoperative recovery was uneventful (Figure 4).

### **OUTCOME AND FOLLOW-UP**

<sup>4</sup> The patient's postoperative recovery was uneventful.

### **DISCUSSION**

The mesenteric cyst is <sup>1</sup> reported incidence ranges from one per 100000 to one per 250000 of in-patient<sup>[4]</sup>. Because of lacking lymphatic, cystic lymphangiomas can not affect the central nervous system<sup>[5]</sup>. The incidence of mesenteric location is about at 1/20000 in children and 1/100000 in adults<sup>[6]</sup>. The reason of mesenteric lymphangioma may be attributed to the <sup>2</sup> congenital abnormality of lymphatic system which induces sequestration of lymphatic tissues during the development of embryo<sup>[7]</sup>. However, the other reasons such as abdominal trauma, inflammation, lymphatic obstruction, and radiation therapy should be considered<sup>[8]</sup>. Mesenteric lymphangiomas are regularly asymptomatic until they become large. The main symptoms include an abdominal mass

and mass abdominal pain<sup>[9]</sup>. Histopathology of <sup>1</sup> surgical specimen may identify a unilocular or multilocular cyst containing the serous or viscous fluid with cholesterol crystals, chylomicrons, and triglycerides encircled by a single layer of flattened mesothelial immunoreactivity cells with the cytokeratins and a fibrous wall with lymphocytes<sup>[10,11]</sup>.

In this case report, the patient presented with no symptoms prior to the rupture of the cyst but experienced abdominal pain localized around the umbilicus. It is worth noting that abdominal pain can be associated with various other medical conditions, making it difficult to establish the accurate diagnosis based on symptoms. Moreover, no definitive blood tests can be available to confirm the diagnosis. In this particular case, both unenhanced CT and US imaging revealed a large cyst in proximity to the bladder, ovary, and uterus. Unfortunately, the radiologist, sonographer, and gynecologist misdiagnosed the patient's condition as ovarian torsion. Consequently, it became evident that complete surgical excision of the cyst, followed by a pathological examination, was necessary to achieve a definitive diagnosis and provide appropriate treatment.

Surgical excision lies in its capacity to thwart potential malignant transformations, along with the prevention of complications or recurrences<sup>[12]</sup>. Vigilance is imperative during the follow-up period to promptly detect any recurrence of mesenteric cystic lymphangioma.

## **CONCLUSION**

Mesenteric lymphangiomas can cause abdominal pain, and imaging techniques can help determine their characteristics, location, and size. Complete surgical excision and pathological examination are considered the standard treatment and diagnostic method.

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