1. Case report

A 4-year-old boy was admitted to our hospital with progressive abdominal pain associated with vomiting over the past 4 days. He was afebrile and had no cough. His symptoms were not alleviated by intravenous fluids, which were administered for 3 days. His growth and development were normal. A physical examination revealed abdominal distension. No other features were remarkable. The laboratory results including blood cell count and α-fetoprotein levels were all within normal limits.

An ultrasound examination revealed a large, moderate echogenic mass without sharp boundaries in the abdominal cavity. It was about 10.7 cm × 9.8 cm × 4.6 cm in size, of which a 3.5 cm × 2.4 cm hyperechoic area was located in the middle. Full abdominal computed tomography (CT; Figure 1) with intravenous contrast administration showed a 12.4 cm × 9.1 cm × 3.9 cm abdominopelvic mass compressing the adjacent bowel with focal toroidal calcification. In the upper region, a mesenteric cystic teratoma was suspected. A diagnosis involving an abdominopelvic solid and cystic mass, or a possible mesenteric teratoma, was made.

A laparotomy was performed. During the operation, a large (13 cm × 10 cm × 6 cm), yellowish, multicystic, and lobulated tumor was discovered arising from the mesentery, 200 cm proximal to the ileocecal valve (Figure 2). The mass was inseparable from the mesentery and intestinal wall, so resection of the mass, along with the adjacent jejunum, was performed, and gastrointestinal continuity was restored. Histopathology showed a massive expansive lumina with some lymphatic infiltrates in the intestinal wall, focal fibrous tissue hyperplasia, and calcification, but no cartilaginous tissue (Figures 3 and 4). This case was eventually diagnosed as a mesenteric cystic lymphangioma.

The postoperative course was uneventful, and the patient was discharged on Postoperative Day 8. The patient is undergoing regular follow-up and has remained well.

2. Discussion

Lymphangioma is a rare, benign condition characterized by the proliferation of lymphatic spaces. It is usually discovered in the head and neck of affected children. A lymphangioma involving the mesentery of the small intestine is rare, and <1% of all lymphangiomas are discovered in the mesentery of the small intestine. Cystic lymphangiomas are the most frequent mesenteric cysts. However, mesenteric cysts containing a calcified cystic wall have been rarely reported. To the best of our knowledge, only eight mesenteric calcified cysts have been previously reported, of which there were just three pediatric cases. Bishton et al reported on the first case involving a calcified lymphangiectatic cyst in a 12-year-old child. The second reported case published by Kriaa et al was a child who had a calcified mesenteric lymphangioma.
The latest case involving a mesenteric lymphangioma that contained calcification was reported by Buccoliero in 2009.\textsuperscript{4} Differential diagnoses for mesenteric calcified cystic masses include pseudocysts, dermoid cysts, calcified hematomas, hydatid cysts, calcified cystic meconium peritonitis, and cystic teratomas. Our case is unique because the cystic wall of the lymphangioma was densely calcified, mimicking a teratoma.

The differential diagnosis for a calcified cystic intra-abdominal mass might also include a teratoma. Thus, the differential diagnosis should include a cystic lymphangioma and teratoma. Ultrasonography and CT are considered the most appropriate radiodiagnostic modalities to detect cysts of the mesentery. Sonographically, lymphangiomas are most often multilocular anechoic or hypoechoic cystic masses. CT with intravenous contrast administration may show enhancement of the cystic wall and septum.

Teratomas are most often calcified. Ultrasonography shows a complex echo-pattern with solid and cystic components. Teratomas comprise various tissue components such as fat, calcifications, and cysts, and CT examination clearly demonstrates these various tissue components. If the situation allows, exploratory laparoscopy is an appropriate diagnostic option for distinguishing a lymphangioma from a teratoma.

The choice of management depends on type, size, and location of the lymphangioma. If the lymphangioma is small and does not cause any symptoms, then it does not require surgical treatment because of its benign nature. Surgery is often required to determine a definitive diagnosis, as imaging studies are often unable to help in the differentiation of lymphangiomas from other cystic growths. For preoperative diagnoses involving a lymphangioma, appropriate treatment is medical management, such as sclerotizing agents. Sclerotherapy has also been reported in some cases.\textsuperscript{5} Complete surgical excision is the mainstay for the management of intra-abdominal lymphangiomas, as incomplete resection may lead to recurrence. We completely removed the cystic mass that was present in the

**Figure 1** An enhanced computed tomography image showing a predominantly cystic 12.4 cm × 9.1 cm × 3.9 cm mesenteric mass containing calcified foci (arrows).

**Figure 2** A surgical resection specimen of a large (13 cm × 10 cm × 6 cm), yellowish, multicystic, and lobulated tumor.

**Figure 3** Histopathology showed a massive expansive lumen with some lymphatic infiltrates in the intestinal wall, focal fibrous tissue hyperplasia, and calcification, but no cartilaginous tissue (hematoxylin and eosin stain).

**Figure 4** Histopathology showed a massive expansive lumen with some lymphatic infiltrates in the intestinal wall, focal fibrous tissue hyperplasia, and calcification (arrow), but no cartilaginous tissue (hematoxylin and eosin stain).
enteric mesentery of our patient. The patient is undergoing regular follow-up and has remained well.

The differential diagnosis was expanded based on the preoperative study results and postoperative pathological characteristics that were demonstrated in the present case involving a cystic lymphangioma, including a cystic mesenteric mass, with calcified foci. While primary consideration should be given to a teratoma, cystic lymphangiomas may rarely contain calcifications and should be included in the differential diagnosis.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

References