J Ped Surg Case Reports 2 (2014) 297–301

Contents lists available at ScienceDirect

Journal of Pediatric Surgery CASE REPORTS

journal homepage: www.jpscasereports.com

Spontaneous regression of a cystic peripancreatic tumor in a 12-year-old boy: A case report☆

Satoshi Yokoyama*, Akinori Sekioka, Hirofumi Utsunomiya

Department of Pediatric Surgery, Japanese Red Cross Society, Wakayama Medical Center, 4-20 Komatsubara-dori, Wakayama 640-8558, Japan

ARTICLE INFO

Article history:
Received 5 March 2014
Received in revised form
30 May 2014
Accepted 1 June 2014

Key words:
Cystic
Lymphatic malformation
Regression

ABSTRACT

We present a case of spontaneous regression of a cystic peripancreatic tumor in a 12-year-old boy. The cystic tumor was initially suspected to be a pancreatic pseudocyst associated with traumatic pancreatic damage. However, the differential diagnosis included the possibility of lymphatic malformation in view of the clinical and image findings. In anticipation of spontaneous regression, the patient has been followed without treatment. Elective drainage is available but fortunately the cyst has shown no sign of expansion. Close surveillance may be a treatment option for a cystic peripancreatic tumor.

Retroperitoneal cystic tumors are rare. Cystic lymphatic malformation is one of the more common intra-abdominal cystic tumors; the differential diagnosis includes cystic tumors of mesothelial, enteric or urogenital origin; dermoid cysts or teratomas; and pseudocysts from trauma or infectious origins. Outcomes following complete resection of retroperitoneal lymphatic malformation are generally good, however, patients with retroperitoneal lymphatic malformation are more likely to have incomplete excision of the cysts, and therefore have a higher rate of recurrence. We present a case of spontaneous regression of a cystic peripancreatic tumor in a 12-year-old boy.

1. Case report

A 12-year-old boy presented to the emergency room of our hospital because of two days of high fever with worsening abdominal pain associated with nausea and vomiting. Two days prior to admission he had sustained minor trauma to his upper abdomen during a quarrel with his brothers. He developed a high fever and moderate abdominal pain following the incident. At presentation, he complained of worsening abdominal pain. His temperature was 38.0 °C. Bowel sounds were faint. Palpation of his left upper abdomen produced pain without guarding or rigidity. Laboratory data showed hemoglobin 13.2 mg/dL, leukocytosis (18,600/mm3) and a remarkably increased C-reactive protein level (16.8 mg/dL). Serum and urine amylase were both in the normal range. An abdominal X-ray film showed caudal displacement of the transverse colon (Fig. 1). Contrast-enhanced computed tomography (CT) of the abdomen revealed a large cystic mass without calcifications compressing the lesser sac in the gastrosplenic space, and disruption of the continuity of the pancreatic body, suspicious for a pancreatic laceration (Fig. 2a–d). The patient was diagnosed with a traumatic pancreatic pseudocyst due to blunt trauma to the abdomen. He was treated conservatively with the administration of a broad-spectrum intravenous antibiotic (meropenem at 1500 mg/day) and total parental nutrition. The patient began to improve clinically with conservative management.

On the third day after admission, an ultrasound (US) scan revealed a complex cystic mass in the region of the gastrosplenic space (Fig. 3). The patient underwent magnetic resonance imaging (MRI) of the upper abdomen, as well as magnetic resonance cholangiopancreatography (MRCP). MRI showed low signal intensity in T1-weighted sequences and on T2-weighted MRI, a high signal intensity cystic mass with septations was seen occupying the left upper quadrant of the retroperitoneum (Fig. 4a–c).

MRCP revealed an intact pancreatic body and tail with adjacent fluid collections, but no clear evidence of main pancreatic duct transection (Fig. 5). The patient had an uneventful recovery and after seven days in the hospital he resumed p.o. intake. The elevated infection/inflammation laboratory parameters normalized. A repeat

* Corresponding author. Tel.: +81 73 422 4171; fax: +81 73 426 1168.
E-mail address: yokoyama.st@gmail.com (S. Yokoyama).

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http://dx.doi.org/10.1016/j.epsc.2014.06.001

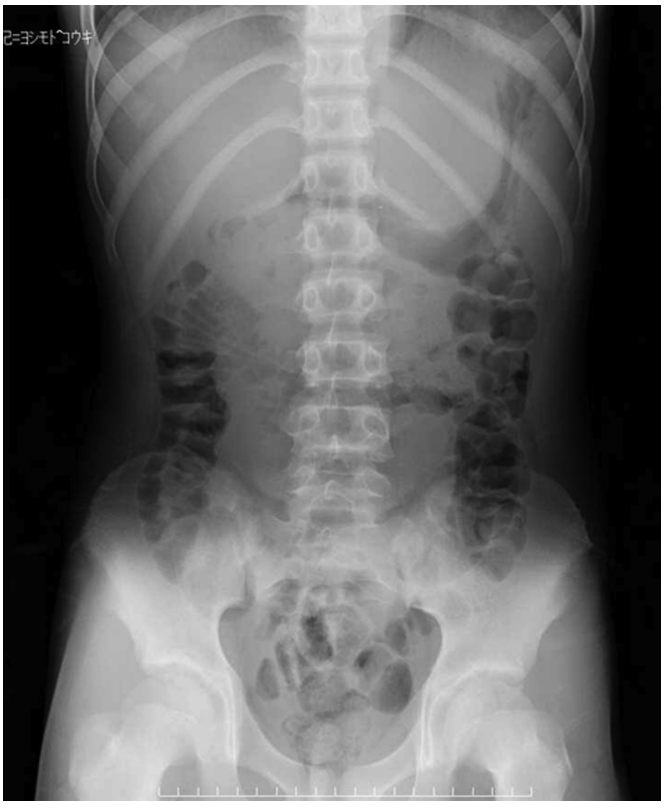

Fig. 1. An abdominal X-ray film showed caudal displacement of the transverse colon.

CT scan on the 12th day after admission showed the cystic mass was slightly reduced in size (Fig. 6). The patient was discharged from the hospital 14 days after admission.

A follow-up MRI scan four months later revealed that the cystic mass was no longer visible. The inside of the cyst did not show signals of blood (usually high T1 signal intensity) but rather of water (usually low T1 and high T2 signal intensity) (Fig. 7). This lesion regressed spontaneously without surgical treatment. Although the diagnosis was not histologically confirmed, a tentative diagnosis of a retroperitoneal cystic lymphatic malformation was finally made based on the imaging findings. On follow-up at 3 years, the patient was well and did not have abdominal complaints.

2. Discussion

Retroperitoneal cystic tumors are rare. Cystic lymphatic malformation is one of the more common intra-abdominal cystic tumors; the differential diagnosis includes cystic tumors of mesothelial, enteric or urogenital origin; dermoid cysts or teratomas; and pseudocysts from trauma or infectious origins.

Lack of rational nomenclature and confusing terminology of vascular lesions has often led to inappropriate diagnosis and treatment. In 1982, Mulliken and Glowacki proposed a classification system of vascular lesions referring to the endothelial characteristics and clinical behavior. This classification divides vascular anomalies into 2 categories: tumors and vascular malformations [1]. Regarded as an abnormality of morphogenesis rather than as a neoplasm, lymphangiomas are now referred to as *lymphatic malformations*.

A lymphatic malformation is a benign congenital anomaly resulting from anomalous lymphatic tissue with the potential to invest surrounding structures [2]. These lymphatic malformations are found in the head, neck, and axilla in 95% of cases, but approximately 5% are diagnosed within the intra-abdominal cavity with the retroperitoneum as the most common location [2–4]. Trauma, infections, surgery, or radiation therapy are generally considered responsible for their pathogenesis in acquired type of lymphatic malformations due to obstruction of lymphatic system [5].

Lymphatic malformations are usually asymptomatic, however the acute presentation of lymphatic malformations can cause abdominal pain, tenderness, distension, fever, leukocytosis, peritonitis, dysuria, and garding. Lymphatic malformations of the retroperitoneum are usually diagnosed in older children or adults [5–8].

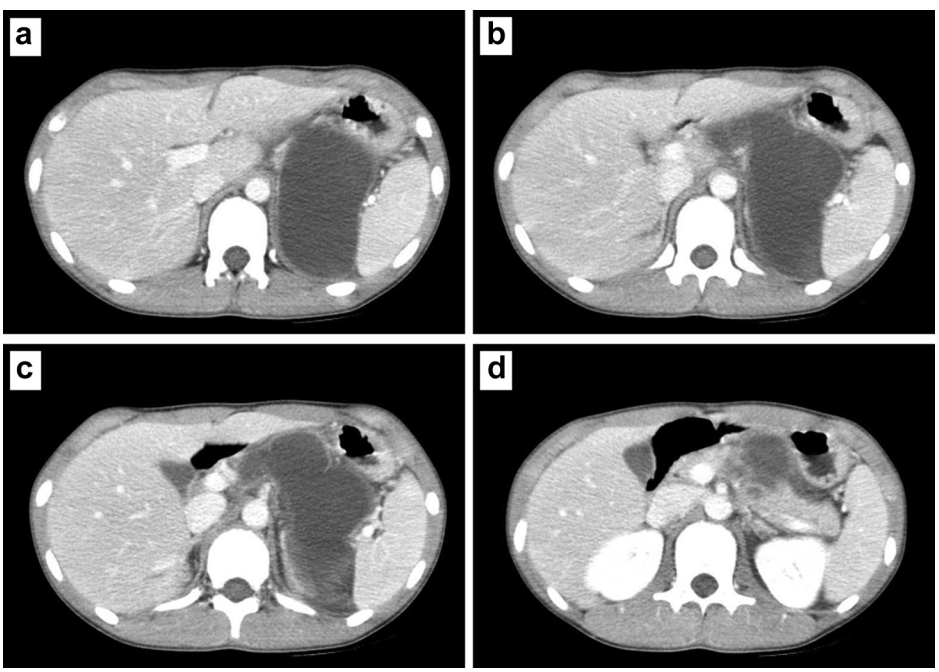

Fig. 2. (a–d): Contrast-enhanced CT of the abdomen revealed a large cystic mass without calcifications compressing the lesser sac in the gastrosplenic space, and disruption of the continuity of the pancreatic body, suspicious for a pancreatic laceration.