CASE REPORT

Traumatic mesenteric pseudocyst

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Abstract

Introduction. Mesenteric pseudocysts have rarely been described in literature. They belong to a group of mesenteric cysts that are very rare intra-abdominal pathology regardless of the origin. The diagnosis is often difficult to make, because of the diversity of clinical symptoms. The definitive histopathological diagnosis determines the origin and further course of treatment.

Case report. We reported a patient with post-traumatic mesenteric pseudocyst. It was localised on the mesenteric side, in the direct contact with the small intestine. We surgically removed the pseudocyst along with a part of the small intestine with success. The patient’s recovery was eventless, with no complications.

Conclusion. Only by complete cyst removal, the definitive, accurate histopathological diagnosis and classification can be made.

Key words: mesentery; cysts; diagnosis, differential; digestive system surgical procedures.

Introduction

Mesenteric cysts are true rarities of intra-abdominal tumor pathology. They can be found along the entire mesentery of the small intestine, colon and rectum. Fluid-filled cysts are usually solitary, but may be multiple and/or multilocular also. The preoperative diagnosis is often difficult and unclear. Clinically, they are usually presented as tumor mass in the abdomen. The most common symptoms are abdominal pain and disturbance of intestinal passage such as constipation and/or vomiting. Multi-slice computed tomography (MSCT) scan and ultrasonography (US) are proved to be the most successful diagnostic procedures. There are many divisions and classifications of these cysts, but the most important and accurate one is histopathological. A successful method of treatment is surgery, either laparoscopic or open approach.

We presented a case with large mesenteric cyst caused by blunt abdominal injury in a car accident.

Case report

A 55-year-old man came to the internist due to a hypertensive crisis, with an arterial blood pressure (BP) value of 230/120 mmHg. The patient know about his arterial hypertension, yet did not go to recall examinations nor took drugs regularly. Since he complained about mild abdominal pain, an abdominal US examination was performed revealing a tumor formation. Physical examinations confirmed the existence of the tumor in the left side of the abdomen, occupying the space of the left hypochondrium and the lateral quadrant of the mesogastrium. It was determined by palpation to be round-shaped, about 15 cm in diameter, slightly sensitive and painful. The laboratory findings including complete...
blood count and clinical biochemistry tests were within normal range, with exception of cholesterol and triglycerides which were elevated. The patient started receiving antihypertensive therapy followed by normalization of BP. Repeated US confirmed tumor formation, which was seen as a hypoechogenic cyst approximately $15 \times 12$ cm in diameter, with a hyperechoic wall and posterior amplification. MSCT scan showed a hypodense circular formation with hypoechogenenous content, which was in direct contact with the jejunal loops, unevenly thin with partially calcified wall, without a change in postcontrast attenuation. In the peritoneum and retroperitoneum no enlarged lymph nodes were found nor the presence of free intraperitoneal fluid (Figure 1). Irrigography excluded the possibility of infiltration of the colon, external compression of the caudal part of the transverse colon was seen, without lumen narrowing. The patient had no previous surgery. The patient stated a traffic accident two years ago, in which he received a blunt impact in the abdomen, without any significant consequences.

The patient was operated on under general anaesthesia, with an open surgical approach, medial laparotomy. A tense, cystic and oval tumours change was found intraperitoneally, and a slightly tense wall, and direct contact to the proximal part of the jejunal mesentery (Figure 2). The unilocular cyst contained a residual viscous mass similar to milk. An attempt of enucleation was compromised by the vascularization of the jejunum, so partial resection of the jejunum along with the cyst was performed (Figure 3). The continuity of the small intestine was established by end-to-end anastomosis. The postoperative course was eventless. The patient was introduced to peroral food intake on the postoperative day 2 and abdominal drain was removed 4 days after the surgery. The biochemical content of the cysts showed no presence of amylase, while the level of cholesterol and triglycerides was high, and the microbiological culture was sterile.

The definitive histopathological examination showed that the wall of macroscopic tumor formation was formed from multiplied acellular connective tissue, and on its outer side an adipose tissue were found. The connective tissue was impregnated with small groups of lymphocytes, as well as foci of calcification. Groups of foamy histiocytes were located on the inner surface. The presence of epithelium was not found (Figure 4). Amorphous eosinophilic material impregnated with small groups of lymphocytes siderrophages was located in the lumen. The findings corresponded to the mesenteric pseudocyst.
Discussion

Benivieni, a Florentine anatomist, first described a mesenteric cyst in 1507, during the autopsy of an 8-year-old boy. The first resection of a cyst was performed in 1880 by Tillaux and Millard. The first successful laparoscopic resection was presented in 1993 by Mackenzie et al. The original classification divides cysts into 4 categories: embryonic, traumatic, neoplastic and infectious. This division clearly indicates the etiology of cyst formation. There are different classifications of cysts, but certainly, the most reliable are histological and immune histopathological classifications, which divide cysts into several groups. In 2000, de Perot et al. proposed a 6-group classification based on histopathology: lymphatic cysts (simple lymphatic cyst and lymphangioma); mesothelial cysts (simple mesothelial cyst, benign cystic mesothelioma, and malignant cystic mesothelioma); enteric cysts (including enteric duplication cyst); urogenital cysts; mature cystic teratoma (dermoid cysts); and pseudocysts (infectious and traumatic cysts).

Several years later a new classification was proposed, based on immunohistochemical findings, as a better prognostic predictor of biological behaviour.

Trumatic cysts are relatively rare in intact blunt abdominal traumas, and only several cases are described in the literature. They are the result of mesenteric lymphangitis and rupture or hematoma with subsequent resorption and cystic degeneration in most cases. They can be found along the entire mesentery of the small intestine, colon and rectum. They can also be found in the omentum and retroperitoneum. Cysts are usually solitary, but may be multiple and/or multilocular. In any case, whether they are mesenteric, omental or retroperitoneal, the cysts originate from the same embryonic structures. The content of the cyst can be chylous, bloody or purulent. It is clear that only traumatic and infectious pseudocysts do not have epithelium, resemble a pancreatic pseudocyst. The size of cysts may range from a few centimeters up to 10–15 cm, as in the presented case, with the literature refers the size of up to 36 cm in diameter.

The incidence of mesenteric and omental cysts is low; it is higher in the cases of paediatric hospitalized patients and it is approximately 1/20,000, comparing to the adult population which is about 1/140,000. In cases of traumatic pseudocysts, considering the incidental etiology, the frequency is unknown. Clinical symptoms are nearly always nonspecific, and presented as intra-abdominal tumor formation which is often incidentally discovered during abdominal US, with exception of uncomplicated cysts. Depending on localisation, they can mimic a pancreatic pseudocyst often, small intestine tumor, or paraovarial cyst. The most common symptoms are abdominal pain and disturbance of intestinal passage, while the most common complications are cyst torsion, rupture and ileus of the small intestine or the colon. In such cases, acute abdominal condition exists, where it is almost impossible to determine the preoperative diagnosis. Unlike adults who can have asymptomatic cysts, children usually have symptomatic cysts which are often presented as an acute abdominal condition.

Conclusion

A traumatic mesenteric cyst is a very rare abdominal pathological finding. Surgical treatment is the method of choice, either open or by the laparoscopic approach. Both techniques are used with equal success. The definite and accurate histopathological diagnosis can be made only by complete cyst removal as in the presented case.

Conflict of interest statement

There was no conflict of interest among the authors.
REFERENCES


