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Case Report

Laparoscopic Treatment of Mesenteric Cysts: Report of Two Cases With a Literature Review

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Introduction: Mesenteric cysts are rare intra-abdominal masses. They do not show classic clinical findings and are detected incidentally during imaging because of their absent or nonspecific clinical presentation. We herein report 2 cases of mesenteric cysts that were successfully diagnosed and resected through a laparoscopic approach.

Case presentation: In a 35-year-old man underwent a comprehensive medical checkup at another hospital, during which ultrasound incidentally revealed a cystic mass in his right retroperitoneum. The patient was referred to our hospital for surgical treatment. He was asymptomatic and his medical history was unremarkable. Physical examination revealed no palpable abdominal mass, and all laboratory test results were within normal ranges. Contrast-enhanced computed tomography showed a 7.2-cm-diameter smooth-surfaced, well-demarcated mass behind the right colon without a contrast effect (Fig. 1). We considered the cyst to be benign and localized in the mesentery of the ascending colon. In one patient, the cyst was located in the mesentery of the ascending colon and removed via a right hemicolectomy; in the other patient, the cyst was located in the sigmoid mesentery, which was completely resected through the operative wound under an open procedure after laparoscopic mobilization of the sigmoid mesentery. We chose the laparoscopic approach in both cases because the cysts were considered benign, noninfectious, and nonhemorrhagic. Histologic examination revealed cystic lymphangioma in both cases.

Conclusion: For mesenteric cysts, laparoscopy could be a preferred approach in properly selected patients.

Key words: Laparoscopy – Lymphangioma – Peritoneal neoplasms – Laparoscopy

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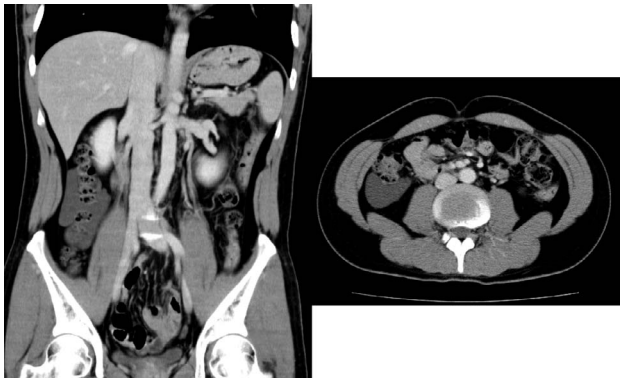

Fig. 1 Contrast-enhanced computed tomography showed a 7.2-cm-diameter smooth-surfaced, well-demarcated mass behind the right colon.

Mesenteric cysts are rare intra-abdominal masses. They do not show classic clinical findings and are detected incidentally during imaging because of their absent or nonspecific clinical presentation.[1] They have not been well defined or classified because of their rarity.[2] Mesenteric, omental, and retroperitoneal cysts are considered one group because they are derived from the same embryological structures, whereas mesenteric cysts are defined as cysts arising in or near the mesentery with no connection to retroperitoneal organs.[3–5] Preoperative diagnosis of abdominal cystic disorders has improved with the development of ultrasonography, computed tomography (CT), and magnetic resonance imaging; however, these modalities do not allow for accurate determination of the origin of cysts. Laparoscopy not only helps to localize and further characterize the cysts, but also has a therapeutic role. We herein report 2 cases of mesenteric cysts that were successfully diagnosed and resected through a laparoscopic approach. We also provide the findings of our literature review on this subject.

Case Presentation

Case 1

A 35-year-old man underwent a comprehensive medical checkup at another hospital, during which ultrasound incidentally revealed a cystic mass in his right retroperitoneum. The patient was referred to our hospital for surgical treatment. He was asymptomatic and his medical history was unremarkable. Physical examination revealed no palpable abdominal mass, and all laboratory test results were within normal ranges. Contrast-enhanced CT showed a 7.2-cm-diameter smooth-surfaced, well-demarcated mass behind the right colon without a contrast effect (Fig. 1). We considered the cyst to be benign and localized in the mesentery of the ascending colon. We planned to perform a right hemicolectomy through a laparoscopic approach.

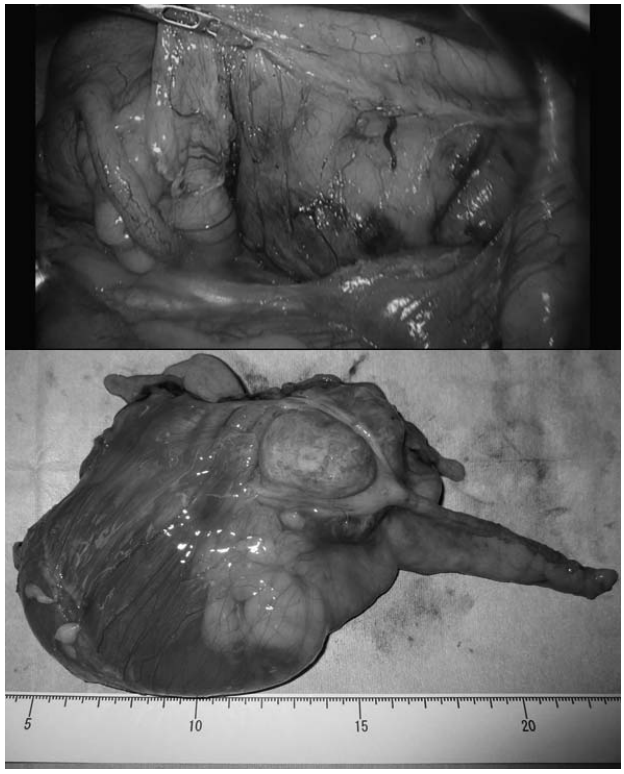

Fig. 2 (a) The tumor was identified on the mesocolon after mobilization of the mesentery of the ascending colon. (b) Macroscopic examination revealed a 9.2- × 6.0-cm unilocular cyst.

Laparoscopy was performed with the patient in the lithotomy position. Five trocars were placed, and the patient was placed in the Trendelenburg. The small bowel mesentery was first dissected from the ligament of Treitz to the cecum through an inferior approach; the mesentery of the ascending colon was then carefully mobilized through the same dissection plane.[6] After full mobilization of the mesentery, we identified the tumor in the mesocolon, not on the retroperitoneum (Fig. 2). We determined that the tumor could not be enucleated completely and performed a right hemicolectomy. The right colon was pulled out from the incision at the umbilicus after extension of the umbilical wound. The procedure time was 137 minutes, and the estimated blood loss was 10 mL. The patient had an uneventful postoperative course and was discharged on postoperative day 7. Macroscopic examination revealed

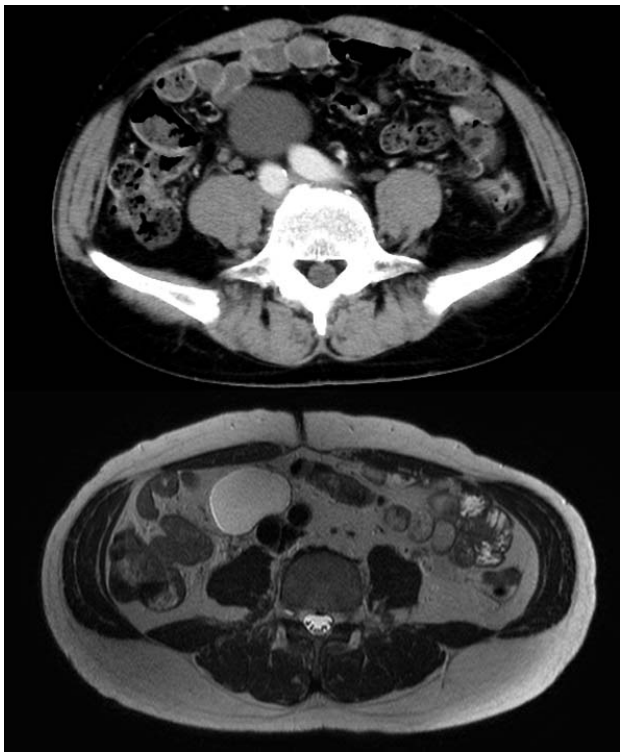

Fig. 3 Abdominal computed tomography and magnetic resonance imaging showed a 5.4-cm-diameter well-circumscribed tumor adjacent to the right iliac artery.

a 9.2- × 6.0-cm unilocular cyst (Fig. 2). Histologic examination revealed a cyst with a single layer of lymphatic endothelial cells. These histologic findings were compatible with cystic lymphangioma.

Case 2

A 62-year-old man with a history of benign prostatic hypertrophy presented to another hospital with left lower abdominal pain, and CT revealed an abdominal cystic mass. The patient was referred to our hospital for surgical treatment. Abdominal CT and magnetic resonance imaging showed a 5.4-cm-diameter well-circumscribed tumor adjacent to the right iliac artery (Fig. 3). We considered the cyst to be localized in the mesentery of the small intestine, but we could not determine its precise location. Four trocars were placed, and the tumor was not found on the mesentery of the entire small bowel. After detailed observation, the tumor was detected in the mesentery of the sigmoid colon (Fig. 4). The sigmoid mesentery was mobilized, and the tumor was partially resected laparoscopically. After extension of the umbilical wound, the tumor was completely

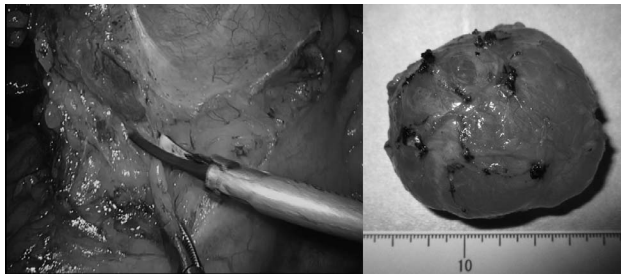

Fig. 4 (a) The sigmoid mesentery was mobilized, and the tumor was partially resected laparoscopically. (b) The tumor was completely enucleated.

resected through the wound under an open procedure (Fig. 4). The procedure time was 128 minutes, and the estimated blood loss was 10 mL. The patient was discharged on postoperative day 4. He developed a minor surgical site infection but recovered in 1 week. The cyst was diagnosed as a cystic lymphangioma.

Written informed consent was obtained from the patients of the cases for publication of this case report and any accompanying images. The patient's anonymity has been preserved.

Discussion

Mesenteric cysts are rare cysts located in the mesentery and identified in about 1 of 100,000 adult hospital admissions.[7] They are classified into 6 groups based on their histopathologic features: cysts of lymphatic origin (simple lymphatic cysts and lymphangiomas), cysts of mesothelial origin (simple mesothelial cysts, benign cystic mesotheliomas, and malignant cystic mesotheliomas), cysts of enteric origin (enteric cysts and enteric duplication cysts), cysts of urogenital origin, mature cystic teratomas (dermoid cysts), and pseudocysts (infectious and traumatic cysts).[1] This classification is important because each of the 6 groups has distinct clinical features. Simple lymphatic and mesothelial cysts usually remain stable and asymptomatic over time, whereas lymphangiomas and benign cystic mesotheliomas may have aggressive and invasive properties.[1]

Large mesenteric cysts should be removed to exclude malignant transformation because the definitive diagnosis can be made by resection. They should also be removed to prevent the development of acute abdomen induced by torsion, rupture, or infection. Once the decision has been made to remove a mesenteric cyst, the next decision is whether to perform resection through an open or

laparoscopic approach; this depends on the preoperative diagnosis. If the cyst is possibly hemorrhagic, infectious, or parasitic, the open approach might be preferred. When malignancy is suspected, the open approach is also considered reasonable. We chose the laparoscopic approach in our cases because the cysts were considered benign, noninfectious, and nonhemorrhagic. Although there are no larger series regarding the laparoscopic approach for treatment of these cysts, laparoscopic resection of mesenteric cysts has recently been advocated in many centers.[8,9] Laparoscopic cyst removal is considered a preferred approach and can be performed safely in properly selected patients. In Case 1, we fully mobilized the mesentery of the ascending colon through the inferior approach, which is the same approach used for ascending colon cancer. We prefer to use the inferior approach to mobilize the right colonic mesentery because it enables faster and wider mobilization of the right colon than does the medial approach for right-sided colon cancer.[6] In Case 2, we could not accurately determine the location of the cyst; it was subsequently seen near the root of the mesentery of the sigmoid colon. After mobilization of the mesentery, we considered the cyst to be completely enucleated through the operative wound under an open procedure.

In conclusion, we have herein reported 2 cases of mesenteric cysts that were successfully diagnosed and resected through a laparoscopic approach. Laparoscopy for mesenteric cysts could be a preferred approach in properly selected patients.

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