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Case Report

Laparoscopic Treatment of Primary Hydatid Cyst of Omentum

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Omental hydatid cysts usually secondarily exist after the spontaneous, traumatic, or iatrogenic perforation of primary abdominal hydatid cysts. An isolated omental hydatid cyst in the absence of other organ involvement is very rare. Here, we present a 49-year-old male with a primary omental hydatid cyst. He was living in an urban area, but he spent his childhood in rural areas and worked with livestock. The differential diagnosis was not easy because of the negative serological test. Laparoscopic exploration revealed the diagnosis of hydatid cyst and it was removed by laparoscopy without spillage of the cyst contents. After the total excision, no albendazole treatment was prescribed. Isolated omental hydatid cysts should be in the differential diagnosis of the peritoneal cysts and its laparoscopic total excision is a feasible treatment.

Key words: Cyst – Echinococcus granulosus – Laparoscopy – Omentum

Hydatid disease is a zoonotic infection that can be found in Continental Asia, the Middle East, Balkans, South America, and Africa. It is a parasitic infection caused by the larval form of *Echinococcus granulosus*. Embryos of the parasite reach the liver via the portal venous system and some of the embryos can pass the liver and reach the lungs. That's why the liver and lungs are the most often infected organs. If the parasite passes the lung, it is distributed by the systemic circulation and hydatid cysts can be seen anywhere in the body except nails, hair, and teeth. Isolated omental hydatid cysts in the absence of any other organ are very rare.[1–4] Surgery is the main treatment method of the primary omental hydatid cysts and the surgical treatment can be done by open or laparoscopic methods. Despite the advantages of laparoscopy, there was only one reported case on the laparoscopic excision of an omental hydatid cyst.[5] Here, we have aimed to present the laparoscopic total excision of a primary omental hydatid cyst.

Case Presentation and Surgical Technique

A 49-year-old male was admitted for chronic abdominal pain and distention for 2 years. Physical examination revealed a mobile, well-circumscribed mass at the right upper abdominal quadrant. He had no history of surgery or trauma. He was living

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Fig. 1 Computed tomography of the abdomen.

in an urban area, but he spent his childhood in rural areas and worked with livestock. Routine laboratory results were unremarkable. Abdominal computed tomography demonstrated a 9×7 cm cystic lesion in the peritoneum. It was not related with the liver (Fig. 1). Mesenteric cyst, duplication cyst, and hydatid cyst were the differential diagnosis. He did not have a history of feeding dogs, and no people in his family had known hydatid disease. Serologic test for *Echinococcus granulosus* (indirect hemagglutination test) was negative and chest x-ray was normal. Laparoscopic surgery was offered to the patient and his informed consent was taken.

Pneumoperitoneum was created by Veress needle through a subumbilical incision and three trocars were inserted as Fig. 2. There was a mobile cystic lesion in the greater omentum at the right upper quadrant. Its pale, thick capsule and its close

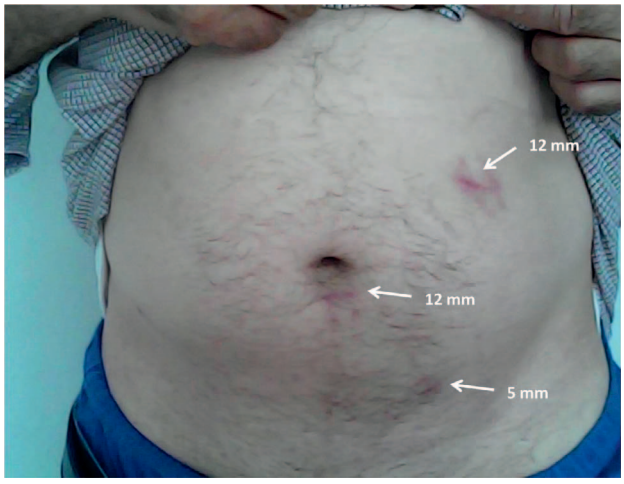

Fig. 2 Insertion sites of 3 trocars.

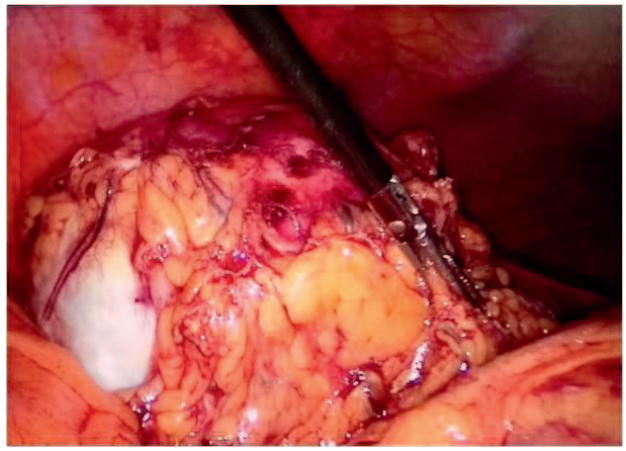

Fig. 3 Mobile cystic lesion in the greater omentum.

adhesions with the omentum were indicated of a hydatid cyst (Fig. 3). The cyst was separated from the surrounding omentum by a vessel sealing system (LigaSure Atlas 10 mm, Covidien Ltd, Dublin, Ireland). This separation was not very close to the cyst to prevent the perforation and some piece of omentum was allows to remain over the cyst. When the cyst was completely free in the abdomen, an endobag (Wel-endobag medium, Welfare Medical, Hampshire, England) was introduced from the left upper quadrant and the cyst in the bag was extracted after aspirating its contents. When the cyst was opened, the typical laminar membrane of the hydatid cyst was observed (Fig. 4). Port sites were sutured and no drain was placed. His postoperative course was uneventful and he was discharged on day 3. No albendazole was prescribed and he was

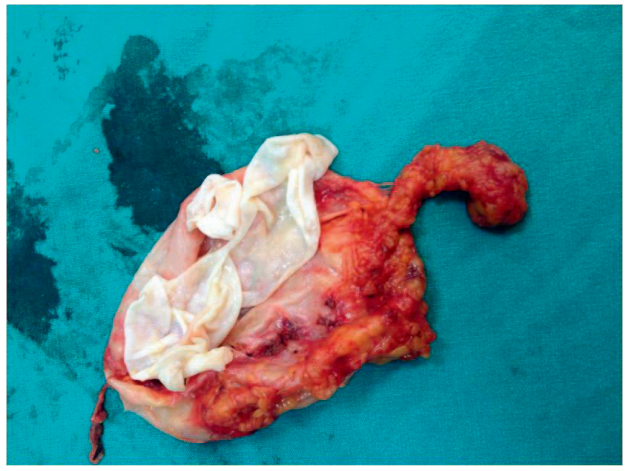

Fig. 4 Opened cyst showing typical laminar membrane of a hydatid cyst.

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well after a 3-month follow-up. The histopathologic result was hydatid cyst.

Discussion

Omental hydatid cysts are usually the secondary cysts that occur as a result of spontaneous, traumatic, or iatrogenic perforation of the primary abdominal hydatid cysts. Although the omental location was hypothesized as the microperforations of the primary liver hydatid cyst, it is difficult to explain an omental cyst without coexisting liver or other intraabdominal hydatid cysts. Isolated omental hydatid cysts in the absence of other organ involvement are very rare and their pathophysiology can be explained by the embryos in the systemic circulation or transport via the lymphatics.[6] There was similar confusion on subcutaneous hydatid cysts in the past. However, we demonstrated that the subcutaneous location was most probably through the systemic circulation, not from the transcutaneous pathway.[7]

The primary omental abdominal cyst may be asymptomatic or may lead to a mass lesion, as in our case. In the differential diagnosis, mesenteric cysts, gastrointestinal duplication cysts, ovarian cysts, cystadenoma lymphangioma, or even hematoma or abscess should be considered. While the diagnosis of hydatid cyst was in our differential diagnosis, negative serologic results led to mesenteric cyst as the most probable diagnosis. However, laparoscopy revealed a diagnosis of hydatid cyst.

Omental hydatid cysts should be treated because of their potential complications and surgery is their main treatment method. The risk of spillage and peritoneal contamination are the major concerns in hydatid surgery and that's why open surgery can be suggested. However, when compared to liver hydatid cysts, omental hydatid cysts are more prone to radical surgical methods due to their high mobility in the peritoneum. In our case, laparoscopy allowed for the total excision of the cyst without any difficulty or spillage. Dissection away from the cyst and using endoscopic bags are the mainstays of the prevention of spillage. Laparoscopic excision also has the advantage of the early recovery, less pain, lower wound related complications, and faster return to daily life. There was only 1 case report previously published about the laparoscopic treatment of an isolated hydatid cyst.[5] In that case, the cyst was enucleated from the surrounding omental tissues. In our case, we did not peel the pericystic omental tissues and a small amount of omentum was resected with the cyst as well.

In conclusion, isolated omental hydatid cyst should be in the differential diagnosis of the peritoneal cysts and its laparoscopic total excision is a feasible treatment.

Acknowledgments

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References

1. Kulacoglu HI, Oruc MT, Kocaerkek Z, Seckin S, Coskun F. Unusual locations of hydatid disease: an evaluation of 77 cases. *Turk J Gastroenterol* 2001;**12**(4):299–302
2. Karyagar S, Kayalibag E, Yazici S, Hatay R, Hobek A, Aydin T. Ruptured hydatid revealed the diagnosis of hydatid cyst of omentum as a cause of acute abdomen: case report. *Okmeydani Med J* 2003;**20**(2):47–49
3. Rathod KJ, Lyndogh S, Kanojia RP, Rao KL. Multiple primary omental hydatid: rare site for a common infestation. *Trop Gastroenterol* 2011;**32**(2):134–136
4. Karagulle E, Turk E, Ozcimen EE, Yildirim E, Moray G. Acute abdomen caused by primary torsion of the omentum in hydatid disease. *Int Surg* 2009;**94**(3):279–281
5. Ates M, Dirican A, Isik B, Yılmaz S. Laparoscopic management of an isolated primary omental hydatid cyst: a case report and literature review. *Int J Surg Case Rep* 2011;**2**(4):58–60
6. Morris DL, Richards KC. *Biology of Echinococcus. Hydatid Disease. Current Medical and Surgical Management*, Oxford, UK: Butterworth-Heinemann, 1992
7. Kayaalp C, Dirican A, Aydin C. Primary subcutaneous hydatid cysts: a review of 22 cases. *Int J Surg* 2011;**9**(2):117–121

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