

Laparoscopic management of an isolated primary omental hydatid cyst¹Ahmet Pergel, M.D, ¹Ahmet Fikret Yucel, M.D, ¹Ibrahim Aydin, M.D, ¹Dursun Ali Sahin, M.D,
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Abstract: Hydatid cyst disease can still frequently be seen in endemic regions, particularly in the Middle Asian countries, South America, and South Europe. Although hydatid cyst can be seen in all regions of the body, it most frequently affects the liver and lung. Omental hydatid cysts occur in consequence of direct spread from cysts in other regions or hydatidosis after operation. Primary omental cysts, however, are rarely seen. We presented here a 48-year-old man whom we laparoscopically treated because of primary omental hydatid cyst.**Keywords:** Echinococcus granulosus, primary omental hydatid cyst, laparoscopic treatment.

INTRODUCTION

Echinococcus granulosus (EG) is a taenia living in the bowel of infected dogs. Eggs are scattered around through dog stool. Eggs come to the bowel particularly by eating unwashed fruit and vegetables. Larvae penetrate into the jejunum mucosa by opening of eggs in the bowel and can settle into all organs, primarily to the liver (70%) and lung [1]. Extrahepatic hydatid disease frequently occurs after hepatic involvement. Apart from the liver, however, no isolated organ involvement with EG is very rare. Omental hydatid cyst frequently develops depending on rupture of a cyst localized in the liver or spleen (operative, traumatic). If hydatid cyst is not found in another organ apart from the omentum, it is then called as primary omental hydatid cyst [2]. Today, surgical approach in the treatment of hydatid cyst is still widely accepted as a standard treatment. Along with advances in laparoscopic methods, laparoscopic approaches are increasingly applied in the treatment [3, 4]. Because isolated organ involvements are rarely seen, however, very few applications are present in the literature.

CASE REPORT

A 48-year-old male was admitted to our department with a 2-month history of lump in the left abdominal region. A non-tender, mobile mass with smooth borders was palpated in the left lower abdominal quadrant.

In ultrasound and tomogram, two pieces of cystic mass with regular contour were determined, which are about 8x6 cm in the left lower quadrant and 6x4 cm in the left upper quadrant inside the abdomen. Due to calcification on the cyst wall and septate

appearance, omental hydatid cyst was considered. No pathological appearance was available in the liver and other organs (Figure 1). Anti-hydatid cyst antibody, measured by ELISA, was positive and liver function as well as hematological and biochemical tests were within normal limits.

Cysts were decided to be laparoscopically excised. Albendazole 10 mg/kg/day was initiated from one week ago. Under general anesthesia, pneumoperitoneum was achieved with Veress needle accessing from umbilicus. A 10-mm trocar was placed at the umbilicus, 2 pieces of 5-mm trocar from the midclavicular line in the left upper and lower abdominal quadrants (Figure 2).

Camera was entered through the 10-mm trocar (Picture 2). By the help of LigaSure, cysts were carefully separated from adhesions in the omentum. Cysts were taken outside the abdomen by enlarging incision on umbilicus (Figure 3).

The patient was discharged at the postoperative 2nd day. The final histopathological diagnosis was hydatid cyst. The cut sections of the lesions revealed multiloculated cysts and heterogeneous yellow light brown areas. Histopathologically, germinative and laminar membrane, and many scolices were seen. (Figure 4).

Albendazole 10 mg/kg/day was initiated for 3 months. Hemogram, liver function tests, indirect hemagglutination tests and abdominal ultrasonography at

the 3rd, 6th and 12th months were performed during

follow-up. All results were in normal ranges.

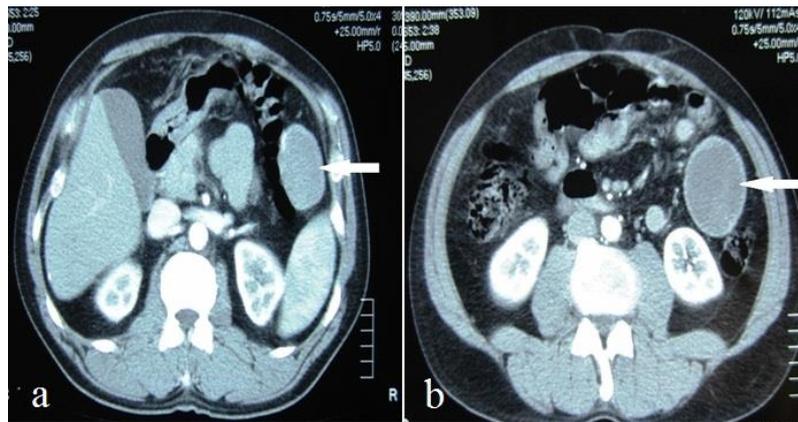


Fig 1: Abdominal computerized tomography revealed mesenteric cystic lesions of 6x4 cm and 8 x 6 cm being independent of other organs of the abdominal cavity (a and b)



Fig-2: Appearance of abdominal wall after laparoscopic surgery

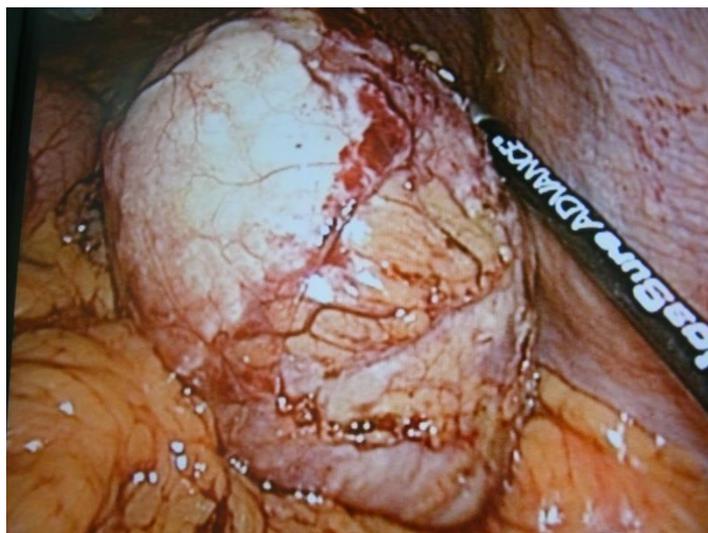


Fig -3: Separated adhesions of omental cysts with LigaSure

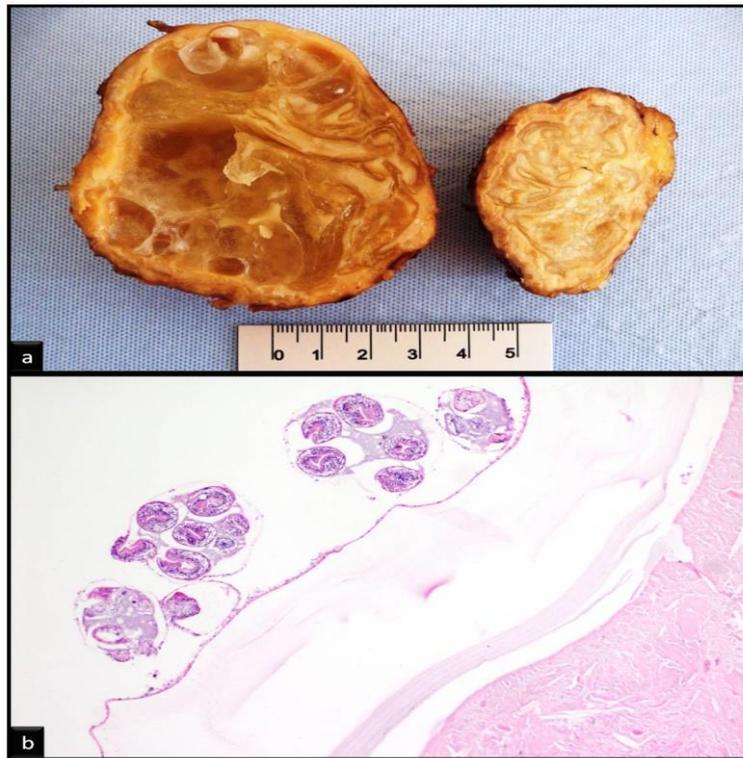


Fig 4: a-Cut surfaces of two nodular lesions. b- Many scolices is seen near the germinative membrane and cuticle (H&Ex200).

DISCUSSION

Extra hepatic *Echinococcus granulosus* infection mostly is together with hepatic involvement. It frequently develops as secondary to surgery of abdominal cysts or through direct spread from another cyst and is mostly seen more than one [5]. Extrahepatic isolated organ involvements are rarely seen. In the literature, rare localizations such as pancreas, heart, spinal cord, eye, bone, bladder, and skin were reported. Eggs entering from intestines to the portal system may form hydatid cyst in various organs after hepatic pulmonary barriers are passed. However, this is a difficult way. Another way, oncospheres can be implanted directly to intraabdominal organs through enteric lymphatic flow [6].

Primary omental hydatid cysts usually are asymptomatic at the beginning. As long as cyst grows, complaints may develop depending on localization. In general, they apply to clinic with an abdominal palpable lump. Early diagnosis is important in terms of rupture development, torsion, and infection development [7]. In our case too, there was no any complaint apart from an abdominal palpable lump.

Today, through advanced imaging techniques, a diagnosis is established by 70-85% by ultrasound, by 80-90% by computed tomography. With these examinations, calcification, presence of daughter cysts, septate cyst appearance, and membranes can be seen on the wall of cyst suggestive of hydatid cyst. When these

two examinations are used at the same time, the accuracy rate is also increased [8]. From tests used commonly serologically, immunoelectrophoresis is sensitive by 66-68%, enzyme-linked immunosorbent assay (ELISA) is by 95-97% [3].

In hydatid cyst cases not treated, complications develop at the rate of 90%. In 1% of diseases, however, spontaneous regression happens. When diagnosed, the treatment should be realized as soon as possible. Even if omental hydatid cysts are asymptomatic, they should be excised totally due to the risk of rupture, hemorrhage, and torsion. Because of the risk of anaphylaxis and intraperitoneal invasion, cyst should be excised without causing rupture [9].

Pre- and postoperative albendazole therapy should be added to the treatment to prevent spillage and to avoid recurrence of the disease. The subject that antihelminthic drugs given preoperatively prevent recurrences still is controversial today. However, antihelminthic drugs given preoperatively are reported to soften cyst and to ease their excisions by reducing intracystic pressure [10]. Various modalities of treatment like medical management, percutaneous image-guided injections of scolicidal agents, open and laparoscopic excision of cyst are described for the treatment of hydatid cyst. Laparoscopic method is suggested by a lot of surgeons due to its advantages in appropriate uncomplicated hydatid cyst cases. As much as properties of the patient, however, experience of the

surgeon also plays an important role in selection of method [11]. With this method, a hepatic hydatid cyst case was treated in 1993 for the first time [4]. Because cysts are not large and localizations are reachable, laparoscopic excision was performed in our case by considering advantages of laparoscopic surgery. Cysts were successfully excised by the help of endobag by separating from the omentum by means of Ligasure without being traumatized.

CONCLUSION

We presented here a primary omental hydatid cyst case which is rarely seen and laparoscopically treated by us. In appropriate cases, laparoscopic method is an effective and safe treatment method. Additionally to this, antihelminthic drugs should be added to the therapy in the pre- and postoperative period in terms of spillage and recurrences.

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