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Case Report

SILS hepatectomy for hepatic hydatid disease: a case report

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Abstract: Single-incision laparoscopic surgery (SILS) is being used with increasing frequency in the treatment of many conditions requiring surgery. Experience with SILS for hepatectomy is limited. This is one of the first reports of SILS hepatectomy in the treatment of hepatic hydatid disease. A 17-years-old female who has 89 × 59-mm cystic mass in the left lobe of the liver was admitted with abdominal pain persisting for several months. For treatment of the mass, SILS hepatectomy performed. Although complexity of the liver structure and the technical difficulties of SILS restrict its applications in hepatic surgery, the treatment of liver hydatid disease with SILS in selected patients is safe and efficient. Moreover, it allows a better cosmetic result and rapid recovery.

Keywords: Single incision laparoscopic surgery, hydatid disease, hepatectomy

Introduction

Hydatid disease is a parasitic disease caused by *Echinococcus granulosus* and is endemic in Eastern Europe, the Mediterranean coast, and South Africa. Turkey is among the countries in which hydatid disease is common. The liver is affected most frequently (50-70%) [1]. Despite advances in medical treatment and radiological intervention methods, the main therapy is still surgery [2]. The surgical treatment depends on the patient's general condition, the location and number of cysts, and the surgeon's experience. With the increase in the popularity of laparoscopic surgery over the last 15-20 years, some laparoscopic methods have been adopted in the therapy of hydatid disease. Single-incision laparoscopic surgery (SILS) is being used with increasing frequency in the treatment of many conditions requiring surgery. Experience with SILS in hepatic surgery is limited. The literature includes a few case reports of SILS hepatectomy for malignant and benign diseases. To our knowledge, however, there is a few report of SILS hepatectomy in the treatment of hepatic hydatid disease. In this article, we report the treatment of a hydatid cyst located in the left hepatic lobe using a SILS hepatectomy.

Case report

A 17-year-old female was admitted with abdominal pain persisting for several months. The physical examination was unremarkable. Abdominal ultrasonography showed an 89 × 59-mm cystic mass in the left lobe of the liver. Abdominal magnetic resonance imaging (MRI) conducted the same day showed a multiloculated, multiseptated mass that was hypointense on T1-weighted images, with no contrast uptake in T2 hyperintense secants. The serological investigation was positive for hydatid disease and surgical intervention was planned. Preoperatively, albendazole 10 mg/kg p.o. was given for 3 weeks.

Surgical technique

The patient was placed in the supine position. The surgeon stood between the patient's spread legs. The abdomen was entered under direct vision via a 2-cm infraumbilical incision. A Covidien SILS port was introduced and pneumoperitoneum was instituted (**Figure 1**). Exploration showed a multilobulated cystic mass invading two-thirds of the left lobe of liver in the lateral segment. The transection border was marked with monopolar cautery and a segmen-

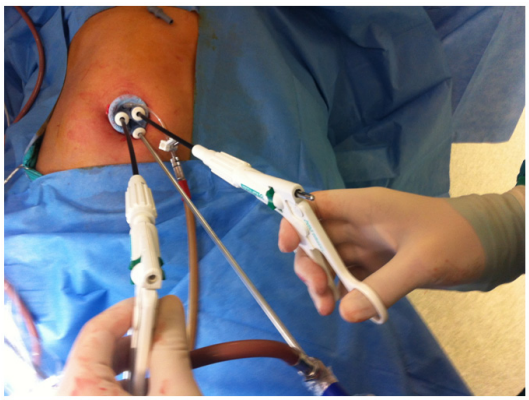

Figure 1. Single port laparoscopic surgery port and instruments in use.

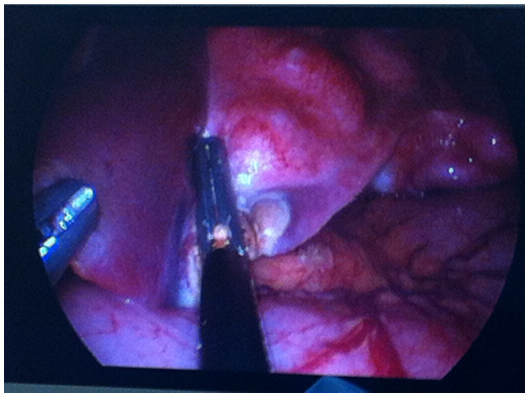

Figure 2. Segmentectomy with 5-mm EnSeal probe.

tectomy was completed with a 5-mm EnSeal probe (SurgRx, Redwood City, CA) (**Figures 2**, **3**). To prevent spillage from the specimen, a 15-mm endobag was introduced into the abdomen through the umbilical port. After placing the specimen in the bag, it was fragmented and removed from the abdomen (**Figure 4**). A drain was inserted through the umbilicus and placed in the hepatic area, and the operation was finished. The postoperative period was uneventful and the drain was removed on the fourth postoperative day. The patient was discharged on the fifth postoperative day and albendazole was prescribed for 3 months. The histopathological investigation revealed a hydatid cyst.

Discussion

A hepatic hydatid cyst is a benign parasitic disease. Frequently, it is located in the right lobe of the liver [3]. Generally, it manifests with abdominal pain, bloating, nausea, and vomiting. Rarely, cysts can rupture into the abdominal cavity or bile ducts, resulting in life-threatening complications, such as anaphylactoid shock [4]. Despite advances in medical treatment and radiological interventions, the main treatment is still surgery. The surgical procedures range from simple drainage to complex resections and transplantation [5]. In all procedures, the objective is to remove the entire hydatid mass without causing any spillage. Although drainage procedures are used widely, the results are controversial. Some authors recommend more radical interventions, such as cystectomy or hepatectomy, especially for smaller, peripherally located cysts. With these procedures, the morbidity and mortality are expected to be more favorable [6, 7].

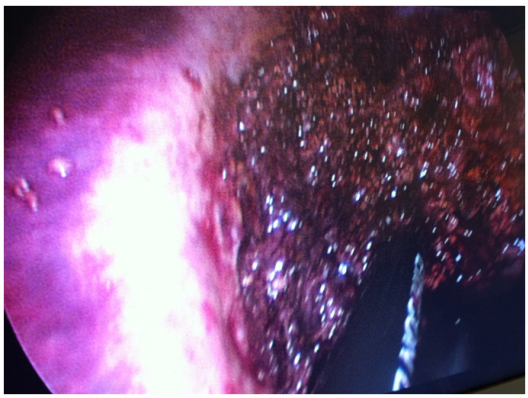

Figure 3. View of the liver after hepatectomy.

Figure 4. Extraction of the specimen from endobag.

Laparoscopic procedures have been used in the treatment of hydatid disease of the liver since 2000. Laparoscopic surgery has some advantages over open abdominal surgery, including less pain, better cosmetic results, early discharge, and early return to work. Laparoscopic procedures are also used widely

for either malignant or benign hepatic lesions [8]. Some authors suggest that laparoscopy is the gold standard for treating segments 2 and 3 lesions [9]. As in open abdominal surgery, drainage, unroofing, pericystectomy, cystectomy, or hepatectomy can be performed via laparoscopy [5, 10].

The SILS technique can be used to perform nephrectomy, splenectomy, bariatric surgery, and colonic surgery. Although laparoscopic procedures are used widely in hepatic surgery, use of SILS is still limited in practice. The complexity of the liver structure and the technical difficulties of SILS restrict its applications in hepatic surgery [11]. Bleeding is the main complication and the most common reason for conversion to open abdominal surgery. The instruments are in very close proximity in SILS, which makes this intervention challenging [12]. If the instruments and techniques can be improved and more experience is gained, the use of SILS will increase. The literature contains few reports of the use of SILS in liver surgery; these indicate that SILS hepatectomy is a safe method for the surgical treatment of liver tumors, metastatic cancers, and hemangiomas. Ours is rare case of a hepatic hydatid cyst treated using SILS in literature.

The treatment of liver hydatid disease with SILS in selected patients is safe and efficient. Moreover, it allows a better cosmetic result and rapid recovery. However, use of this surgical technique requires sufficient laparoscopic experience.

Disclosure of conflict of interest

The Authors have nothing to disclose.

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