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Laparoscopic treatment of hepatic hydatid cysts: techniques and post-operative complications

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A B S T R A C T

Introduction: We evaluate our experience in the surgical laparoscopic treatment of hepatic hydatid cysts with the same criteria that we use in open surgery.
Material and methods: A retrospective study of 8 operated patients and their intra- and postoperative complications.
Results: We performed the scheduled surgery on 7 patients; bleeding was the reason for conversion to open surgery in the remaining one. We made 4 complete peri-cystectomies, 3 de-roofing, and 1 hepatic resection. Two patients had postoperative bile leaks: the first one had an external leak that needed an endoscopic sphincterotomy and the other developed an abscess that needed reintervention for drainage. This patient also had a right hepatic vein thrombosis that disappeared spontaneously. Finally, 3 patients had hypernatremia without clinical symptoms.
Conclusions: Many of the open surgery techniques for hepatic hydatid cysts can be performed laparoscopically, without any specific instruments. Our complications with laparoscopic treatment of hepatic hydatid cysts were similar to those of open surgery.

Tratamiento laparoscópico de los quistes hidatídicos hepáticos: técnicas y complicaciones postoperatorias

Palabras clave:
Hidatidosis hepática
Laparoscopia
Complicaciones postoperatorias

R E S U M E N

Introducción: Análisis de nuestra experiencia en la intervención de quistes hidatídicos hepáticos mediante cirugía laparoscópica con criterios similares a los de la cirugía abierta.
Material y métodos: Estudio retrospectivo de 8 pacientes operados y de las complicaciones intraoperatorias y postoperatorias.
Resultados: En 7 pacientes se completó la intervención planificada por laparoscopia, en uno fue necesaria reconversión por hemorragia. Se realizaron 4 quistoperiquistectomías,

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3 resecciones de cúpula saliente y 1 resección hepática. Dos pacientes sufrieron fístulas biliares: una de ellas (externa) necesitó una esfinterectomía endoscópica y la otra desarrolló un absceso que fue necesario reintervenir y drenar. En esta paciente se observó una trombosis de vena suprahepática derecha que se resolvió espontáneamente; 3 enfermos desarrollaron hipernatremia sin repercusión clínica.

Conclusiones: Muchas de las técnicas descritas en cirugía abierta son realizables por laparoscopia, sin necesidad de instrumentación específica para los quistes hidatídicos. Las complicaciones encontradas son similares a las de la cirugía abierta.

Introduction

Various techniques for the curative treatment of hepatic hydatid cysts (HC)[1] have been described:

- Percutaneous needle aspiration, injection of hypertonic saline solution, and reaspiration of the content
- Resection of the protruding dome with aspiration-exeresis of its content (RPD)
- Cyst-pericystectomy (CPC)
- Hepatic resection (HR)

Surgical treatment (PDR, CPC, HR) is considered as the standard. However, there is no clear consensus regarding the technical options. In general, surgeons from non-endemic areas prefer radical techniques and those from endemic areas use more conservative techniques.[2] In any case, the current trend is to leave a soft or flexible residual cavity that correctly treats the biliary connections: this is achieved by performing a complete exeresis of the HC (CPC or HR).[3]

When considering the different types of interventions, the location and the characteristics of the HC[4,5] are fundamental.

Since 1992, laparoscopic treatment is being used more and more frequently.[6]

In this paper, we will analyse our initial experience when treating HC with laparoscopy, using classically used techniques, and the complications that we found. There are few publications on this topic in Spain.[7-9]

Material and methods

The clinical histories of 8 patients that had undergone laparoscopic surgery of hepatic HC were studied retrospectively. There were 6 women and 2 men, with an average age of 48.5 (interval, 30-81) years old. The locations and sizes are presented in Table 1 (Figures 1-5).

Among the relevant antecedents, the following should be mentioned: obesity (case 1), cardiopathy (case 4), recent tuberculosis (case 6), recent pneumothorax (case 6), biliary lithiasis (cases 2 and 4), cholangitis (case 7), chronic hepatopathy (cases 6 and 7).

The majority of the patients suffered abdominal pain as an initial symptom (7 cases). In one case, a HC was diagnosed from a possible anaphylactic reaction (case 1), and in another, from sepsis (case 7). The serology of hydatidosis was positive in 4 cases. The diagnosis was confirmed using echography and computerised tomography (CT) in all of the cases. Moreover, the magnetic resonance (MR) and cholangiography-MR (C-MR) was used (in cases 1, 3, 4, 5, and 7) for the preoperatory diagnosis of complicated HC.

Previous treatment with albendazol was always used, with at least 1 treatment cycle.

The surgical techniques were chosen depending on the location, size of the lesions and general conditions of the patients. Whenever possible, complete resections of the HC were performed. Laparoscopic interventions were considered in 8 of the patients: 3 RPD, 4 CPC, and 1 HR of the 2-3 segments (Table 1). Moreover, concomitant interventions were indicated

Table – Characteristics of the hepatic hydatid cysts, interventions, complications, and postoperatory hospital stays

Patients	Size	Location	Technique	Complications	Postoperatory hospital stay
1	5.5 cm	S 4 (Figure 1)	CPC	No	6 days
2	3 cm	S 2–3 (Figure 2)	HR	No	12 days
3	6 cm	S 7	RPD	Asymptomatic hypernatremia	6 days
4	7 cm	S 6-7 (Figure 3)	CPC	Preoperatory haemorrhage/ reconversion	12 days
5	4.8 cm	S 6	CPC	Abdominal pain, diarrhoea	6 days
6	10 cm	S 7–8	RPD	Asymptomatic hypernatremia, biliary fistula abscess: laparoscopic re-intervention. Partial thrombosis of the RSHV (Figure 4)	5 days
7	14 cm	S 6-7 (Figure 5)	RPD	Biliary fistula – ERCP+sphincterectomy after the operation	67 days
8	3 cm	S 4	CPC	Asymptomatic hypernatremia	7 days

CPC indicates cyst-pericystectomy; HR, hepatic resection; RPD, resection of the protruding dome; RSHV, right suprahepatic vein; S, segment.