

PERICYSTECTOMY FOR A GIANT RECURRENT HEPATIC HYDATID CYST

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ABSTRACT

The management of the recurrent giant hepatic hydatid cyst is often a controversial matter. Herein, is described a case of 37-years-old female patient who was diagnosed with a giant hydatid cyst occupying almost the entire right lobe of the liver. After identification and protecting the surrounding tissues, scolical injection (alcohol 97%) and evacuation of the total contents of the cyst is done, the cyst is totally excised. The large residual cavity was simply drained. The patient had developed biliary collection which has been drained percutaneously under ultrasound guidance. She has been discharged 34 days after surgery in a good condition. The clinical presentation, diagnostic work-up and surgical management of the patient are discussed, along with a review of the literature.

KEY WORDS : Hydatid liver cyst, echinococcosis. Pericystectomy for a giant recurrent hepatic hydatid cyst.

INTRODUCTION

Hydatid disease (*Echinococcus granulosus*) is endemic in Libya with prevalence of 2%⁽¹⁾. It is also endemic in the Middle East as well as other parts of the world, including India, Africa, South America, New Zealand, Australia, Turkey and Southern Europe²⁻⁴. Especially it is endemic in many sheep grazing areas. In Libya because of the minimal direct human: dog contact, transmission of hydatid disease is probably indirect by ingestion of eggs from contaminated vegetables or drinking water⁽¹⁾. As a result of easy travel and migration, the disease is now being encountered in immigrant adults in many parts of the world^(2, 3). Hydatid cysts of the human liver occur when man becomes an accidental intermediate host for the larval form of *Echinococcus granulosus*, which lives as an adult worm in the canine intestine. Infestation by hydatid disease in humans most commonly occurs in the liver (55—70%) followed by the lung (18—35%); the two organs can be affected simultaneously in about (5—13%) of cases^(4, 5). This case report discusses the management of a case with a large recurrent hepatic hydatid cyst.

CASE REPORT

37 years female fatty Libyan patients admitted to our department with a history of right hypochondrial discomfort and dyspepsia. She is diabetic on oral hypoglycemic and has a past surgical history of laparotomy, deroofting and drainage of hepatic hydatid cyst on 1997. The abdominal examination revealed a distended abdomen with a right subcostal scar. Ultrasonography abdomen revealed a double wall cyst of 16 X 16 cms in the right hepatic lobe with a turbid content. CTscan abdomen confirmed the ultrasonographic finding. Laboratory investigations were normal. Laparotomy was done on July 2007. At laparotomy: extensive abdominal adhesions were found. A large hydatid cyst

was identified and occupying nearly the whole right hepatic lobe of about 15 X 15 X 15cm. The surrounding tissues are protected by covering them with a hypertonic saline soaked pads. After injection of scolical (97% alcohol) and aspiration of all contents including laminated membrane, the cyst was dissected from its hepatic bed using finger fracture and clamping and ligation techniques and excised: pericystectomy. The hemostasis secured using electric cautery and Surgicells. The cavity post pericystectomy was simply drained. The peritoneal cavity was drained exteriorly through multiple tube drainage. Postoperatively; the patient has been admitted to ICU for the first few days where homeostasis was normalized. The major threat postoperatively was the liver bleeding which was treated conservatively. The patient developed biliary collection which necessitates drainage under USG guidance. Medical treatment with albendazole was commenced 2 weeks preoperatively and continued post-operatively and she was discharged in a satisfactory condition 34 days later. The remnant cyst cavity was evident on USG and CTscan in the early post operative period but then regressed in size and completely disappeared 7 months after surgery.

DISCUSSION

The diagnosis of hydatid disease of the liver is usually made easily when a liver cyst is found in a patient from an endemic area. Calcification of the cyst wall is commonly seen on plain X-ray films. Ultrasound shows the characteristic picture of a cyst containing multiple daughter cysts. On CT scan the pericyst and or the endocyst may be readily visible. The presence of daughter cyst is diagnostic while a calcified cyst wall is suggestive of an inactive cyst^(7,8). ELISA tests for echinococcal antigen are highly specific but may be negative for up to 1/3 of patients with proven infection⁽⁹⁾. The

treatment of hydatid cysts is principally surgical. However, pre- and post-operative 1-month courses of Albendazole should be considered in order to sterilize the cyst, decrease the chance of anaphylaxis, and decrease the tension in the cyst wall (thus reducing the risk of spillage during surgery) and to reduce the recurrence rate post-operatively^(2,10). The surgical treatment can be divided into radical or conservative approaches⁽¹³⁾. The radical approach may include total cystectomy as in our case or liver resection^(14, 15). Magisterelli et al⁽²²⁾ recommended pericystectomy over the simple removal of the endocyst and cyst contents. This non randomized and randomized case series concluded that pericystectomy was associated with a lower risk of recurrence. Morel et al⁽²³⁾ performed pericystectomy or liver resection in 45 patients and partial cyst resection or diversion or drainage in 11 patients. The likelihood of recurrence was much higher in the conservatively treated group, however only those patients felt to be unfit for major resection had conservative treatment. In the present case, since the cyst gets recurrent after previous surgery we decided to excise the pericyst to decrease the risk of another recurrence. The management of residual cavity is a challenging problem especially in patients present with giant and recurrent hydatid cyst as in this case. Omentoplasty was not possible in our case because of short omentum and extensive adhesions after previous surgery. Obliteration of the cyst cavity after evacuation is a controversial procedure. There is no ideal surgical technique which can be used in all hydatid cyst cavity^(17, 18, 19) and each technique has both advantage and disadvantages^(19, 21). For example, it is not possible to use omentoplasty, which is the most appropriate method in multiple cavities, in recurrent or in omentectomized cases and in children and patients with small omental volume.

CONCLUSION

We conclude that pericystectomy for recurrent hepatic hydatid cyst is a justifiable surgery and will give better results if it is done in a hospital that is able to provide the services for treatment (e.g., well-equipped intensive care unit and surgical ward, well-equipped operating room, diagnostic radiology and laboratory facilities) and availability of scolical agents, in addition, of course to the medical staff experienced in the treatment of echinococcosis (surgeons, radiologist and infectious disease specialist).

REFERENCES

- 1- Shambesh, M.K., Macpherson, C.N.L., Beastly, W.M., Gusbi, A., Elisions, T. Prevalence of human hydatid disease in North Western Libya: A cross-sectional ultrasound study. *Annals of Tropical Medicine and Parasitology*; 1992;86(4):281-286
- 2- Goel MC, Agarwal MR, Misra A. Percutaneous drainage of renal hydatid cyst: early results and follow-up. *Br J Urol* 1995; 75: 724—8.

- 3- Altinors N, Senveli E, Donmez T, Bavbek M, Kars Z, Sanli M. Management of problematic intracranial hydatid cysts. *Infection* 1995; 23: 283—7.
- 4- Brown RA, Millar AIW, Steiner Z, Krige JEJ, Burkimsher D, Cywes S. Hydatid cyst of the pancreas: a case report in a child. *Eur J Pediatr Surg* 1995; 5:121—4.
- 5- Kir A, Baran E. Simultaneous operation for hydatid cyst of right lung and liver. *Thorac Cardiovasc Surgeon* 1995; 43: 62—4.
- 6- Guntz M, Coppo B, Lorimier G, Cronier P. Hydatid cyst of the liver appearing late (10—22 years) after surgical treatment of pulmonary hydatidosis. *Physiopathologic problems J Chir Paris* 1990; 127: 375—81.
- 7- Doty JE, Tompkins RK. Management of cystic disease of the liver. *Surg Clin North Am* 1989; 69:285-95.
- 8- Magath TB. Hydatid disease in North America. *Pa Med J* 1941; 44:813-9.
- 9- Coltorti EA. Standardization and evaluation of an enzyme immunoassay as a screening test for the seroepidemiology of human hydatidosis. *Am J Trop Med Hyg* 1986;35:1000
- 10- Kune GA, Morris DI. Hydatid disease In: Schwasyk & Ellis, eds. *Maingot's Abdominal Operations*, 9th edn. Appleton & Lange, 1989: 1225—40.
- 11- Hofstetter C, Segovia E, Vara-Thorbeck R. Treatment of uncomplicated hydatid cyst of the liver by closed marsupialization and fibrin glue obliteration. *World J Surg* 2004; 28: 173-8.
- 12- Smego RA Jr, Bhatti S, Khaliq AA, Beg MA. Percutaneous aspiration-injection-reaspiration drainage plus albendazole or mebendazole for hepatic cystic echinococcosis: a meta-analysis. *Clin Infect Dis* 2003; 37: 1073-83.
- 13- Goldblatt MI, Pit HA. Hepatic echinococcosis. In: Cameron JL, ed. *Current Surgical Therapy*, 8th ed. Philadelphia: Elsevier Mosby, 2004; 306-311
- 14- Yagci G, Ustunsoz B, Kaymakcioglu N, Bozlar U, Gorgulu S, Simsek A, Akdeniz A, Cetiner S, and Tufan T. Results of surgical, laparoscopic, and percutaneous treatment for hydatid disease of the liver: 10 years experience with 355 patients. *World J Surg* 2005; 29: 1670-9
- 15- Balik AA, Başoğlu M, Celebi F, Oren D, Polat KY, Atamanalp SS, Akçay MN. Surgical treatment of hydatid disease of the liver: review of 304 cases. *Arch Surg* 1999; 134: 166-9.
- 16- Daradkeh S, El-Muhtaseb H, Farah G, Sroujeh AS, Abu-Khalaf M. Predictors of morbidity and mortality in the surgical management of hydatid cyst of the liver. *Langenbecks Arch Surg* 2007; 392: 35-9.
- 17- Losanoff JE, Richman BW, Jones JW. Organ-sparing surgical treatment of giant hepatic hydatid cysts. *Am J Surg* 2004; 187: 288-90.
- 18- Yılmaz E, Gökçok N. Hydatid disease of the liver: current surgical management. *Br J Clin Pract* 1990; 44:612-5.

- 19- Dawson JL, Stamatakis JD, Stringer MD, Williams R. Surgical treatment of hepatic hydatid disease. *Br J Surg* 1988; 75:946-50.
- 20- Gonzalez EM, Selas PR, Martinez B, Garcia IG, Carazo FP, Pascual MH. Results of surgical treatment of hepatic hydatidosis: current therapeutic modifications. *World J Surg* 1991:254-63.
- 21- Ariogul O, Emre A, Uras A. Introflection as a method of surgical treatment of hydatid disease. *Surg Gynecol Obstet* 1989; 169:356-9.
- 22- Magistrelli P, Masetti R, Coppola R, et al. Surgical treatment of hydatid disease of the liver. *Arch Surg* 1991; 126:518-23.
- 23- Morel P, Robert J, Rohner A. Surgical treatment of hydatid disease of the liver: A survey of 69 patients. *Surgery* 1988; 104:859-62.