

Research Article

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Modalities Of Treatment Of Hepatic Hydatid Cyst

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Abstract

The study was undertaken to review the results of different modalities of treatment of Hydatid disease of liver. Liver is the commonest organ affected by Echinococcosis as compared to other organs of the body. Study was done in thirty patients. Patients with hydatid disease of organs other than liver were excluded. Different data was noted down regarding signs & symptoms and different treatment modalities suitable for different types of liver hydatid cyst. It was found that single cyst was more common than multiple cysts and that too in right lobe of liver. Of all sizes, maximum number of cyst ranges between 5-10 cm (46.66%). Though asymptomatic cysts are very common but if symptomatic, Patient mainly presents with pain abdomen as compared to other symptoms. For management of hydatid disease of liver capitonnage, omentoplasty, cyst excision, segmentectomy, cystoenterostomy were superior to tube drainage. Many controversial results have been reported but surgery in the form of cyst excision alone or along with part of liver remain the commonest and most effective modality for the treatment of hydatid disease of liver. Laparoscopy is effective and reliable in treating those cases where size and site of cyst is not appropriate and feasible for open surgery.

Keywords

cyst,
liver,
hydatid,
omentum,
abdomen.

Introduction

Hydatid cyst in human is distributed worldwide. It is endemic in many countries like south America, Mediterranean countries, Middle East and India (Eckert et al 1984). It is an infestation caused by Echinococcus granulosus taenia larva. The liver is most frequently affected organ in human. It has a variety of course from symptomatic to asymptomatic

here diagnosis is made only accidentally during screening method (Taylor et al 1997). It is mainly found in dogs, sheep cattle etc which are intermediate host. It is an infection caused due to larval or cystic stage of E. Granulosus which lives primarily in dogs (Pedrosa et al 2000). Once in human liver, cyst grows as much as 1cm during first six months to 2-3cm every

year thereafter, depending on host immunity (Lewall 1998, Deger et al 2000). The disease commonly progress slowly resulting into appearance of symptoms and development of complications (Langer et al 1984). There are two mechanism of manifestation of the symptom due to this disease (Sayek et al 1980, Romero-Torres et al 1965, Lewis et al 1975, Pissiotis et al 1972, Walt 1977). One is a generalized toxic reaction due to the presence of the parasite itself and other is mechanical symptoms due to presence of cyst (Romero-Torres et al 1965). More commonly symptom is pain abdomen and sense of fullness. Less commonly, it may present after rupturing into the bile tract causing obstructive jaundice and cholangitis, or it may rupture into the abdominal cavity causing acute abdomen or obstruction (Placer et al 1998, Lygidakis 1983). Secondary infection develops fistula, suppuration or other commonly occurring complication (Sayek et al 1980).

Materials and Methods

Present study was done in 30 patients who attended surgical OPD and were diagnosed as cases of hydatid cyst of liver. Patients presenting with gastro intestinal symptoms like pain abdomen , loose motion etc, symptoms of space occupying lesions of liver such as mass per abdomen, obstructive jaundice, & patients with complications due to rupture of hydatid cyst were included in our study. Whereas patients with cyst anywhere else other than liver were excluded from the study. Data of signs and symptoms of all the patients was charted down. The patients underwent basic investigations like routine blood examination, complete urine examination, blood urea, serum creatinine, liver function test, plain X-Ray abdomen, USG abdomen etc.

Observations and Result

Table 1 Showing number, location and size of cyst on USG investigation

Features		Number	Percentage (%)
Number of cyst	Single	22	73.33
	Multiple	08	26.66
Location	Right lobe	21	70.00
	Left lobe	06	20.00
	both	03	10.00
Size of cyst	<than 5 cm	07	23.33
	5-10 cm	14	46.66
	>than 5 cm	09	30.00

Single cyst is more numerous (73.33%) than multiple cysts (26.66%) on USG investigation. The most common lobe involved is right lobe (70%) as compared to left lobe (20%). Of all sizes, maximum

number of cyst ranges between 5-10 cm (46.66%) followed by >than 5cm (30%) and least number were seen in size less than 5 cm (23.33%).

Table 2 Showing symptoms of liver (hydatid) cyst

symptoms	number	Percentage (%)
Pain abdomen	15	50.00
Abdominal mass	5	16.67
Fever	2	6.67
Jaundice	1	3.33
others	7	23.33

Most common symptom seen was pain abdomen (50%) followed by abdominal mass (16.67%). Jaundice was least commonly encountered

(3.33%).Fever was seen in 6.67% and 23.33% patients were not having specific symptoms.

Table 3 Showing management of liver (hydatid) cyst

	management	number	Percentage (%)
conservative	Medicine(Albendazole, mebendazole)	3	10.00
	Tube drainage	2	6.67
surgical	Complete pericystectomy	21	70.00
	incomplete pericystectomy	4	13.33
Recovery	Complete	20	66.67
	Partial	4	13.33
	No response	6	20.00
complications	Bile leak	3	10.00
	Wound infection	4	13.33
	others	3	10.00

Surgery was the mainstay of the treatment. Out of 30 patients, 21 patients (70%) underwent surgery (Complete pericystectomy) whereas 13.33% patient undergoes incomplete pericystectomy (4 in number). Conservative treatment was done in 16.67% of patients (10% with medicine and 6.67% with tube drainage). Recovery was complete in 66.67% of patients (20 in number) whereas it was incomplete in 4 patients (13.33%). Out of 30 patients, no response was observed in 6 patients (20%). Various complications observed were bile leakage(10%), wound infection (13.33%) and 10% were other types of complications.

Discussion

Hydatid disease of liver remains a continuous challenge for developing countries. Out of all types of hydatid disease, liver is the most common organ involved (75%), followed by the lung (15%), the spleen (5%) and other organs (5%) (Sofioleas et al 2000, Satioleas et al 2004, Satioleas et al 2005). Hydatid disease, though remain asymptomatic for years, still is a big challenge for developing countries, due to the slow growth of the cyst (Megistrelli et al 1991, Filippou et al 2004, Langer et al 1984) Complications encountered such as obstructive jaundice, secondary infection of cyst, rupture of cyst etc. These days treatment of choice of hydatid disease have increased, but surgery is still the mainstay of treatment (Balik et al 1999, Dizri, C et al 1999, Dziri, C 2001). Use of other modalities has its own limitations. Total pericystectomy considered to be the best procedure for small and peripherally located cyst (Guibert et al 1995, Goksoy et al 2000). For large and deeply located cyst, the more extensive cystectomy

and partial hepatectomy are considered better (Goksoy et al 2000, Guibert et al 1995).

Medical treatment of hydatid cyst liver was first introduced in 1970s which was carried on with Mebendazole and Albendazole. They were considered to reduce the size of cyst and contribute to patient improvement by preventing distal metastasis. Moreover, they were considered to penetrate the cyst wall better and maintain their metabolite to persist for adequate blood levels (Aktan et al 1996, Blanton et al 1998).

Medical therapy now considered to be relatively insufficient as compared to surgical procedures, which remains the mainstay of treatment. However, the choice of appropriate operating method remains controversial. None of the technique is sufficient for treatment of all kind of cysts. Different techniques should be considered for different types of cyst. A different factor taken into consideration in the choice as treatment depends on characteristics of the cyst, doctor's experience, working conditions of his center etc. Recent approach is to treat cyst either surgically (PAIR) or laproscopically (Amor et al 1986, Akhan et al 1993, Deger et al 2000).

The main principle of surgical treatment is to evacuate the cyst and avoiding spillage of contents of the cyst, neutralization of the cyst contents, obliteration of the cystic cavity, management of communication between the cyst and adjacent structures (Magistrelli et al 1991, Zaouche et al 2006). This all is required to minimize the probability of serum or blood accumulation or formation of liver abscess.

Recent studies show that neutralization of the cyst contents and obliteration of the cystic cavity can be successfully done by laparoscopic method which is simple and universally applicable technique. It shows that with this method risk of spillage of cystic contents (Balik et al 1999, Dziri et al 1999, Dziri 2001) into the peritoneal cavity is diminished and thus rate of recurrence can be minimized (Kayaalp 2002, Bensaadi et al 2004). A major disadvantage of this method is lack of precautionary measure after spillage happens due to high intra abdominal pressure induced due to pneumo peritoneum (Terblanche et al 1998, Iskender et al 2001).

Conclusion

Although, treatment of choice for hydatid cyst of the liver have increased including medical treatment, with mebendazole and Albendazole which have been reported to be effective in some cases but little evidence are there to support. Other methods are percutaneous tube drainage, puncture aspiration injection and reaspiration (PAIR). When results of medical therapy for hydatid cyst are not satisfactory, surgery remains the mainstay of treatment. Several surgical techniques proposed for liver cyst are open surgical procedure like cyst ablation, unroofing of the cyst with omentum, omentoplasty, capitonnage, cystojejunostomy, cystectomy, segmentectomy, cystoenterostomy.

References

- Eckert, J., Gemmel, MA., Matyas, Z., & Saulsby, EJ. (1984). Guidelines for surveillance, prevention and control of Echinococcus/hydatidosis. Geneva, Switzerland: World Health Organization, 1-5.
- Taylor, BR., Lange, B. (1997). Current surgical management of hepatic cyst disease. *Adv Surg.*, 31, 127-128.
- Pedrosa, I., Saiz, A., Arrazola, J. et al. (2000). Hydatid disease: Radiologic and Pathologic features and complications. *Radiographics*, 20, 795-817.
- Lewall, DB. (1998). Hydatid disease: biology, pathology, imaging and classification. *Clin Radiol.*, 52, 863-874.
- Deger, E., Hokelek, M., Deger, BA., Tutar, E., Asil, M., Pakdimirli, E. (2000). A new therapeutic approach for the treatment of cystic echinococcosis: Percutaneous Albendazole sulphoxide injection without reaspiration. *Am J Gastroenterol.*, 95, 248-254.
- Langer, CJ., Rose, DB., Keystone, JS., Et al. (1984). Diagnosis and management of hydatid disease of liver. *Ann Surg.*, 199, 412-417.
- Sayek, I., Yalnek, R., Sanac, Y. (1980). Surgical treatment of hydatid disease of the liver. *Arch Surg.*, 115, 847-850.
- Romero-Torres, R., Campbell, JR. (1965). An interpretive review of the surgical treatment of the hydatid disease. *Surg Gynecol Obstet.*, 121, 851-864.
- Lewis, JW., Koss, N., Kersein, MD. (1975). A review of echinococcal disease. *Ann Surg.*, 181, 390-396.
- Pissiotis, CA., Wander, JV., Condon, RE. (1972). Surgical treatment of hydatid disease. *Ann Surg.*, 104, 454-459.
- Walt, JA. (1977). Cysts and benign tumors of the liver. *Surg Clin North Am.*, 57, 449-464.
- Placer, C., Martin, R., Sanchez, E., Soieto, E. (1998). Rupture of abdominal hydatid cyst. *Br J Surg.*, 75, 157.
- Lygidakis, NJ. (1983). Diagnosis and treatment of intrabiliary rupture of hydatid cyst of liver. *Arch Surg.*, 118, 1186-1189.
- Sofioleas, M., Misiakos, EP., Kakisis, J et al. (2000). Surgical treatment of human echinococcosis. *Int Surg.*, 85, 358-365.
- Satioleas, M., Stamollis, L., Theocharis, S., Moulakais, K., Makris, S., Kostakis, A. (2004). Primary hydatid disease of the gall bladder: a rare clinical entity. *J Hepatobiliary Pancreat Surg.*, 11, 352-365.
- Satioleas, MC., Moulakakis, KG., Manti, C., Kostakis, A. (2005). Clinical consideration of primary hydatid disease of the pancreas. *Pancreatol.*, 5, 457-461.
- Megistrelli, P., Masetti, r., Coppola, R., Messina, a., Nuzzo, G. & Piciocchi, A. (1991). Surgical treatment of hydatid disease of the liver: a 20-year experience. *Arch Surg.*, 126, 518-522.
- Filippou, DK., Kolimpiris, C., Anemodouras, N., Rizos, S. (2004). Modified capitonnage in partial cystectomy performed for liver hydatid disease: report of 2 cases. *BMC Surs.*, 4, 6.
- Langer, JC., Rose, DB., Keystone, JS., Taylor, BR., Langer, B. (1984). Diagnosis and management of hydatid disease of liver: a 15- year North American experience. *Ann Surg.*, 199, 412-417.

20. Balik, AA., Basoglu, m., Celebi, F et al.(1999). Surgical treatment of hydatid disease of the liver: review of 304 cases. Arch Surg., 134, 166-169.
21. Dizri, C., Paquet, JC., Hay, JM. et al. (1999). Omentoplasty in the prevention of deep abdominal complication after surgery for hydatid disease of liver: a multicenter, prospective, randomized trial. J Am Col Surg ., 188, 281-289.
22. Dziri, C.(2001). Hydatid disease: continuing serious public health problem. World J Surg, 25, 1-3.
23. Goksoy, E., Duren, M.(2000). Operative therapies of *Echinococcus granulosus* (cystic). Chirurgia(Bucur), 71, 21-29.
24. Guibert, L., Gayral, F.(1995). Laproscopic pericystectomy of a liver hydatid cyst. Surg Endosc., 9, 442-443.
25. Aktan, AO., Yalin, R.(1996). Peroperative albendazol treatment for liver hydatid disease decreases the viability of the cyst. Eur J Gastroenterol Hepatol., 8, 887-879.
26. Blanton, RE., Wachira, TM., Zeyhle, EE.,Njoroge, EM.,Magambo, JK., Schantz, PM. (1998). Antimicrob Agents Chemother., 42,601-605.Oxfendazole treatment for cystic Hydatid disease in naturally infected animals
27. Amor, B., Gargouri, M., Gharbi, HA., Golvan, YJ., Ayachi, k. & Kchouck, H.(1986). Trial therapy of inoperable abdominal hydatid cyst by puncture. Ann Parasitol Hum Comp., 61, 698-692.
28. Akhan, O., Dincer, A., Gokoz, A. (1993). Percutaneous treatment of abdominal hydatid cyst with hypertonic saline and alcohol an experimental study in sheep. Invest Radiol., 28, 121-127.
29. Deger, E., Hokelek, M., Deger, BA., Tutar, E., Asil, M., Pakdemirli, E. (2000). A new therapeutic approach for the treatment of cystic echinococcosis: Percutaneous Albendazole sulphoxide injection without reaspiration. Am J Gastroenterol., 95, 248-254.
30. Magistrelli, P., Masetti, R., Coppola,R., Messia, A.(1991). Surgical treatment of hydatid disease of liver:a 20 year experience. Arch Surg., 126, 518-523.
31. Zaouche, A., Haouet, K. (2006).Traitement chirurgical des kystes hydatiques du foie.EMC, techniques chirurgicales, Appareil digestif. Elsevier Masson, 40, 775.
32. Kayaalp, C.(2002). Evacuation of hydatid cyst using laproscopic trocar. World J Surg., 26, 1324-1327.
33. Bansaadi, H., Champault, G. (2004). Laproscopic hand- assisted surgery for hydatid diseaseof the liver. Surg Laprosc Endosc Percutan Tech., 14, 91-92.
34. Terblanche, J., Krige, JEJ.(1998). Hepatic Echinococcus. In : Cameron JL, ed. Current Surgical Therapy. 6th ed. London, England: Mosby Inc; 326-330.
35. Iskender, S.(2001). Diagnosis and treatment of uncomplicated hydatid cyst of the liver. World J Surg., 25, 21-27.

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