



Laparoscopic Management of Hepatic Hydatid Cysts. A Single Centre Observational Study

KEYWORDS

Globalization, Women Empowerment, Women Health, Lack of Education.

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ABSTRACT *Objective : To assess the efficacy of laparoscopic management of hydatid cysts of the liver and the feasibility of employing as a routine treatment for such cases*

Methods : In this observational study that was conducted in a teaching hospital in the state of Odisha, from October 2012 to December 2015, 14 patients with hepatic hydatid cysts were operated laparoscopically and their outcomes noted.

Results : laparoscopic management of the hepatic hydatidosis is a safe and simple procedure with less complications, less morbidity and can be routinely employed by experienced hands

INTRODUCTION

ECHINOCOCCOSIS (hydatid disease) is a zoonosis caused by the larval stage of *Taenia.echinococcus*, where animals are both intermediate and definitive hosts while humans are accidental hosts. The disease primarily manifests itself in the liver as cysts. An early diagnosis and proper management at this stage usually offers a cure. Hydatid cysts of liver till recently have been managed by the conventional operative procedures like enucleation, cystectomy, evacuation, marsupialisation etc.that involved significant morbidity in terms of infection, postoperative pain, longer hospital stay among others.

Since the popularization of laparoscopic surgery, laparoscopic management of liver hydatid cysts is being reported from a few centers. We do hereby present a study of the outcome of series hydatid cysts of liver that were successfully managed laparoscopically at our institute.

MATERIALS & METHODS

This is an observational study conducted over a period of 3 years from October 2012 to December 2015 at a single centre, Institute of Medical Sciences and Sum Hospital Bhubaneswar Odisha, a tertiary care teaching hospital. .

A total of 14 patients presented to our outpatient department with a prior, CT / USG diagnosis of Hydatid Cyst of Liver. The patients were categorized for age, sex, size and location of the cyst inside the liver. Exclusion criteria included co-morbid conditions rendering unfit for surgery, disseminated disease and cyst location other than the right lobe of liver. However none of the patients were excluded for the above criteria.

All the patients underwent a clinical evaluation and the routine preoperative investigations including a mandatory ultrasonogram for confirmation of diagnosis and were placed for laparoscopic operative procedure

The optical 10 mm trocar was placed by an open technique in an infra-umbilical position. A 30 degree telescope was used for the procedure. After precisely determining the location of the cyst, 5 mm trocar was placed slightly left to the midline coming to the right through the falciform

ligament, again for better maneuverability. A point in the rt. Hypochondrium was so chosen as to the shortest from the anterior surface of the cyst for direct entry into it with the Palnivelu cannula with partial aspiration (suction) of cyst contents and instillation of 30 ml of 5% povidone-iodine as scolicedal which was kept for 15 minutes. Meanwhile an endobag fashioned out of a glove was inserted and kept adjacent to the cyst. Re aspiration was done followed by wide opening of the roof and transfer of the daughter cysts and the germinal membrane to the endobag. The cavity was then inspected by introducing the scope through the palnivelu system. Rest of the contents were taken out under direct vision with the scope inside the cyst cavity which was then filled with scolicedal. After 10 minutes suction, followed by a thorough saline wash and reinspection of the cavity for any biliary communication was done. There was none. A wide de-roofing with coagulation of the margins was done. A 28 Fr tube drain was placed into the cavity and brought out through the right port incision. The abdomen was desufflated under vision and the drain fixed with closure of the remaining ports.

Oral fluids were started the next morning. Albendazole 400mg b.d after 2 days for an eight weeks course. The patients were discharged as per the details given in table 1. They were advised to come for follow up after 4 weeks when a check ultrasonogram was done to see the results

RESULTS:

A total of 14 patients with US / CT diagnosis of Hydatid cyst of right lobe of liver underwent Laparoscopic cyst management in our institute as detailed above. The ages ranged from 21 to 70 years with a mean of 45.1 years. There was a slight male prevalence with the male to female ratio of 4 : 3 which is not statistically significant. The cyst size ranged from 5.9 cm to 12.2 cm with a mean of 8.1 cm. The cysts were mostly located in the right lobe of liver involving segments V, VI, VII, VIII with a few extending to the left lobe involving segments IV and III. The operating time of the procedure ranged from 90 to 180 minutes with a mean operating time of 110 minutes.

All the 14 patients had a good recovery with ambulation

after 12 hours and oral intake after 24 hours. 9 patients were discharged in 3 – 5 days with removal of the drain in which the collection (serous) had become minimal (less than 30 ml.). Remaining 5 patients had postoperative bile discharge as evidenced from the collection in the drain bag. The average discharge was in the region of 150 – 300 ml. All these patients had a cyst size more than 8 cm. It is thought that the large cysts had a biliary connection which was not apparent at that time. These 4 were kept for a longer stay and discharged by 12 th day by which time their discharge had become less than 100 ml. However they were sent home with the drain in situ with in-

struction to take care of it. All the patients were advised to report after 4 weeks for follow up at which time the drains of the remaining 5 patients were removed and all had a check ultrasonogram done to see if any residue cavity remained. However there was no residual cyst cavity found in any patient. The 5 patients, whose drains were removed after 4 weeks were again called after two weeks to inspect the drain site. One patient developed a persistent non healing drain tract and was re-explored after 3 months of conservative treatment. A daughter cyst was removed from the tract after which it healed rapidly. The above analysis has been illustrated in the table below

TABLE 1

SL.NO	AGE	SEX	CYST SIZE	LOCATION	OPR. TIME(mins)	COMPLICATIONS	DISCHARGE	FOLLOW UP
1	27	M	6.5 cm	Right	90	none	third	done
2	36	F	5.9 cm	Right	95	none	fourth	done
3	58	M	8.0 cm	Right	120	none	fourth	done
4	29	F	7.3 cm	Right	120 60*	Persistent non-healing drain site	tenth	Re-exploration and excision of tract
5	42	M	8.3 cm	Right with extension to left	120	Post-operative bile discharge	twelfth	Drain removed after 4 weeks
6	45	M	6.0 cm	Right	100	none	third	done
7	70	M	7.8 cm	Right	110	none	fourth	done
8	39	F	9.0 cm	Right extending to left	110	none	fourth	done
9	54	M	6.8 cm	Right	100	none	third	done
10	68	F	10.3 cm	Right with left extension	115	Post-operative bile discharge	tenth	Drain removed after 4 weeks
11	33	F	11.0 cm	Right with cholelithiasis	180 mins Lap. Chole. done	Post-operative bile discharge	tenth	Drain removed after 4 weeks
12	47	M	8.0 cm	Right	90	none	Third	done
13	62	F	12.2 cm	Right with left extension	180	Post-operative bile discharge	10 days	Drain removed after 4 weeks
14	21	F	6.3 cm	Right lobe	100	none	third	done

DISCUSSION

Hydatid cysts of the liver are characterized by an indolent yet unremitting growth in the majority of infected patients, with the potential for cyst metastasis to peritoneal cavity or lungs. Hydatid cysts show slow growth rates and rarely cause systemic symptoms. Approximately 75% of the cases present as an asymptomatic abdominal mass or picked up on an abdominal sonography ordered for some other complaint. These patients usually present with an abdominal swelling, distention, sub costal heaviness, jaundice, fever etc.[1,2]

Conventional open surgery of hydatid cyst was and is still the mainstay of management [3]. But it entails more morbidity due to a long laparotomy wound and consequently longer hospital stay adding to the expenses and delayed return to work. Laparoscopy definitely does offer a better advantage in this regard. The first laparoscopic management of hydatid cyst of liver was described in 1994 by Bickel A et al [4]. However it should be judiciously used as

chances of spillage and dissemination are more. Chances of spillage and ensuing anaphylaxis reaction had discouraged surgeons to practice laparoscopic surgery in the management liver hydatid cysts [5]. There are so many instruments described for laparoscopic surgery of liver hydatid cysts to evacuate the daughter cysts, laminated membrane and other contents from the cyst cavity; e.g. a perforator-grinder-aspirator apparatus described by Saglam and another one designed by Zengin et al.[6,7]. But it is the Palnivelu hydatid system which has the advantage of removing all the cyst contents without the fear of spillage as it gives a total contamination free field throughout the procedure [8]. Not all the cases of liver hydatid cysts are amenable for laparoscopic surgery. Superficial cysts including Gharby type I and II liver hydatid cysts are ideal for laparoscopic surgery.

As our study has shown laparoscopic management of liver hydatid cyst is a simple and safe procedure with definitely lesser morbidity and early return to work. The complica-

tions are few and favorably compare with those of open procedure. In our study we found post-operative bile discharge to have a correlation with cyst size [9]. Cysts larger than 7 cm. were usually found to have a biliary communication as evidenced by bilious discharge post-operatively. One of the patients had cholelithiasis along with the hydatid cyst. Both the procedures could be dealt at same time by laparoscopy thus establishing it as a safe and reliable procedure to deal two co-morbid conditions.

However laparoscopy should be judiciously used as chances of spillage and dissemination are more. Proper case selection, use of proper instruments (Palnivelevu hydatid system and sufficient laparoscopic experience and a good setup are a must [9]. Post operative albendazole for eight weeks [10] followed by ultrasonological follow-up should be done in every case managed laparoscopically. A repeat laparoscopy can be safely performed in case of recurrence or left over.



FIG.1 HYDATID CYST



FIG.2: Right upper trocar being



FIG.3: Daughter cysts being inserted cleared



FIG.4: Scope inside the cyst



FIG.5: Scolicedal instillation.



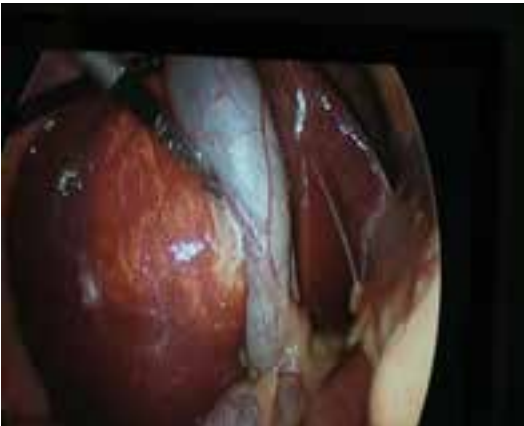
FIG.6: Cyst drainage Endobag besides the cyst



FIG.7: Follow up USG



FIG.8: after 4 weeks



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