



COMPARISON OF LAPAROSCOPIC VERSUS OPEN CYSTOTOMY IN TREATMENT OF LIVER HYDATIDOSIS

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ABSTRACT **OBJECTIVES :** To compare the study between the laparoscopic versus open cystostomy in view of operative time , length of hospital stay and complications rate.

METHODS : Consists of patients who underwent cystostomy for liver hydatidosis between OCTOBER 2017 to MAY 2019.

INCLUSION CRITERIA : All symptomatic patients .

EXCLUSION CRITERIA : Asymptomatic patients, dead cysts and patients unfit for surgery.

RESULTS : Groups were similar in demographics and cyst characteristics. Operative time was 37 minutes in laparoscopy, 58 minutes in open surgery. Length of hospital stay was 3.7 days in laparoscopy, 4.7 days in open method. Overall complication rates are less in laparoscopy group.

CONCLUSION : Laparoscopy is a safe and feasible approach for surgical treatment of liver hydatidosis . Recurrence may be prevented by selection of appropriate cases in which exposure of cysts does not pose an intraoperative difficulty.

KEYWORDS : Hydatidosis, Laparoscopy, Cystostomy.

INTRODUCTION

Hydatidosis -zoonotic infection Causative organism: Echinococcus granulosus Kurnool is endemic for hydatidosis. Most commonly affected organ liver (50-70%), other organs involved are spleen, lungs, kidney, muscles, bones and brain. Symptoms include abdominal pain, palpable mass, jaundice, fever and symptoms of anaphylaxis. Surgery is the gold standard treatment of hydatid cyst especially in CE2-CE3b cysts. Treatment of viable hepatic hydatid cysts is mandatory. Rupturing into peritoneum, cholangitis, portal hypertension and secondary Hydatidosis are complications.

| | LAPAROSCOPIC APPROACH | OPEN APPROACH |
|------------------------|-----------------------|---------------|
| Duration Of Surgery | Prolonged | Less |
| Postoperative Recovery | Early | Delayed |
| Complications | Less | More |
| Recurrence | More | Less |
| Mortality | Equal | Equal |

Comparative studies of laparoscopic and open approaches in the treatment of liver hydatidosis have been limited in literature. Controversies about the role of laparoscopy such as patient selection and the differences in surgical techniques have not yet been resolved. This study was aimed at comparing the results of laparoscopic and conventional open approaches to liver hydatidosis.

MATERIALS AND METHODS

Data - patients who underwent cystostomy for liver hydatidosis between October -2017 to May 2019 (n=37). Evaluated retrospectively.

Diagnosis: conventional imaging. (Ultrasonography, computed tomography, or magnetic resonance imaging).

EXCLUSION CRITERIA :

Recurrent cases , h/o previous hepatobiliary surgery, patients unfit for surgery.

INCLUSION CRITERIA :

all symptomatic patients .

All patients were treated with albendazole two to three weeks prior to the operation and three to six months following the operation. 22 patients who were operated -laparoscopic approach were named as Group 1. 15 patients who were operated - conventional open approach were named as Group 2.

EVALUATED ACCORDINGLY :

• Demographic data (age, gender), imaging characteristics

(location, number, maximum diameter, and concomitant biliary connection) of hydatid cysts, length of hospital stay, recurrences and surgery related complications (purulent drainage, biliary drainage, requirement of endoscopic intervention, superficial surgical site infection), and mortality were evaluated.

- Primary end point of this study was defined as the development of surgery related complications.

RESULTS

There were 22 patients with mean age of 39.4 ± 19.1 years in Group 1. Group 2 included 15 patients with a mean age of 41 ± 15.4 years.

| AGE | GROUP 1 (LAPAROSCOPIC) | GROUP 2 (OPEN) |
|---------------------|------------------------|----------------|
| Present study | 39.4 ± 19.1 | 41 ± 15.4 |
| Bayrak and Altintas | 38 | 46 |
| O. Bostanci, et al. | Total 41.6 ± 10.5 | |

The mean operative time was 150 ± 63 minutes in Group 1 and 113 ± 63 minutes in Group-2.

In present study, mean operative time is less in open when compared to laparoscopic approach similar to O.Bostanci, et al.

| Operative time | Group 1 (laparoscopic) | Group 2 (open) |
|---------------------------|------------------------|-------------------|
| Present study | 150 ± 63 mins | 113 ± 63 mins |
| Byraks and altintas et al | 49.8 ± 10.4 | 72.4 ± 12.8 |
| O. Bostanci, et al. | 144.6 ± 19 | 89.2 ± 29 |

The duration of hospital stay was 3.4 ± 1.4 days in Group 1 and 4.7 ± 2.2 days in Group 2.

In present study duration of hospital stay is less in laparoscopic compared to open approach which is similar to Byraks and altintas et al, O.Bostanci, et al.

| Hospital stay | Group 1 (laparoscopic) | Group 2 (open) |
|---------------------------|------------------------|----------------|
| Present study | 3.4 ± 1.4 | 4.7 ± 2.2 |
| Byraks and altintas et al | 4.3 ± 2.5 | 6.8 ± 2.7 |
| O. Bostanci, et al. | 3.3 ± 0.7 | 8.8 ± 5.4 |

Biliary leakage following surgery was detected 13% (3/22) and 20% (3/15) in the laparoscopy (Group 1) and open surgery (Group 2) groups, respectively .

| Biliary leak | Group 1 (laparoscopic) | Group 2 (open) |
|---------------------|------------------------|----------------|
| Present study | 13% | 20% |
| Bayrak and Altintas | 0 % | 8.7% |
| O. Bostanci, et al | 1% | 17% |

Although there was no mortality in Group 1, one mortality was seen in Group 2 due to postoperative hepatic encephalopathy.

| Mortality | Group 1 (laparoscopic) | Group 2 (open) |
|---------------------|------------------------|----------------|
| Present study | 0 | 1 |
| Bayrak and Altintas | 0 | 0 |
| O. Bostanci, et al. | 0 | 0 |

Four recurrences were seen in Group 1 (17%) and Group 2 (8.3%)

| Recurrence | Group 1 (laparoscopic) | Group 2 (open) |
|---------------------|------------------------|----------------|
| Present study | 17% | 8.3% |
| Bayrak and Altintas | 2.7% | 4.3% |
| O. Bostanci, et al | 0 | 4 % |

CONCLUSION

- Laparoscopy is a safe and feasible approach for the surgical treatment of liver hydatidosis.
- Recurrence may be prevented by selection of appropriate cases in which exposure of cysts does not pose an intra operative difficulty.

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