

A COMPARATIVE STUDY OF GALLBLADDER RETRIEVAL THROUGH EPIGASTRIC VERSUS UMBILICAL PORT IN LAPAROSCOPIC CHOLECYSTECTOMY

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ABSTRACT

Background: Gallbladder retrieval is a critical step in laparoscopic cholecystectomy and may influence postoperative pain and port-site morbidity. This study compares epigastric and umbilical ports for gallbladder retrieval. **Methods:** A prospective comparative study was conducted on 44 patients undergoing laparoscopic cholecystectomy, divided equally into two groups based on retrieval port. Postoperative pain was assessed using visual analogue scale (VAS), and retrieval difficulty was recorded. **Results:** Pain scores were marginally lower in the epigastric group at all time intervals, though differences were not statistically significant. Retrieval difficulty was higher in the epigastric group. **Conclusion:** Both ports are comparable regarding postoperative pain, with umbilical port offering easier retrieval.

Keywords: Laparoscopic Cholecystectomy, Gallbladder Retrieval, Epigastric Port, Umbilical Port, Postoperative Pain.

INTRODUCTION

Laparoscopic cholecystectomy is the gold standard treatment for symptomatic gallstone disease. Gallbladder retrieval, though often considered a minor step, can influence operative ease and postoperative discomfort. This study aims to compare gallbladder retrieval through epigastric and umbilical ports with emphasis on pain and retrieval difficulty.

METHODOLOGY

This prospective study was conducted at Rajiv Gandhi Government General Hospital, Chennai. Forty-four patients undergoing elective laparoscopic cholecystectomy were included and divided into two groups of 22 each. Group A underwent gallbladder retrieval through the epigastric port, while Group B through the umbilical port. Postoperative pain was assessed using VAS at 1, 6, 12, and 24 hours. Retrieval difficulty was graded on a scale of 1 to 9.

Patient choice

Patients undergoing laparoscopic cholecystectomy in RGGGH who are satisfied inclusion criteria

Inclusion Criteria:

1. All patients above the age of 18 years who have symptomatic cholelithiasis / gallbladder polyp require laparoscopic cholecystectomy
2. Patients agreeing with signed and informed consent

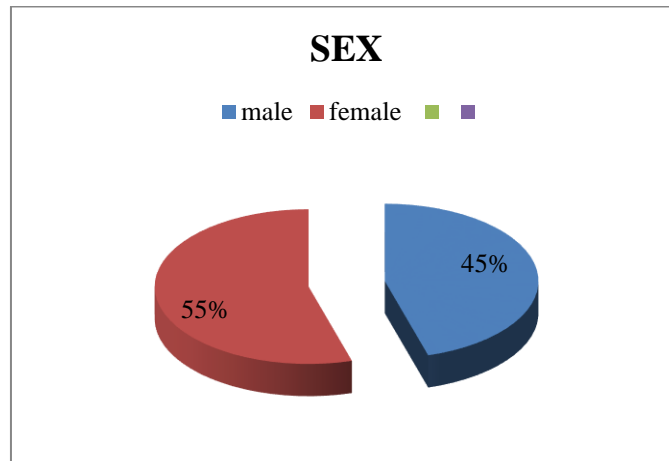
Exclusion Criteria:

1. <18years
2. Acute cholecystitis
3. EMPYEMA/Perforated gallbladder/ mucocele
4. Proven GB Malignancy
5. Bleeding diatheses
6. Previous history of putting abdominal drains
7. Obstructive jaundice
8. Acute pancreatitis or in whom port-site extension was done were excluded from the study.
9. Patients not willing to give consent for the study



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Sex Distribution

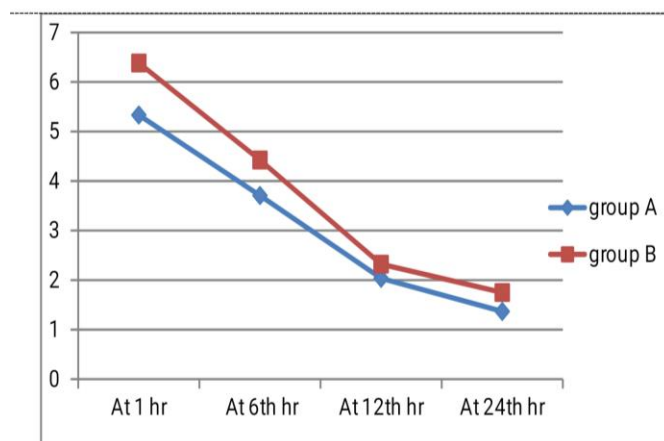
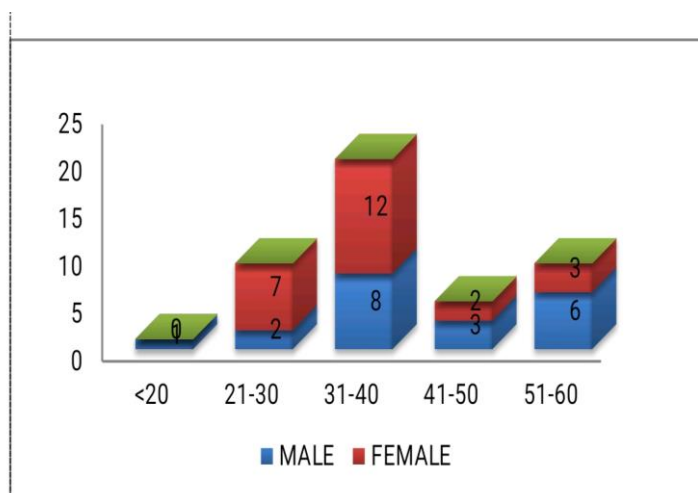
Number of patients
 MALE 20
 Female 24

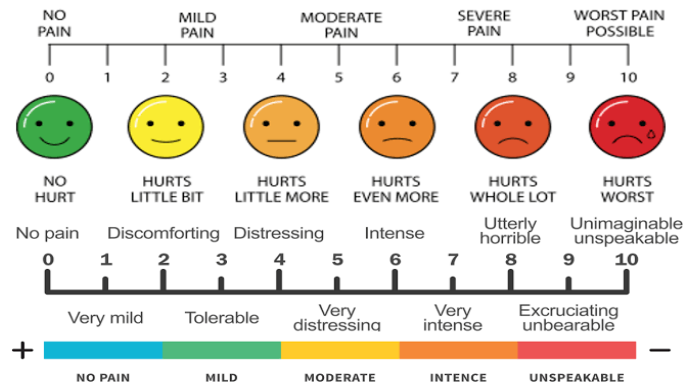
31 – 40 and the second most common was the age group 21-30 & 51-60

Line diagram shows postoperative pain at various time in both group- show no significant difference

AGE DISTRIBUTION

In our study patients with cholelithiasis predominantly belonged to the age group between





POST OPERATIVE PAIN OBSERVATION

VAS@	1st hr	6th hr	12th hr	24th hrs
Mean score group A	5.31	3.7	2	1.36
Mean score group B	6.36	4.4	2.3	1.72

- At 1 hour post-operatively:
- Group A: mean pain score = 5.31
 - Group B: mean pain score = 6.36
 - Independent samples t-test: p-value = 0.345 (no significant difference)
- At 6 hours post-operatively:
- Group A: mean pain score = 3.7
 - Group B: mean pain score = 4.4
 - Independent samples t-test: p-value = 0.241 (no significant difference)
- At 12 hours post-operatively:
- Group A: mean pain score = 2
 - Group B: mean pain score = 2.3
 - Independent samples t-test: p-value = 0.555 (no significant difference)
- At 24 hours post-operatively:
- Group A: mean pain score = 1.36
 - Group B: mean pain score = 1.72
 - Independent samples t-test: p-value = 0.241 (no significant difference)

- Mean retrieval difficulty score for Group B (Umbilical port): 2.7
 - Independent samples t-test: p-value = 0.012 (significant difference)
- Surgical Site Infection (SSI):*
- On day 10:
 - Group A: 0 SSI
 - Group B: 2 SSI
 - Fisher's exact test: p-value = 0.157 (no significant difference)
 - On day 30:
 - Group A: 0 SSI
 - Group B: 1 SSI
 - Fisher's exact test: p-value = 0.317 (no significant difference)

Eventhough 2 cases of SSI reported on 10th day of surgery in group B and 1 case of SSI reported on 30th day of surgery in group B, According to fischer's exact test p-value =0.37 [no significant difference between 2 groups]

Retrieval Difficulty:*

- Mean retrieval difficulty score for Group A (Epigastric port): 4.04

SSI	Group A	Group B
Day 10	0	2
Day 30	0	1

DISCUSSION

Sex Distribution and Age

The age and sex distribution were comparable between Group A (epigastric port) and Group B

(umbilical port). Although there was a slight female predominance in both groups, this reflects the known higher incidence of gallstone disease among females and did not result in any statistically significant demographic difference between the groups. Hence, age and sex were unlikely to have influenced the study outcomes.

Retrieval Difficulty

In the present study, Group B (umbilical port) demonstrated a significantly lower mean retrieval difficulty score compared to Group A (epigastric port). This suggests that specimen retrieval through the umbilical port is technically easier, possibly due to the relatively wider and more compliant umbilical incision, as well as better alignment with the gallbladder during extraction.

Post-operative Pain

Post-operative pain scores assessed at various time intervals showed no statistically significant difference between the two groups. This indicates that the choice of port for gallbladder retrieval does not have a significant impact on post-operative pain perception.

Surgical Site Infection (SSI)

The incidence of surgical site infection was comparable between the two groups, with no statistically significant difference observed on post-operative day 10 or day 30. This finding suggests that gallbladder retrieval through either the epigastric or umbilical port does not increase the risk of SSI when standard aseptic techniques are followed.

Overall Interpretation

Overall, the findings of this study indicate that gallbladder retrieval through the umbilical port is associated with significantly less retrieval difficulty while having comparable post-operative pain and surgical site infection rates when compared to epigastric port retrieval.

CONCLUSION

Gallbladder retrieval through the umbilical port was found to be significantly easier when compared to retrieval through the epigastric port. However, both ports showed comparable outcomes with respect to post-operative pain and surgical site infection rates. These findings suggest that the umbilical port can be preferred for gallbladder retrieval due to its technical ease, without increasing post-operative morbidity.

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