

A Comparative Study to Analyse the Efficacy of Inlay Mesh and Tissue Repair in Uncomplicated Paraumbilical and Epigastric Hernias

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Abstract: Paraumbilical and epigastric hernias are common primary midline ventral hernias. Despite advances in surgical techniques, the choice between tissue repair and mesh repair remains debated. **Objectives:** To compare postoperative outcomes of inlay mesh repair and tissue repair in uncomplicated paraumbilical and epigastric hernias. **Methods:** A comparative study was conducted at Saraswathi Institute of Medical Sciences, Hapur, on 60 patients undergoing elective hernia repair. Patients were equally divided into tissue repair and mesh repair groups. **Demographic variables, intraoperative findings, postoperative complications, and follow-up outcomes were analyzed using appropriate statistical tests. Results:** The mean age was 45.86 ± 18.24 years with a slight male predominance. Epigastric hernia was the most common type (38.33%). Postoperative complications such as seroma, wound infection, pain, and recurrence were significantly higher in epigastric hernias. Mesh repair demonstrated lower recurrence compared to tissue repair. **Conclusion:** Inlay mesh repair provides superior long-term outcomes with acceptable complication rates and should be preferred in uncomplicated paraumbilical and epigastric hernias.

Keywords: Paraumbilical hernia, Epigastric hernia, Mesh repair, Tissue repair, Postoperative complications

1. Introduction

Paraumbilical and epigastric hernias constitute a significant proportion of primary ventral hernias encountered in surgical practice. Traditional tissue repair techniques are associated with higher recurrence rates due to tension on weakened fascial tissues. The introduction of prosthetic mesh has enabled tension-free repairs, reducing recurrence. However, concerns regarding postoperative complications persist. This study aims to compare inlay mesh repair and tissue repair in uncomplicated paraumbilical and epigastric hernias. [1,4]

2. Materials and methods

This prospective comparative study was conducted in the Department of General Surgery at Saraswathi Institute of Medical Sciences, Hapur. A total of 60 patients with uncomplicated paraumbilical and epigastric hernias were included. Patients were divided equally into tissue repair (n=30) and inlay mesh repair (n=30) groups. Inclusion criteria included adult patients with primary or recurrent uncomplicated paraumbilical or epigastric hernias. Complicated hernias and patients with severe comorbidities were excluded. Postoperative outcomes were assessed and analyzed using chi-square tests, with $p < 0.05$ considered

statistically significant.

Table 1: Age distribution

Mean Age	SD	Median	Range
45.86	18.24	44.5	63

Table 2: Sex distribution

Sex	Frequency	Percentage
Male	32	53.3
Female	28	46.7

3. Results

The mean age of patients was 45.86 ± 18.24 years. Males constituted 53.3% of cases. Epigastric primary hernia was the most common presentation (38.33%). Postoperative complications included wound dehiscence (11.6%), hematoma (10%), seroma (5%), and surgical site infection (1.66%). More than half of the patients (51.66%) had no postoperative complications. Recurrence was significantly associated with epigastric hernia ($\chi^2 = 7.36$, $p = 0.006$).

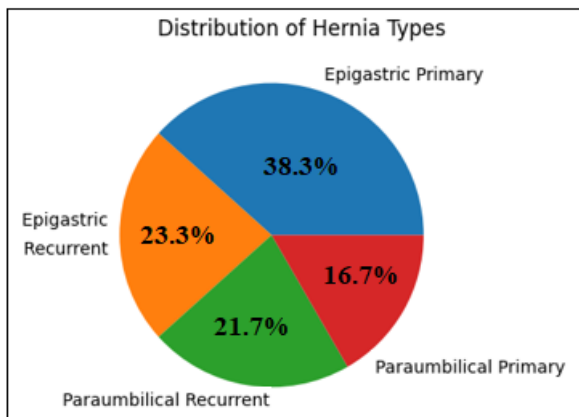


Figure 1: Distribution of Hernia Types (pie chart)

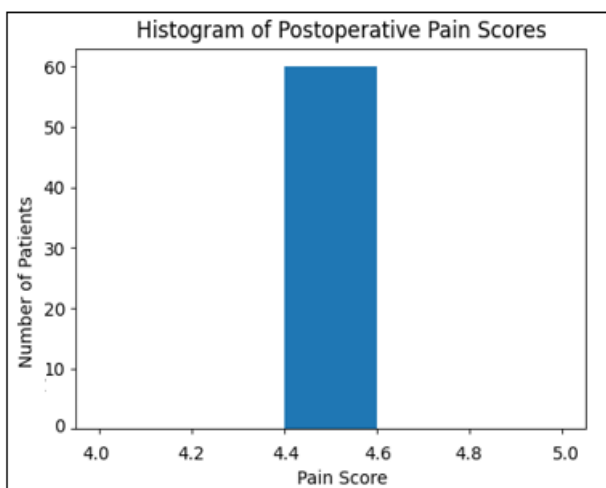


Figure 2: Histogram of Postoperative Pain Scores

Table 1: Postoperative Complications

Complications	Frequency	Percentage
Seroma	3	5
Hematoma	6	10
Wound Dehiscence	7	11.6
Urinary Retention	6	10
Chronic Pain	3	5
Surgical Site Infection	1	1.66
No Complication	31	51.66

Table 2: Follow-up Outcomes

Outcome	Frequency	Percentage
Asymptomatic	15	25
Recurrence	16	26.66
Pain	5	8.33
Surgical Site Infection	13	21.66
No Follow-up	11	21.66

4. Discussion

The present study demonstrates that mesh repair is associated with lower recurrence compared to tissue repair, consistent with previous studies. Epigastric hernias showed higher rates of seroma, pain, and recurrence, likely due to smaller defect size and tissue weakness. The findings support the growing consensus favoring mesh repair even in uncomplicated. [3,5,6]

5. Conclusion

Inlay mesh repair offers superior durability with acceptable postoperative morbidity compared to tissue repair. It should be considered the preferred technique for uncomplicated paraumbilical and epigastric hernias.

Ethical Approval

Approved by the Institutional Ethics Committee of Saraswathi Institute of Medical Sciences, Hapur.

Informed consent

Written informed consent was obtained from all participants.

Conflict of interest

The authors declare no conflict of interest.

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