

Original research article**Comparison of laparoscopic and lichtenstein's hernioplasty in inguinal hernia repair****Dr. Kallya Vinayak Shenoy**

Associate Professor, Department of General Surgery, Srinivas Institute of Medical Sciences and Research Centre, Mukka, Mangalore, India

Corresponding Author:Dr. Kallya Vinayak Shenoy**Abstract**

Background: Inguinal hernias involve the abnormal protrusion of abdominal contents through the inguinal canal. This study aims to compare the clinical outcomes between laparoscopic and Lichtenstein's hernioplasty techniques in patients undergoing inguinal hernia repair. The findings of this study could help determine which approach offers better postoperative results in terms of pain management, recovery time, and complication rates.

Keywords: Inguinal hernias, laparoscopic repair, Lichtenstein's repair, surgical outcomes

Introduction

An inguinal hernia occurs when an organ or tissue, often part of the intestine, protrudes through a weak spot in the abdominal muscles. Inguinal hernia repairs are among the most commonly performed surgical procedures globally. The lifetime risk for developing an inguinal hernia in men is approximately 27%, while the condition is less frequent in women. Surgical intervention is the only definitive treatment, with two main approaches-laparoscopic and open Lichtenstein's hernioplasty-being widely utilized ^[1, 2].

Despite the high volume of inguinal hernia surgeries performed worldwide, there remains no clear consensus on the optimal surgical technique for long-term outcomes ^[3-7]. This study compares the clinical results of laparoscopic hernia repair with those of Lichtenstein's hernioplasty to provide insight into their respective efficacy in reducing postoperative pain, recovery time, and overall patient outcomes.

Materials and Methods: This study was conducted in the Department of General Surgery at Srinivas Institute of Medical Sciences between September 2022 and January 2023. A total of 70 patients with diagnosed inguinal hernias were enrolled in the study. Ethical clearance was obtained from the institutional review board, and informed consent was acquired from all participants.

The study population was divided into two groups: Group I (35 patients) underwent laparoscopic hernia repair, while Group II (35 patients) underwent open Lichtenstein's repair. Basic demographic details, including age and gender, were recorded. The primary outcomes measured were the duration of the surgery, postoperative pain (assessed using a pain scale), and the length of hospital stay. Statistical analysis was performed using a significance level of 0.05.

Results**Table 1:** Patient Demographics

Gender	Group I (Laparoscopic)	Group II (Lichtenstein)
Male	28	30
Female	7	5

Table 2: Comparison of Outcomes

Parameter	Group I (Laparoscopic)	Group II (Lichtenstein)	P-value
Average operating time (minutes)	92.1	65.5	0.01
Postoperative pain score (Mean)	2.0	3.8	0.03
Length of hospital stay (days)	1.6	3.1	0.04

The study found that laparoscopic repair required a longer operating time than Lichtenstein's repair. However, patients who underwent laparoscopic surgery experienced significantly less postoperative pain

and had shorter hospital stays compared to those who underwent Lichtenstein's repair.

Discussion

Inguinal hernia repair is a routine surgical procedure, yet the choice between laparoscopic and open methods remains a topic of ongoing debate. In this study, the results indicate that laparoscopic repair offers several advantages over the traditional Lichtenstein's repair, particularly in terms of postoperative pain and recovery time.

Laparoscopic repair, though associated with a longer operation duration, resulted in lower postoperative pain scores and faster discharge from the hospital. These findings are consistent with existing literature, which suggests that laparoscopic techniques offer benefits such as reduced postoperative discomfort and quicker return to normal activities. However, the learning curve for laparoscopic surgery is steep, and the procedure requires general anesthesia, which may limit its widespread adoption in resource-limited settings.

In contrast, Lichtenstein's repair, while quicker to perform, resulted in higher pain scores and a longer hospital stay. This procedure remains popular due to its simplicity, cost-effectiveness, and the ability to perform it under local anesthesia. However, patients undergoing Lichtenstein's hernioplasty may experience more discomfort in the immediate postoperative period, which could delay their return to regular activities^[8, 9].

Both techniques have their respective advantages and limitations. The choice of method should be tailored to the patient's needs, taking into account factors such as the surgeon's expertise, patient comorbidities, and the availability of resources.

Conclusion

The comparison of laparoscopic and Lichtenstein's hernioplasty reveals that while laparoscopic repair takes longer to perform, it provides better outcomes in terms of reduced postoperative pain and shorter hospital stays. Lichtenstein's repair, while quicker, may result in more postoperative discomfort. The choice of surgical technique should be based on patient-specific factors and surgeon experience.

References

1. Mahesh GS. Laparoscopic Versus Open Mesh Repair for Inguinal Hernia. *Indian Journal of Research*. 2015;11:104-106.
2. Bobo Z, *et al*. Meta-analysis of randomized controlled trials comparing Lichtenstein and totally extraperitoneal laparoscopic hernioplasty in the treatment of inguinal hernias. *J Surg. Res*. 2014;192(2):409-420.
3. Pisanu A, *et al*. Meta-analysis and review of randomized trials comparing laparoscopic and Lichtenstein techniques in recurrent inguinal hernia repair. *Hernia*. 2015;19(3):355-366.
4. Smink DS, *et al*. Utilization of laparoscopic and open inguinal hernia repair: a population-based analysis. *J Laparoendoscopic Adv Surg Tech*. 2009;19(6):745-748.
5. Bittner R, *et al*. Laparoscopic transperitoneal procedure for routine repair of groin hernia. *Br J Surg*. 2002;89(8):1062-1066.
6. McIntosh E. Cost-utility analysis of open versus laparoscopic groin hernia repair: results from a multicenter randomized clinical trial. *Br J Surg*. 2001;88(5):653-661.
7. Murthy PK, Ravalia D. Assessment and comparison of laparoscopic hernia repair versus open hernia: a non-randomized study. *Int Surg. J*. 2018;5:1021-1025.
8. Bisgaard T, *et al*. Risk of recurrence five years after primary Lichtenstein mesh and sutured inguinal hernia repair. *Br J Surg*. 2007;94:1038-1040.
9. Hernia EU. Trialists Collaboration. Laparoscopic compared with open methods of groin hernia repair: a systematic review of randomized controlled trials. *Br J Surg*. 2000;37:860-867.