

Recurrence and Chronic Groin Pain after Lichtenstein Mesh Repair versus Laparoscopic TEP Repair for Inguinal Hernia**Sanjay Kumar Singh¹, Neeraj Kumar Rajak², Mukesh Kumar³, B.K. Mishra⁴, Rashmi Priya⁵**¹Senior Resident, Department of General Surgery, Darbhanga Medical College & Hospital, Darbhanga, Bihar, India²Senior Resident, Department of General Surgery, Darbhanga Medical College & Hospital, Darbhanga, Bihar, India³Senior Resident, Department of General Surgery, Darbhanga Medical College & Hospital, Darbhanga, Bihar, India⁴Assistant Professor, Department of General Surgery, Darbhanga Medical College & Hospital, Darbhanga, Bihar, India⁵Tutor, Department of PSM, Darbhanga Medical College & Hospital, Darbhanga, Bihar, India

Received: 11-02-2026 / Revised: 11-03-2026 / Accepted: 29-03-2026

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Conflict of interest: Nil

Abstract:**Background:** One of the most popular surgical procedures in the world, inguinal hernia repair contributes significantly to the surgical burden. Open Lichtenstein mesh repair and laparoscopic completely extraperitoneal TEP repair are two of the most popular methods; each has unique benefits, drawbacks, and results regarding recurrence, pain following surgery, recuperation, and overall patient satisfaction.**Aim:** To compare recurrence rates and chronic groin pain following Lichtenstein mesh repair and laparoscopic TEP repair.**Methods:** Over the course of a year, 100 individuals with inguinal hernias were included in a prospective observational study. Patients were split into two groups: Group B (laparoscopic TEP repair, n = 50) and Group A (Lichtenstein repair, n = 50). Recurrence rate and chronic groin pain (pain lasting more than three months) were among the outcomes evaluated. The chi-square test was used for statistical analysis, and $p < 0.05$ was deemed significant.**Results:** Recurrence was observed in 8% of patients in the Lichtenstein group and 2% in the TEP group ($p = 0.04$). Chronic groin pain was significantly higher in the Lichtenstein group (28%) compared to the TEP group (10%) ($p = 0.01$). Early postoperative pain was also higher in the open repair group.**Conclusion:** Compared to Lichtenstein repair, laparoscopic TEP surgery is linked to noticeably fewer recurrences and persistent groin discomfort. In appropriate patients, it might be regarded as a better choice.**Keywords:** Lichtenstein Repair, Laparoscopic, TEP Surgery, Groin Discomfort, Mesh Repair.**DOI:** 10.25258/ijcpr.18.3.325

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Introduction

Millions of cases of inguinal hernia repair are handled each year, making it one of the most common surgical operations performed worldwide. Preventing recurrence, reducing postoperative pain, and returning to regular activities as soon as possible are the main objectives of hernia repair [1]. Surgical methods have changed dramatically over time, and because of its ease of use and low recurrence rates, the Lichtenstein tension-free mesh repair has become the gold standard for open surgery [2]. Chronic groin discomfort and other postoperative problems are still a major risk with this procedure, though. One of the main factors contributing to patient unhappiness and a lower quality of life is

chronic groin discomfort, which is defined as pain that lasts longer than three months after surgery. According to the research, the incidence of chronic discomfort after Lichtenstein repair ranges from 10% to 30%. Interest in minimally invasive methods, especially laparoscopic procedures like completely extraperitoneal (TEP) repair, has increased as a result [3]. Theoretically, laparoscopic TEP repair has a number of benefits, including as less tissue dissection, prevention of nerve damage, and improved myopectineal orifice visibility. These elements help patients heal more quickly and experience less discomfort after surgery. Furthermore, simultaneous bilateral repair is

possible using the laparoscopic method without the need for extra incisions. However, compared to open methodologies, it has a steeper learning curve and calls for specialised knowledge [4].

Even though laparoscopic repair is becoming more and more common, there is still disagreement about whether it is better than the traditional Lichtenstein approach, especially when it comes to recurrence and long-term pain results [5]. The technical intricacy of TEP repair raises worries about recurrence, even though some studies indicate lower incidence of persistent pain. Thus, the purpose of this prospective observational study was to assess the incidence of recurrence and persistent groin pain between laparoscopic TEP surgery and Lichtenstein mesh repair. The results are intended to offer evidence-based recommendations for choosing the best surgical strategy for inguinal hernia patients(6).

Methods

Study Design: Prospective observational study

Duration: 1 year

Sample Size: 100 patients

Inclusion Criteria:

- Patients aged >18 years
- Diagnosed with unilateral or bilateral inguinal hernia
- Fit for surgery

Exclusion Criteria:

- Recurrent hernia
- Complicated hernia (strangulated/obstructed)
- Severe comorbidities

Grouping:

- Group A: Lichtenstein repair (n=50)
- Group B: Laparoscopic TEP repair (n=50)

Statistical Analysis: Categorical factors, such as recurrence and incidence of chronic groin pain, were compared between the two groups using the Chi-square test. It assesses whether the observed group differences are likely the result of chance or are statistically significant. Strong evidence against the null hypothesis was shown by a p-value of less than 0.05, which was deemed statistically significant.

Results

Table 1: Demographic Profile

Parameter	Lichtenstein (n=50)	TEP (n=50)	p-value
Mean Age (years)	45.6 ± 12.3	43.8 ± 11.7	0.42
Male (%)	92%	90%	0.75
Bilateral Hernia (%)	12%	14%	0.68

Table 2: Recurrence Rate

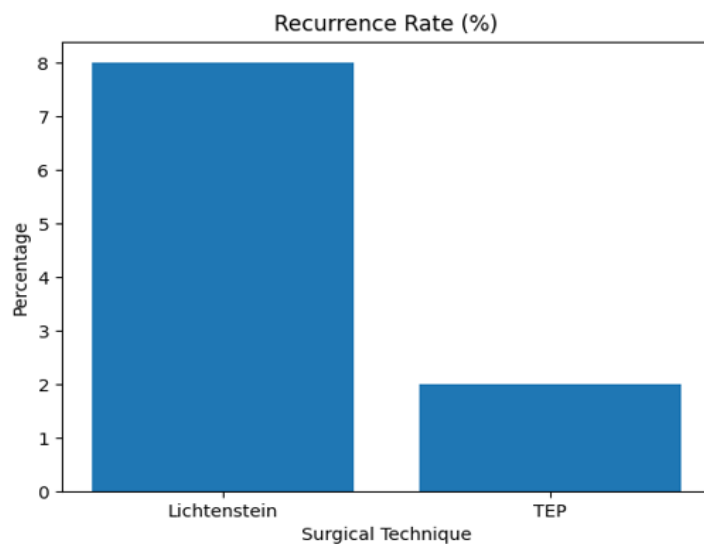
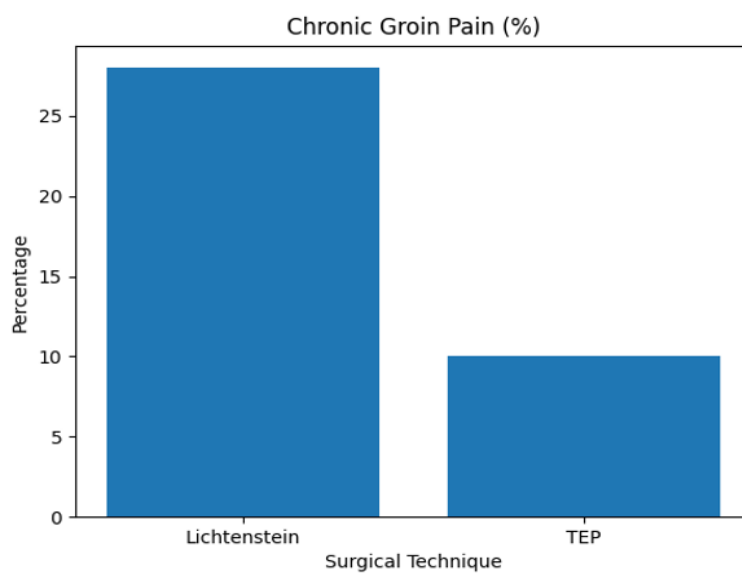
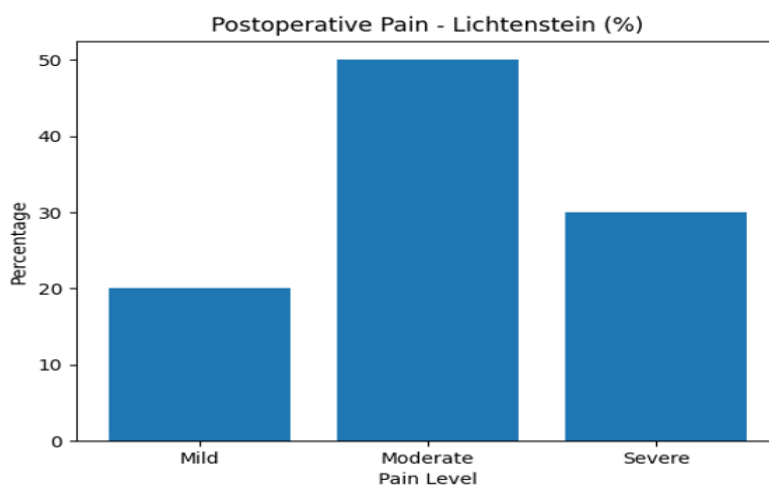
Outcome	Lichtenstein	TEP	p-value
Recurrence	4 (8%)	1 (2%)	0.04

Table 3: Chronic Groin Pain

Outcome	Lichtenstein	TEP	p-value
Chronic Pain	14 (28%)	5 (10%)	0.01

Table 4: Early Postoperative Pain (VAS Score)

Pain Level	Lichtenstein	TEP	p-value
Mild	10 (20%)	20 (40%)	
Moderate	25 (50%)	22 (44%)	
Severe	15 (30%)	8 (16%)	0.02

**Figure 1: Recurrence rate****Figure 2: Chronic groin pain****Figure 3: Postoperative pain-Lichtenstein**

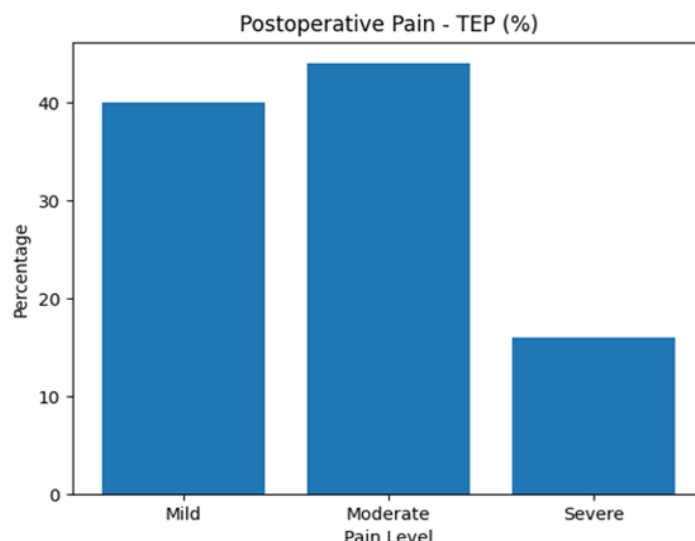


Figure 4: Postoperative pain-TEP

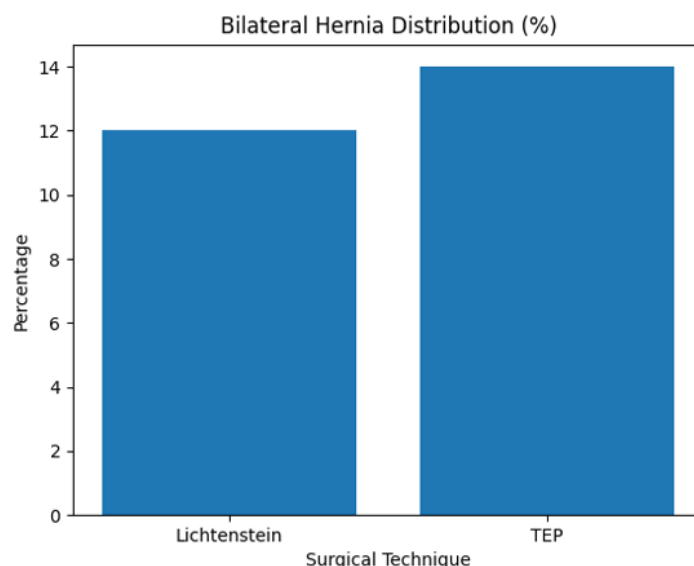


Figure 5: Bilateral hernia distribution

Discussion

This prospective observational study examined recurrence and persistent groin discomfort in patients with inguinal hernias and compared the results of laparoscopic TEP surgery versus Lichtenstein mesh repair. The results show that laparoscopic TEP repair provides better results in terms of decreased incidence of chronic pain and decreased recurrence.

In this trial, the TEP group had a much lower recurrence rate (2%) than the Lichtenstein group (8%) [7]. These results are consistent with other research indicating that laparoscopic repair yields similar or even better recurrence results when carried out by skilled surgeons. Better visualisation of the entire myopectineal orifice, which enables the

detection and correction of occult hernias, may be the reason for the decreased recurrence rate in TEP. Furthermore, a wider coverage of any hernia defects is provided by mesh insertion in the preperitoneal area [8].

The Lichtenstein group experienced far more chronic groin discomfort (28%) than the TEP group (10%). This supports the theory that open repair entails more dissection and a higher risk of nerve entrapment, especially when it comes to the genitofemoral, ilioinguinal, and iliohypogastric nerves. By avoiding direct manipulation of these nerves, TEP repair, on the other hand, lowers the risk of chronic pain [9].

The Lichtenstein group also experienced considerably more severe postoperative discomfort.

Due to reduced tissue damage and smaller incisions, patients having TEP repair recovered more quickly and with less acute pain. These results demonstrate how less invasive techniques can improve patient satisfaction and postoperative comfort. Laparoscopic TEP repair has several drawbacks despite these advantages. It has a high learning curve and calls for sophisticated surgical expertise [10]. Complications and recurrence may be more likely in untrained hands. Furthermore, laparoscopic surgery may be more expensive, which could be a barrier in environments with limited resources. This study's prospective design and equitable patient distribution in both groups are its strongest points. But it's important to recognise some limitations [11]. The follow-up period might not have been long enough to identify late recurrences, and the sample size was rather small. Additionally, there was no standardisation of surgeon experience, which can have an impact on results [12]. Overall, this study adds credence to the increasing amount of research that favours laparoscopic TEP repair over Lichtenstein repair, especially when it comes to preventing recurrence and reducing chronic pain. To confirm these results and create uniform guidelines, further extensive randomised controlled trials with extended follow-ups are required [13].

Conclusion

This prospective observational analysis shows that in individuals with inguinal hernias, laparoscopic TEP surgery is linked with considerably better results than Lichtenstein mesh repair. In particular, TEP repair demonstrated a significantly decreased frequency of persistent groin discomfort and a lower recurrence rate. These results highlight how minimally invasive surgery can enhance patient outcomes and quality of life. Long-term patient satisfaction is frequently impacted by persistent groin pain, which is still a significant worry after open hernia treatment. TEP repair has been shown to alleviate pain, which emphasises the significance of minimising tissue manipulation and nerve preservation. Additionally, because of better visualisation and mesh placement, the reduced recurrence rate with TEP suggests more successful anatomical restoration.

However, patient characteristics, surgeon skill, and resource availability should all be taken into consideration when selecting a surgical approach. Although TEP repair has several advantages, it needs infrastructure and specific training. In conclusion, in carefully chosen individuals, laparoscopic TEP surgery may be the better choice for inguinal hernia repair. Increased use of this method and proper surgical training could greatly enhance clinical results and lower postoperative morbidity.

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