

# A Prospective Comparative Randomized Open Label Parallel Group Study to Assess Effectiveness of Mesh Fixation with Polypropylene vs Vicryl in Inguinal Hernia Repair

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**Abstract:** Inguinal hernia repair is one of the most common operations performed in general surgery. Earlier, various approaches were used for hernia repair i.e. shouldice repair, bassini repair, etc but in the recent times, since the introduction of prosthetic materials, Lichtenstein technique has become the gold standard treatment for open inguinal hernia repair. In this study, we have compared the more likely chances of complications in mesh fixation between absorbable and nonabsorbable sutures.

**Keywords:** inguinal hernia, mesh fixation, polypropylene suture, vicryl suture, chronic groin pain, complications

## 1. Aim

To compare mesh fixation with polypropylene suture vs vicryl suture for post operative complications in inguinal hernia repair.

## 2. Objectives

### Primary

- To compare for chronic groin pain.

### Secondary

- To compare for wound infection.
- To compare for seroma formation.
- To compare for paresthesia.
- To compare for scrotal swelling, local swelling
- To compare for recurrence.

## 3. Methodology

This was a prospective study conducted at Sir T. Hospital, Bhavnagar, Gujarat. Total 30 cases that underwent lichtenstein tension free inguinal hernioplasty were included in the study.

Patients were divided into two groups of 15 cases each by randomisation who fulfilled the following criteria-

### Inclusion criteria:

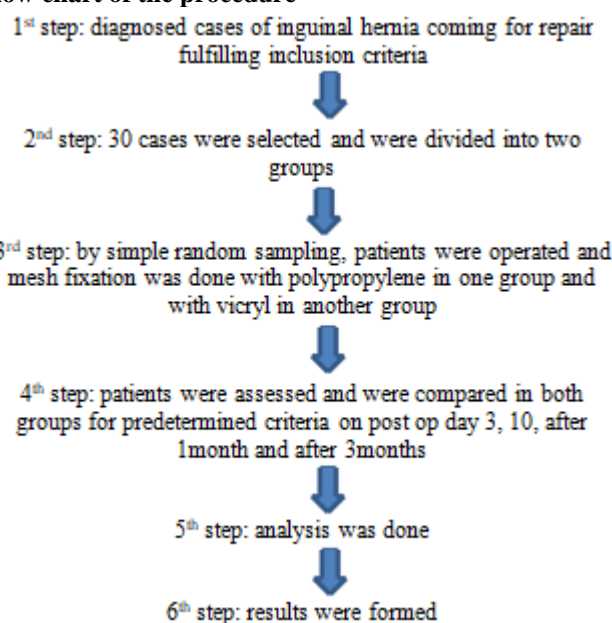
- Age above 18 yr
- Unilateral/bilateral uncomplicated inguinal hernia

### Exclusion criteria:

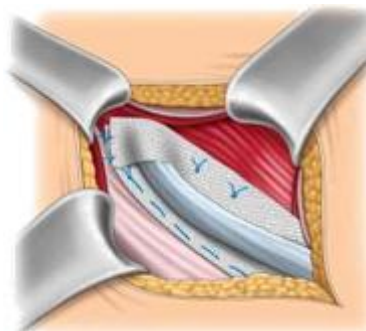
- Strangulated/irreducible inguinal hernias
- Pregnant patients

In group A patients- mesh fixation done with polypropylene suture -in group B patients- mesh fixation done with vicryl suture

### Flow chart of the procedure



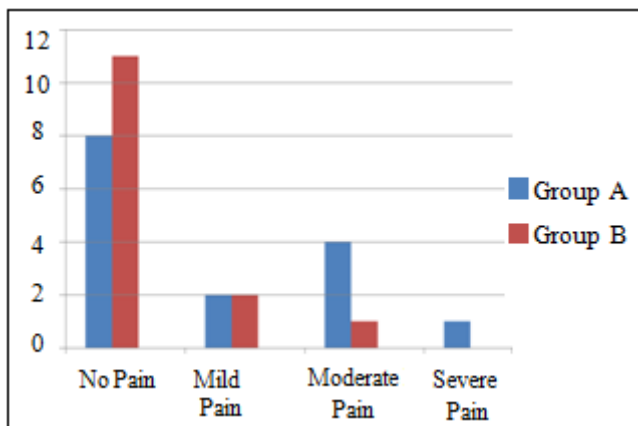
4. Discussion



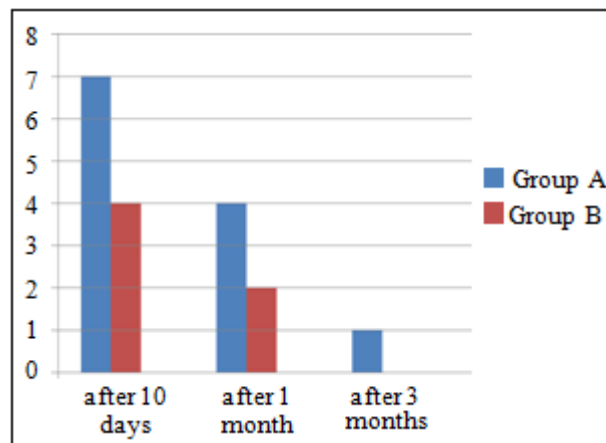
- We tried to study the outcome and complications in patients who underwent lichtenstein tension free hernioplasty in inguinal hernia. There were 2 groups, in group A mesh fixation was done with polypropylene suture, leading to more post operative pain, seroma formation, wound infection, foreign body sensation. The patients in group B where vicryl was used had less pain post operatively compared to group A and also seroma formation were noted in less number of patients. Chronic pain postoperatively has become the most important endpoints in hernia surgery.
- Pain after surgery persists for a long period due to inflammatory changes, fibrosis, subsequently entrapment of nerve, induced either by mesh or suture material, that's in proximity of ilioinguinal nerve. This can be avoided by identifying the groin nerves or by using fibrin or biologic glues may be used instead of sutures to secure the mesh. However, it has been observed that group with absorbable sutures suffered less pain.

Table 1: Postoperative complications

S. No.	Complications	Total no. of patients presenting with particular Postoperative Complication Group A (15 cases)	Total no. of patients presenting with particular Postoperative Complication Group B (15 cases)
1.	Chronic groin pain	7	4
2.	Postoperative paraesthesia	0	1
3.	Scrotal swelling	1	1
4.	Wound infection	1	1
5.	Seroma	1	1
6.	Local swelling	1	0
7.	Recurrence	1	0



Post operative complications on follow ups



5. Results

- In each group, 15 cases were studied, out of which, 80% of the patients in group A had postoperative complications, 46.67% had chronic groin pain while 53.33% of the patients in group B had postoperative complications, 26.67% had chronic groin pain.
- However, only 0.06% of the patients had recurrence after 3 months of being operated for inguinal hernia.

6. Conclusion

- In lichtenstein tension free inguinal hernioplasty, mesh fixation with absorbable sutures is a safe and effective method than with non absorbable sutures regarding postoperative complications.
- Therefore, absorbable sutures are a good alternative for mesh fixation.

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