



A RANDOMIZED COMPARATIVE STUDY OF DESARDA TISSUE REPAIR VERSUS LICHTENSTEIN'S HERNIOPLASTY IN THE MANAGEMENT OF PRIMARY INGUINAL HERNIA

General Surgery

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ABSTRACT

Background: Inguinal hernia accounts for 75% of all abdominal wall hernias, predominantly affecting males. Lichtenstein's tension-free mesh repair has long been the gold standard. However, mesh-associated complications have prompted exploration into tissue-based alternatives like Desarda repair. **Objectives:** To compare Desarda tissue-based repair and Lichtenstein mesh hernioplasty in terms of operative time, post-operative complications, pain, recurrence, and return to activity. **Methods:** A prospective observational study including 100 patients with primary inguinal hernia aged 18–80 years. Fifty patients underwent Lichtenstein's mesh repair and fifty underwent Desarda's repair. Patients were followed for 18 months and evaluated on operative duration, pain scores, seroma formation, recurrence, foreign body sensation, and return to normal activity. **Results:** Mean age was comparable between groups. Operative time was significantly shorter in the Desarda group (53.68 ± 20.21 min vs 68.4 ± 16.67 min, $p < 0.05$). Post-operative pain was consistently lower in the Desarda group across follow-ups. Seroma and foreign body sensation were more common in the Lichtenstein group, while recurrence was higher in the Desarda group (4%). **Conclusion:** Desarda's repair is a simple, effective, and cost-efficient alternative to mesh repair, with advantages of reduced pain, fewer mesh-related complications, and quicker recovery. However, the slightly increased recurrence rate warrants consideration in high-risk individuals.

KEYWORDS

INTRODUCTION

Inguinal hernia remains one of the most common surgical conditions worldwide, with a lifetime risk of 27% in men and 3% in women. Traditional mesh-based techniques, particularly the Lichtenstein method, have dominated surgical practice due to low recurrence rates. Yet, complications such as chronic pain, infection, and foreign body sensation challenge their universal use.

Dr. Mohan Desarda introduced a tissue-based method in 2001, utilizing the external oblique aponeurosis to reinforce the posterior wall of the inguinal canal, aiming to provide a dynamic, physiologic, and cost-effective alternative without the use of synthetic mesh.

This study aims to objectively compare Desarda's repair with Lichtenstein's technique across clinical outcomes in patients with primary inguinal hernias.

MATERIALS AND METHODS

Study Design:

Prospective observational study at Index Medical College, Indore.

Study Period:

18-month follow-up post-surgery.

Sample Size:

100 patients (50 in each group).

Inclusion Criteria:

- Age 18–80 years.
- Primary, reducible inguinal hernia.

Exclusion Criteria:

- Recurrent or complicated hernia.
- Patients unfit for spinal/general anesthesia.
- Lack of consent.

Surgical Procedures:

- **Lichtenstein Repair:** Standard open mesh repair with polypropylene mesh placed over the inguinal floor and secured with Prolene sutures.
- **Desarda Repair:** A 2 cm wide strip of external oblique aponeurosis was sutured between the inguinal ligament and internal oblique/conjoint tendon, forming a new posterior wall without mesh.

All patients received preoperative IV ceftriaxone and underwent surgery under spinal or general anesthesia. Wounds were closed in layers with attention to nerve preservation.

Outcome Measures:

- Operative time.
- Post-operative pain (VAS scale).
- Seroma formation.
- Foreign body sensation.
- Recurrence.
- Time to return to daily activity.

RESULTS

Demographics:

Most patients were male with comparable age distributions across groups.

Operative Duration:

- Desarda: 53.68 ± 20.21 minutes
- Lichtenstein: 68.4 ± 16.67 minutes
- $p < 0.05$ (significant)

Pain Scores:

Desarda group consistently reported lower pain scores on post-op day 1, 3, 10, 1 month, and 3 months ($p < 0.05$).

Complications:

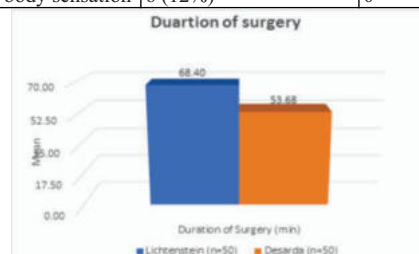
Lichtenstein Group:

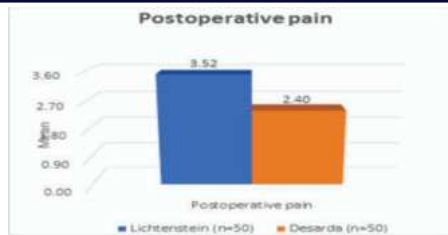
- **Seroma:** higher incidence
- **Foreign Body Sensation:** frequent
- **Recurrence:** 0%

Desarda Group:

- **Seroma:** 2 cases
- **Recurrence:** 2 cases (4%)
- No foreign body sensation reported

Complications	Lichtenstein's group (n=50)	Desarda group (n=50)
Seroma formation	9 (22.5%)	2 (4.0%)
Recurrence	0	2 (4%)
Foreign body sensation	6 (12%)	0



**Recovery:**

Desarda group resumed normal activities earlier due to reduced pain and quicker wound healing.

DISCUSSION

Hernia repair has evolved from ancient ligation techniques to tension-free mesh-based repairs. While the Lichtenstein technique remains popular, mesh-related complications cannot be ignored.

Desarda's technique reinforces the posterior wall with a physiologically dynamic layer, avoiding the use of prosthetic material. It is particularly useful in low-resource settings or in patients where mesh is contraindicated.

Comparative Studies:

- Manyilirah et al. and Szopinski et al. reported lower operative time and pain in Desarda group.
- Gedam et al. found pain scores significantly lower with Desarda repair.
- Jain et al. confirmed similar efficacy with better cost-efficiency for Desarda technique.

Advantages of Desarda Technique:

- No foreign body reaction.
- Shorter surgery time.
- Less postoperative pain.
- Suitable in infected or strangulated hernias.

Limitations:

- Slightly higher recurrence rate.
- Surgeon learning curve.
- Limited sample size and follow-up duration.

CONCLUSION

Desarda's no-mesh technique is a viable, effective, and economical alternative to Lichtenstein's repair. With reduced complications and comparable outcomes, it is especially advantageous in resource-limited settings and younger patients.

Recommendation:

Desarda repair should be promoted as a first-line surgical option, particularly for primary, uncomplicated inguinal hernias in suitable candidates.

Limitations

- Small sample size.
- Short-term follow-up (18 months).
- Single-center experience.

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