

# A Study To Assess Desarda Vs Lichtenstein Technique For The Treatment Of Primary Inguinal Hernia

Dr. Sagar Shyamsunder Paliwal<sup>1\*</sup>, Dr. Aakash Katkar<sup>2</sup>, Dr Nitin Nangare<sup>3</sup>

<sup>1</sup>Third year Resident, Department of General Surgery, KIMS, Karad, Maharashtra, India

<sup>2</sup>Assistant professor, Department of General Surgery, KIMS, Karad, Maharashtra, India

<sup>3</sup>Professor, Department of General Surgery, KIMS, Karad, Maharashtra, India

\*Corresponding Author: Dr. Sagar Shyamsunder Paliwal

<sup>3</sup>rd year Resident, Department of General Surgery, KIMS, Karad, Maharashtra, India, Email: shivanishyampaliwal@gmail.com

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## Abstract

**Background:** The present study was conducted for assessing and comparing the efficacy of Desarda vs Lichtenstein technique for the treatment of primary inguinal hernia.

**Materials & Methods:** 100 patients scheduled to undergo treatment for inguinal hernia were enrolled. Complete demographic and clinical details of all the patients was obtained. All the patients were randomized into two study groups: Group A (50 patients)-undergoing treatment by Desarda technique, and Group B (50 patients)- undergoing treatment by Lichtenstein technique. For performing Lichtenstein tension-free mesh repair, a polypropylene mesh was trimmed to fit the inguinal floor. Chronic pain was assessed on a VAS score of 0 to 10 with 7 to 10 indicating strong pain while 3 to 6 indicating moderate pain. All the results were subjected to statistical analysis using SPSS software.

**Results:** Group A and group B subjects took 15.3 days and 14.2 days respectively for returning to basic activity. Group A and group B subjects took 5.1 days and 8.3 days respectively for returning to home activity (p- value < 0.05). Mean hospital stay was 3.2 days and 2.9 days among subjects of group A and group B respectively. Foreign body sensation was felt in one patient each of both the study groups. Incidence of seroma formation was higher among the patients of group B in comparison to patients of group A. Mean operative time was significantly lower among patients of group A.

**Conclusion:** Outcome is better for Desarda technique in comparison to Lichtenstein technique for the treatment of primary inguinal hernia.

**Key Words:** Desarda, Lichtenstein technique, Inguinal hernia

## INTRODUCTION

Inguinal hernia repair is an extremely common operation performed by surgeons. More than 800,000 repairs performed annually. An inguinal hernia is an opening in the myofascial plain of the oblique and transversalis muscles that can allow for herniation of intraabdominal or extraperitoneal organs. These groin hernias can be divided into indirect, direct, and femoral based on location.<sup>1-3</sup>

There exists a wide range of techniques available ranging from open techniques, laparo-endoscopic and robotic assisted approaches. As such, the operative technique remains the choice of the individual surgeon. Twenty years ago, when the laparoscopic revolution was in its infancy, a survey of the members of the Association of Surgeons of Great Britain and Ireland showed that the majority of surgeons would choose an open inguinal hernia repair even if the surgeon had declared a laparoscopic interest.<sup>4, 5</sup> The observed complication rates and postoperative dysfunction have influenced many investigators to look for new hernia repair techniques or to modify old ones. An example of such efforts is the Desarda method, which was presented in 2001 and became a new surgical option for tissue-based groin hernia repair.<sup>6</sup> Hence; the present study was conducted for assessing and comparing the efficacy of Desarda vs Lichtenstein technique for the treatment of primary inguinal hernia.

## MATERIALS & METHODS

The present study was conducted for assessing and comparing the efficacy of Desarda vs Lichtenstein technique for the treatment of primary inguinal hernia. A total of 100 patients scheduled to undergo treatment for inguinal hernia were enrolled. Complete demographic and clinical details of all the patients was obtained. All the patients were randomized into two study groups: Group A (50 patients)- undergoing treatment by Desarda technique, and Group B (50 patients)-

undergoing treatment by Lichtenstein technique. For performing Lichtenstein tension-free mesh repair, a polypropylene mesh was trimmed to fit the inguinal floor. The mesh was sutured to the ligament of Poupart using a nonabsorbable suture and secured cranially using an absorbable suture. The Desarda repair was performed using continuous nonabsorbable suture for securing the aponeurotic strip to the inguinal ligament laterally, and the strip was secured to the internal oblique muscle medially with interrupted, absorbable sutures. Recurrence was recorded separately postoperatively. All the results were subjected to statistical analysis using SPSS software.

## RESULTS

Mean age of the patients of group A and group B was 41.3 years and 42.1 years respectively. 98 percent of the patients of group A and 96 percent of the patients of group B were males. Majority type of hernia in both the study groups was indirect type. Group A and group B subjects took 15.3 days and 14.2 days respectively for returning to basic activity. Group A and group B subjects took 5.1 days and 8.3 days respectively for returning to home activity (p- value < 0.05). Mean hospital stay was 3.2 days and 2.9 days among subjects of group A and group B respectively. Foreign body sensation was felt in one patient each of both the study groups. Incidence of seroma formation was higher among the patients of group B in comparison to patients of group A. Mean operative time was significantly lower among patients of group A.

**Table 1:** Demographic and clinical variable

Variable		Group A	Group B
Mean age (years)		41.3	42.1
Gender	Males; n (%)	49 (98%)	48 (96%)
	Females; n (%)	1 (2%)	2 (4%)
Type	Direct; n (%)	18 (39%)	16 (32%)
	Indirect; n (%)	32 (64%)	34 (68%)

**Table 2:** Returning to routine activities

Variable	Group A	Group B	p- value
Return to basic activity (days)	15.3	14.2	0.21
Return to home activity (days)	5.1	8.3	0.00*
Return to work activity (days)	11.3	12.3	0.41
Hospital-stay (days)	3.2	2.9	0.75

\*: Significant

**Table 3:** Evaluation of sensation variables

Variable	Group A		Group B		p- value
	Number	Percentage	Number	Percentage	
Loss of sensation	3	6	4	8	0.17
Foreign body sensation	1	2	1	2	1

**Table 4:** Incidence of seroma formation

Seroma formation	Group A	Group B	p- value
Number	1	5	0.001*
Percentage	2	10	

\*: Significant

## DISCUSSION

Inguinal hernias present with a lump in the groin that goes away with minimal pressure or when the patient is lying down. Most cause mild to moderate discomfort that increases with activity. A third of patients scheduled for surgery have no pain, and severe pain is uncommon (1.5% at rest and 10.2% on movement). Inguinal hernias are at risk of irreducibility or incarceration, which may result in strangulation and obstruction; however, unlike with femoral hernias, strangulation is rare. National statistics from England identified that 5% of repairs of primary inguinal hernia were emergency operations in 1998-9. Older age and longer duration of hernia and of irreducibility are risk factors for acute complications.<sup>7, 8</sup>

In the 1970s, the Lichtenstein hernia repair was favored and became the gold standard of open tension-free hernia repair. However, the use of synthetic prostheses can result in new clinical problems, such as foreign body sensation, chronic groin pain, abdominal wall stiffness and pain related sexual dysfunction, which may affect the daily activities of the patient. Besides, mesh rejection and migration have been reported. In order to reduce the incidence of complications and postoperative dysfunction, the tissue-based groin herniorrhaphies has re-attracted the attentions in recent years. In 2001, Desarda proposed a solution that using part of the external oblique aponeurosis (EOA) as a patch for repair, which may reduce the complications compared with meshes. Moreover, the technique requires no complicated dissection or

suturing, and is easy to learn as its developer claimed.<sup>9-11</sup> Hence; the present study was conducted for assessing and comparing the efficacy of Desarda vs Lichtenstein technique for the treatment of primary inguinal hernia.

Mean age of the patients of group A and group B was 41.3 years and 42.1 years respectively. 98 percent of the patients of group A and 96 percent of the patients of group B were males. Majority type of hernia in both the study groups was indirect type. Group A and group B subjects took 15.3 days and 14.2 days respectively for returning to basic activity. Group A and group B subjects took 5.1 days and 8.3 days respectively for returning to home activity (p-value < 0.05). Our results were in concordance with the results obtained by previous authors who also reported similar findings. In a previous study conducted by Dhar PP et al, authors compared outcomes after hernia repair with Desarda and mesh-based Lichtenstein techniques. A total of 42 participants (40 males and 2 females) were randomly assigned to the Desarda (group 1) and Lichtenstein (group 2), 19 vs 23 respectively. During the follow-up, one recurrence was observed in Desarda group after 10 months of surgery. Chronic pain was experienced by 10.5% and 8.7% of patients from groups Desarda and Lichtenstein respectively. Foreign body sensation and return to activity were comparable between the two groups. Operative time was less in Desarda group. There was significantly less seroma production in the Desarda group.<sup>12</sup>

Mean hospital stay was 3.2 days and 2.9 days among subjects of group A and group B respectively. Foreign body sensation was felt in one patient each of both the study groups. Incidence of seroma formation was higher among the patients of group B in comparison to patients of group A. Mean operative time was significantly lower among patients of group A. Our results were in concordance with the results obtained by previous authors who also reported similar findings. In a previous study conducted by Dhar PP et al, authors observed that Operative time was less in Desarda group. There was significantly less seroma production in the Desarda group.<sup>12</sup> Ge H et al, in another study, compared the effectiveness between Desarda and Lichtenstein inguinal hernia repair. Eight primary studies identified a total of 1014 patients, of whom 500 and 514 underwent Desarda herniorrhaphy and Lichtenstein herniorrhaphy, respectively. There was no significant difference in terms of operating time, return to normal gait, pain score, wound infection, hematoma, foreign body sensation, seroma and recurrence rate. Current evidence suggested that there is no difference between Desarda and Lichtenstein technique in short-term effectiveness.<sup>13</sup> Our findings were similar to those reported by Szopinski J et al. In their study, 208 male patients were randomly assigned to the D or L group. During the follow-up, two recurrences were observed in each group. Chronic pain was experienced by 4.8 and 2.9% of patients from groups D and L, respectively. Foreign body sensation and return to activity were not different between the groups. There was significantly less seroma production in the D group. The results of primary inguinal hernia repair with the Desarda and Lichtenstein techniques are comparable.<sup>14</sup>

## CONCLUSION

Outcome results are better for Desarda technique in comparison to Lichtenstein technique for the treatment of primary inguinal hernia.

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