

ORIGINAL ARTICLE

Desarda's Repair Vs Lichtenstein Repair in Indirect Inguinal Hernia - Preferred technique

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ABSTRACT

Aim: To compare the outcome of Desarda's technique with that of Lichtenstein mesh hernioplasty in terms of chronic pain, recurrence and infection.

Methods: A prospective comparative study with randomized controlled trial was conducted at Lahore General Hospital in Surgical Department to appraise the outcome of Desarda Hernioplasty in comparison with Lichtenstein Hernioplasty technique to evaluate recurrence, wound infection and chronic groin pain. The Desarda repair is used to treat inguinal hernia without the use of mesh.

Results: Total sixty (n=60) patients were included in the study by dividing into two groups Group A and B with mean age 40.5 and 39.5 years for Desarda vs Lichtenstein groups correspondingly. Insignificant statistical difference was noted in both groups regarding wound infection but considerable statistical advantage was noted regarding recurrence and Chronic groin pain for Group A patients in comparison to Group B.

Conclusion: We concluded that Desarda repair is emerging technique and cost effective with lesser pain, infection and recurrence than other techniques.

Keywords: Desarda's repair, Lichtenstein repair, wound infection, chronic groin pain and recurrence.

INTRODUCTION

Abnormal protrusion of viscous or a part of viscous through a weak point in inguinal canal is defined as inguinal hernia.¹ Surgical repair is the treatment of choice but the question of the best method of inguinal hernia repair has question mark since the Egyptian era 1550 BC. The writings of Egyptian Papyrus describe that the surgeons of that era used to repair hernia even at that time.²

Universities in France and Italy attempted to evolve surgical techniques of inguinal hernia repair in 16 and 17 centuries. Since then a search to find the best way of inguinal hernia repair is going on.³

Edoardo Bassini provided real basis of modern herniology. He had a high recurrence rate of 10%.⁴ In 1945, McVay and Shouldice modified his technique with recurrence rate of less than 6%. In 1958 Francis Usher et al started high density mesh hernia repair and claimed recurrence rate of less than 2%.⁵ Then Rene Stoppa and Rives in 1983, Lichtenstein in 1986, Gilbert in 1989 and Good Year et al in 2000 modified the technique. Lichtenstein Repair became Gold standard.⁷

W. S Halsted (1880), Furgosen A. H (1899), Tanner N. C (1942) were attempting to repair inguinal hernia by using patient's own tissue and claimed comparable results as for as recurrence rates were concerned.⁸ In 2001, Mohan. P. Desarda introduced a new repair of inguinal hernia with the undetached strip of aponeurosis of external oblique which reinforced the posterior wall of the inguinal canal by maintaining the shuttering mechanism.⁹ He claimed recurrence rates of less than 1%.^{11,12}

The aim of the study is to compare the outcome of Desarda's technique with that of Lichtenstein mesh hernioplasty in terms of chronic pain, recurrence and infection.

METHODOLOGY

Sixty patients having indirect reducible inguinal hernia were enrolled for the study after IRB permission. Patients were randomly selected and divided into group A (Desarda's repair) and group B (Lichtenstein Repair). Informed consent was taken. Duration of study was 2014 to 2019. Follow up was done in outdoor

department at different intervals to look for the complications. We noticed wound infection, chronic groin pain and recurrence rate. Southampton scoring was used for wound infection and persistent pain for three months was labeled chronic groin pain. An inguinal swelling with cough impulse was labeled as recurrence. Two procedures were compared and Chi-square test was used for statistics with p value ≤ 0.05 as significant. The results were analysed with SPSS 22.

RESULTS

The data was collected from total 60 patients who were divided into two groups, A and B. Group A received Desarda's repair while Group B received Lichtenstein repair (Table 1). The patients were divided in these groups (by random number using lottery method) (on the basis of their complaint). Mean age of the patients in group A was 40.5 \pm 1.37 and in group B it was 39.5 \pm 1.5 years. All were males.

Table 1: Distribution of complications among two repair groups

	Group A		Group B	
	n	%	n	%
Complications total	2	6.6%	10	33.3%
Chronic groin pain	01	3.3%	07	23.3%
Wound infection	01	3.3%	02	6.6%
Recurrence	0	0%	01	3.3%

There is no statistical association among both groups receiving different treatments but Clinically these results depict more (23.3%) pain in group B who had Lichtenstein repair.

Table 2: Association of complications among both groups receiving different treatment:

Complication	Category	Group A	Group B	Chi square (p-value)
Chronic groin pain	Yes	1 (3.3%)	7 (23.3%)	5.1923 (0.2269)
	No	29(96.6%)	23(76.6%)	
	Total	30 (100%)	30 (100%)	
Wound infection	Yes	1 (3.3%)	2 (6.6%)	0.00 (1.0000)
	No	29(96.6%)	28(93.4%)	
	Total	30 (100%)	30 (100%)	
Recurrence	Yes	0 (0%)	1 (3.3%)	1.00 (1.0000)
	No	30 (100%)	29(96.6%)	
	Total	30 (100%)	30 (100%)	

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Statistically insignificant association among recurrence and treatment of both groups but clinically only one patient who received Lichtenstein repair showed (3.3%) recurrence among patients (Table 2). Group B patients showed more groin pain (23.3%). Group A showed only 2 complications, while in Group B 33.3% patients had complications.

DISCUSSION

Chronic groin pain was noted in 1(3.3%) patient Group A were reassured while in Group B 7(23.3%) patients presented with groin numbness and discomfort with the feeling of something inside the operation site. Group A had no complaint of groin pain after 6 months. The patients in group B with Lichtenstein repair kept on visiting as scheduled for their complaint regarding groin pain and numbness. A study by Szopinski J et al (2012) showed the results of chronic groin pain, numbness and foreign body sensation higher in Lichtenstein repair as compared to Desarda's repair but statistically insignificant¹³. The Indian scientist Desarda MP in 2008 published his study showing in his results with no patients with chronic groin discomfort but it was reported to have a high incidence of groin discomfort following prosthetic mesh hernia repair, reportedly in the range of 28.7-43.3%¹¹. Consensus of European Hernia Society, in T.I.M.E.L.I. Trial, defined the pain complex syndrome (numbness, groin discomfort, neuralgia) as the presence of anyone of three or all these aspects about one year after operation. Regarding the frequency, the percentage of pain complex syndrome is supposed to be about 25% of patients experiencing inguinal hernia operation. Youssef T et al in 2015 has shown the comparable results regarding chronic groin pain in his comparative study¹⁷. It has been recommended in the latest publications¹⁸.

Regarding wound care, standard protocols were observed including pre-operative antibiotics and sterilization. The wound infections were graded with Southampton scoring scale starting from grade 0 with normal healing to grade V with deep or severe wound infection.¹³ In my study, group A 29(96.7%) patients had normal wound healing, 1(3.3%) patients had erythema with grade I and which was settled with oral antibiotics and anti-inflammatory drugs. Whereas in Group B 28(93.4%) patients had normal wound healing 2(6.6%) patient had grade II wound infection. A study by Szopinski J et al in 2012 reported lesser seroma formation and wound infection in patients with Desarda's repair technique. The higher %age of wound infections with the Lichtenstein repair can be explained by the prosthetic mesh¹³. A study conducted in 2018 by Ge H et al showed lesser wound infection rates after Desarda's repair¹⁸.

Patients in both groups were followed for a period of 2 years. Recurrence was labeled as any bulge in inguinal region with positive cough impulse. No patient from group A presented with right sided bulge i.e. zero recurrence and 1(3.3%) patient from group B presented with recurrence of right sided inguinal hernia. In 2008 Lichtenstein hernioplasty was compared with Desarda's technique for the recurrence rates showing comparable results between them i.e. less than 2%¹¹. A study done by Mitura K in 2008 showing no recurrence while comparing Desarda vs Lichtenstein repairs with 6 months follow up⁹. Similarly Szopinski J and his colleagues in 2012 showed comparable results between Desarda and Lichtenstein repair techniques. In his opinion, the Desarda repair merits more attention and additional probing in future by future scientists.¹³ Gedam BS et al in 2017 claimed recurrence rate of one patient in each group with a follow up of 15 months¹⁶ observed a figure of zero percent regarding the recurrence rate with Desarda's repair with an adequate period of

follow up so avoiding the implantation of the foreign body mesh and post-operative fibrotic complications regarding PPP mesh which was showing recurrence in one patient. This study supports the awareness that proper surgical procedure and aseptic measures are vital for the satisfactory final results.

CONCLUSION

Desarda's repair is emerging as a new gold standard technique with no fear of PPP mesh rejection, associated wound infection, chronic groin pain and recurrence.

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Conflict of interest: Nil

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