

# Comparison of Seroma Formation After Desarda Versus Lichtenstein's Repair

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## ABSTRACT

Abdominal hernia repair is one of the most common elective surgical procedures that are done in a surgery ward. Many techniques have been introduced over past century. Desarda introduced his technique in 1990 to overcome challenges of conventional tissue and mesh repair techniques. This study compares Desarda and Lichtenstein's repair for incidence of post-operative seroma formation. **Objective:** Comparison of post-operative seroma formation in Desarda versus Lichtenstein's repair. **Study Design:** Randomized Control Trial. **Settings:** Department of Surgery, Allied Hospital, Faisalabad-Pakistan. **Duration:** 6 months from January 1, 2017 to June 30, 2017. **Methodology:** 160 patients undergoing hernia repair were randomly selected and divided into two equal groups. Group-A underwent Desarda repair and Group-B underwent Lichtenstein's repair. Patients were observed for 3 post-operative days for seroma formation in ward and then followed in outpatient department for 6 weeks. If seroma formation was detected, multiple aspirations were performed using sterile syringes and quantity was measured until resolution. **Results:** Comparison of seroma formation in Desarda versus Lichtenstein repair of inguinal hernia shows that 2.5%(n=2) in Group-A and 10%(n=8) in Group-B had seroma formation while 97.5%(n=78) in Group-A and 90%(n=72) in Group-B had no findings of the morbidity, p value was 0.05 showing a significant difference. **Conclusion:** Desarda's repair was a better approach as compared to Lichtenstein's repair to prevent seroma formation.

**Keywords:** Inguinal hernia, Lichtenstein's repair, Desarda, Seroma formation.

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## INTRODUCTION

Inguinal hernias are most frequently encountered surgical problems in today's society. A hernia occurs when intraperitoneal tissue such as part of intestine protrudes out through a weak spot in abdominal wall. The swelling may cause pain on coughing or movement. It may become obstructed or strangulated and present as a surgical emergency. Lichtenstein's repair is popularized by European Hernia Society and has been a preferred method in various hospitals. Shouldice repair is also being promoted.<sup>1</sup> Totally extraperitoneal (TEP) inguinal hernia repair has gained excellent results but the technique itself has a longer learning curve which is a major constraint in its adoption in tertiary care centers of Pakistan.<sup>2,3</sup> Desarda's technique is a tension free tissue-based repair which requires less per-operative time and has less recurrence rates.<sup>4</sup> One of the most common post-operative complaints is seroma formation. It is formed as a result of inflammatory response to sutures or mesh and cannot be prevented. It usually resolves spontaneously but occasionally may require frequent aspirations.<sup>6</sup>

## METHODOLOGY

**Study Design:** Randomized Control Trial.

**Settings:** Surgery Department, Allied Hospital, Faisalabad-Pakistan

**Duration:** 6 months from January 1, 2017 to June 30, 2017.

**Inclusion Criteria:** Male patients aged 18-65 years with unilateral inguinal hernia were included in the study.

**Exclusion Criteria:** Patient's with bilateral or recurrent inguinal hernia and patient's with comorbidities such as diabetes and hypertension were excluded.

**Methods:** After seeking permission from Hospital Ethical Committee, 160 patients were randomly divided into two equal groups. Group-A underwent Desarda's repair and Group-B underwent Lichtenstein's repair. Patients were observed in ward for 3 post-operative days and then followed through surgical outpatient department for a period of 6 weeks. If seroma was detected, number of aspirations and quantity of aspirates was recorded. Data was analyzed using SPSS version 20. Mean and standard deviation were calculated for all quantitative variables such as age etc. Incidence and percentage were calculated for qualitative variables. Chi square test was applied and P value of <0.05 was considered significant

## RESULTS

A total of 160 patients were randomly divided into two groups containing 80 members each. Incidence of seroma formation was evaluated in post-operative patients who underwent Desarda's repair and Lichtenstein's repair. 47.5% (n=38) in Group-A and 36.25% (n=29) in Group-B were between 18-40 years of age. 2.5% (n=2) in Group-A and 10% (n=8) in Group-B presented with seroma formation. P value was 0.05 showing a significant difference.

**Table 1: Age distribution**

Age (in years)	Group-A (n=80)		Group-B (n=80)	
	No. of patients	%	No. of patients	%
18-40	38	47.5	29	36.25
41-65	42	52.5	51	63.75
<b>Total</b>	<b>80</b>	<b>100</b>	<b>80</b>	<b>100</b>
<b>Mean±SD</b>	<b>43.14±11.09</b>		<b>45.4±11.16</b>	

**Table 2: Stratification for seroma formation with age**

Age	Group	Seroma formation		P value
		Yes	No	
18-40 Years	A	1	37	0.40
	B	2	27	
41-65 Years	A	1	41	0.08
	B	6	45	

## DISCUSSION

In this study incidence of seroma formation was studied in two groups who underwent Desarda's repair and Lichtenstein's repair respectively. Our study showed Group-A who underwent Desarda's repair had lower incidence (2.5%) of seroma formation as compared to 10% in Lichtenstein's repair. The difference was statistically significant. A similar study showed 0% incidence of seroma formation after Desarda technique as compared to 7.77% of Lichtenstein group.<sup>7</sup>

Another study by Imran Ahmad and colleagues compared these two techniques and found out significantly lower incidence of seroma in post-operative patients of Desarda's repair.<sup>8</sup>

The higher incidence of seroma formation can be explained by inflammatory reaction of tissue to synthetic mesh, a known influence of polypropylene on tissue.<sup>9,10</sup>

Similar study conducted at Sharif Medical and Dental College demonstrated 6% incidence of seroma formation in Desarda's group while 10% in Lichtenstein's group (P<0.05). The difference in mean operative time was statistically non-significant.<sup>11</sup>



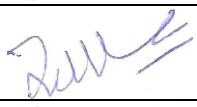
## CONCLUSION

Our study concludes that Desarda repair is significantly better when compared to Lichtenstein repair due to less incidence of post-operative seroma formation.

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## AUTHORSHIP AND CONTRIBUTION DECLARATION

AUTHORS	Contribution to The Paper	Signatures
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<b>Dr. Asrar Ahmad Khan</b> Assistant Professor, Surgery FMU / Allied Hospital, Faisalabad	Reviewing and writing references, help in data collection and composing	
<b>Dr. Sultan Mahmood Khan</b> Assistant Professor, Surgery Aziz Fatimah Medical & Dental College, Faisalabad	Literature Review	
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