

Original research article

## Inguinal Hernia Repair by Desarda Technique without Mesh

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### Abstract

#### Introduction:

**Background:** Inguinal hernia repair without mesh by Desarda Technique. To study the short-term postoperative mean pain-score, return to normal gait, recurrence among adult patients with primary inguinal hernias compared to other conventional methods.

**Methodology:** It's an observational study with 30 patients of age group 20-40 years with primary inguinal hernia. Study was conducted in Government wenlock hospital, Mangalore.

**Results:** Out of 30 patients included in the study, 21 right sided and 9 were left sided hernia. 28 patients were pain free by 3<sup>rd</sup> day, 2 of them were pain free by 7th day, 2 patients developed seroma collection, and 1 patient developed wound gapping and required secondary suturing, all the patients returned to normal gait by 2<sup>nd</sup> day, no foreign body sensation, and no recurrence till now.

**Conclusion:** Desarda's no mesh repair is a physiologically sound, easy to learn and simple method. It is more comfortable for the patient as pain intensity and duration is less, early return to gait and normal activity, less hospital stay, also cost beneficial (without mesh) for the patient.

**Keywords:** Desarda, Inguinal hernia, Strip of External Oblique Apo neurosis (EOA)

### Introduction

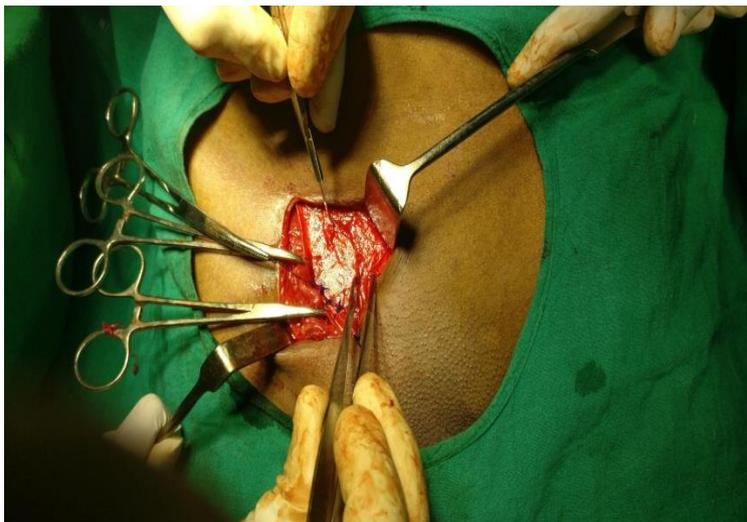
It has been said that the historical backdrop of inguinal hernias is nothing but historical backdrop of surgery itself.<sup>1</sup> A few strategies have been utilized in the treatment of inguinal hernias, since Bassini first depicted his technique in 1887. Hernia is inferred from the Latin Word herniae for "to protrude". Commonly seen in males. Occurrence of indirect hernia in men is about two times more common than direct hernia (2:1). In 1958, Usher et al<sup>2</sup> was the first to perform inguinal hernioplasty utilizing prosthetic mesh, excluding pure tissue repairs with tension. Various randomized controlled studies show that tension free Lichtenstein hernioplasty is superior to conventional tissue methods. Desarda technique, introduced in 2001, is a hernia repair where natural un-detached strip of EOA is used<sup>3</sup>.

The main objectives of the study is to observe short-term post-operative mean pain-score among the patients with primary inguinal hernias who undergo the Desarda repair with other conventional methods, to observe the time taken to return to normal gait among the patients with primary inguinal hernias who undergo the Desarda repair, to observe the proportion of patients with primary inguinal hernias who develop short-term post-operative complications following Desarda repair and to observe the operative time in doing Desarda repair for inguinalhernia

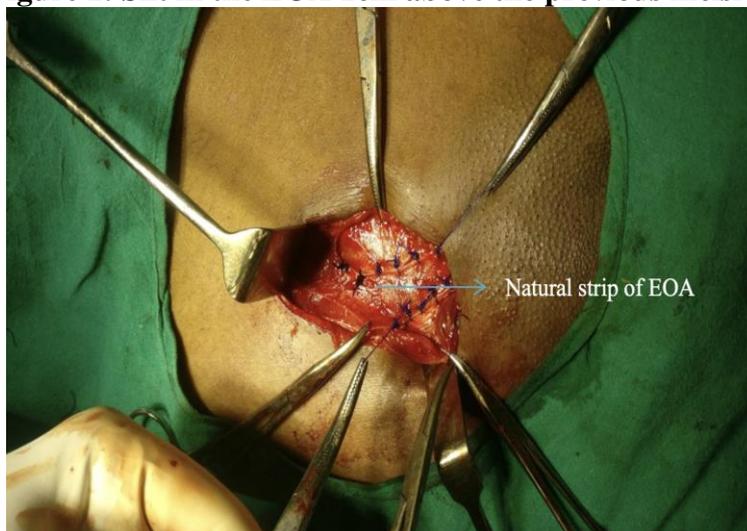
### Materials and Methods

Two year observational study from October 2016 to August 2018, total of 30 subjects were subjected to Desarda technique. Study was conducted at Government Wenlock Hospital, Mangalore and Kasturba Medical College Hospital Attavar, Mangalore. Patient age < 20 and > 40 years were included in the study. Patient with multiple comorbidities, Giant inguinoscrotal hernias, obstructive uropathy or chronic obstructive pulmonary disease, impaired mental state, obstructed and strangulated hernias were excluded from the study. A p value of <0.05 considered as significant. Fischer's exact test is used for analysis of results. SPSS for windows, version 17.0 is used to do analysis

### Operative Pictures



**Figure 1: Slit in the EOA 1cm above the previous incision**



**Figure 2: Undetached natural strip of EOA**

**Results**

**Table 1: Pain intensity and duration**

	No pain	Mild	Moderate	Severe
	Count	Count	Count	Count
pain intensity on 1st day	0 (.0%)	18 (60.0%)	12 (40.0%)	0 (.0%)
pain intensity on 3rd day	21 (70.0%)	9 (30.0%)	0 (.0%)	0 (.0%)
pain intensity on 7th day	28 (93.3%)	2 (6.7%)	0 (.0%)	0 (.0%)
pain intensity on 14th day	30 (100.0%)	0 (.0%)	0 (.0%)	0 (.0%)
pain after a month	30 (100.0%)	0 (.0%)	0 (.0%)	0 (.0%)

**Table 2: Return to Gait**

	Frequency
<1 day	4 (13.3)
1 day	14 (46.7)
2 days	11 (36.7)
3 days	1 (3.3)
Total	30 (100.0)

**Table 3: Seroma collection**

	Frequency
yes	2 (6.7)
no	28 (93.3)
Total	30 (100.0)

**Table 4: Wound gaping**

	Frequency
yes	1 (3.3)
no	29 (96.7)
Total	30 (100.0)

**Table 5: Secondary suturing**

	Frequency
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yes	1 (3.3)
no	29 (96.7)
Total	30 (100.0)

**Table 6: Recurrence of hernia**

	Frequency
no	30 (100.0)

**Table 7: Duration of surgery**

	Frequency
Below 65	15 (50.0)
65 and above	15 (50.0)
Total	30 (100.0)

**Table 8:**

	<b>Fishers exact test p</b>	
<b>Age</b>	<b>0.334</b>	
<b>Occupation</b>	<b>0.152</b>	
<b>Gait</b>	<b>0.554</b>	
<b>Seroma</b>	<b>0.036</b>	<b>significant</b>
<b>Gapping</b>	<b>0.001</b>	<b>HS</b>
<b>secondary suturing</b>	<b>0.001</b>	<b>HS</b>
<b>Hernia</b>	<b>0.311</b>	
<b>duration of surgery</b>	<b>0.909</b>	

**Discussion**

In our study, out of 30 patients only 2 patients developed seroma collection with P value of 0.036 is significant as compared to the other conventional methods. 1 patient developed wound gapping with skin infection with a P value of 0.001.

None of the patient developed recurrence of hernia till now through regular follow-up with P value < 0.05 which is highly significant.

Duration of surgery was around 65 minutes which is more significant compared to Lichtenstein mesh repair. Also there is no foreign body sensation in the patients after the surgery operated through Desarda technique, found more beneficial to the patient. Whereas in other conventional methods like Lichtenstein mesh repair patient experience foreign body sensation lifelong at the hernia site due to artificial mesh placement. Absolutely there is no use of mesh in Desarda repair, which is cost beneficial to the patients in the low socio-economic group who are not affordable.

Also instead of static effect produced by the Lichtenstein repair, in Desarda technique there will be natural external oblique aponeurosis strip that provides Dynamic effect to the raised intra-abdominal pressure. Short duration of Desarda technique, early returning to work, normal gait in less time and low cost (without mesh) which are definitely the main benefits of Desarda repair. According to the study done by Desarda in Pune, 400 patients in the study group of different age groups from 18 - 90 years and

all types of inguinal hernia. 6 patients developed swelling around the repair during the postoperative period, which reduced on its own within two weeks without any treatment. This would be possibly the result of the venous congestion caused by extra narrowing of the internal ring during the operation.<sup>5,6,7</sup> In the study done by Desarda 4 patients had skin infections, which subsided in a week. 1 patient developed a haematocele, which subsided on its own after 2 days. All the patients were followed up after 15 days 1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup> month for 10 years. Only one patient developed recurrence of hernia.

One more similar RCT (Desarda Vs Lichtenstein repair) in the treatment of inguinal hernia by Tamer Youssef et al from Mansoura University, Mansoura, Egypt. During their 2 year time period of follow up, a single patient with recurrence of hernia was detected in both the groups (P value of 0.99)<sup>8</sup>. Chronic, persistent pain in the groin experienced by 5.6% and 4.2% of patients from both Desarda & Lichtenstein group respectively (P value of 0.68).

And identified significant short duration of procedure and early in returning to normal gait in favour of Desarda technique.<sup>9</sup> Successful inguinal hernia repair without mesh can be achieved with Desarda repair, as it is effective as the Lichtenstein procedure.

### Conclusion

Successful hernia repair without using mesh can be done in the patients of age group between 20-40 years by this new technique without much complication. Minimal early post-operative complications, like seroma collection, pain, wound gaping, secondary suturing seen in the patients with Desarda technique compared to other conventional mesh repairs.

No late complications like nerve entrapment, recurrence of hernia, foreign body sensation at the site of hernia repair which are more likely in other conventional mesh repairs. As we are using natural strip of EOA mesh in the technique instead of artificial polypropylene it will be cost beneficial to the patients. Obviously, no foreign body reaction and early ambulation of patient's results in less hospital stay of patients.

Desarda hernia repair can be done under Spinal or Local anaesthesia with less time duration compared to laparoscopic and other conventional mesh techniques. If suppose there is recurrence of hernia it is easy to repair in Desarda technique compared to other conventional methods

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