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Clinical profile of patients with Inguinal hernia subjected for Lichtenstein's and Desarda's technique

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Abstract

The first evidence of operative repair of a groin hernia dates to the first century AD. The original hernia repairs involved wide operative exposures through scrotal incisions requiring orchiectomy on the involved side. Centuries later, around 700 AD, principles of operative hernia repair evolved to emphasize mass ligation and en bloc excision of the hernia sac, cord, and testis distal to the external ring. Over a period of one and half year patients selected with inguinal hernia as per inclusion and exclusion criteria were included in this prospective study. Patients were randomly divided into two groups' i.e. Group 1(Control group): were subjected to Lichtenstein Tension free mesh repair. Group 2(Study group): were subjected to Desarda repair. 60% and 56% percent of sample patients were having right side Inguinal hernia respectively in LTF and Desarda group. Whereas 40% and 44% of sample patients of LTF and Desarda group respectively were diagnosed to of having left sided Inguinal hernia.

Keywords: Inguinal hernia, clinical profile, side of involvement

Introduction

The word "hernia" is derived from a Latin term meaning "a rupture." The earliest reports of abdominal wall hernias date back to 1500 BC. During this early era, abdominal wall hernias were treated with trusses or bandage dressings ^[1]. The first evidence of operative repair of a groin hernia dates to the first century AD. The original hernia repairs involved wide operative exposures through scrotal incisions requiring orchiectomy on the involved side. Centuries later, around 700 AD, principles of operative hernia repair evolved to emphasize mass ligation and en bloc excision of the hernia sac, cord, and testis distal to the external ring. The first report of groin hernia classification based on the anatomy of the defect (i.e., inguinal versus femoral) dates to the 14th century, and the anatomical descriptions of direct and indirect types of inguinal hernia were first reported in 1559. Bassini revolutionized the surgical repair of the groin hernia with his novel anatomical dissection and low recurrence rates. He first performed his Operation in 1884, and published his initial outcomes in 1889 ^[2].

Bassini's repair emphasizes both high ligation of the hernia sac in the internal ring as well as suture reinforcement of the posterior inguinal canal. The operation also utilizes a deep and superficial closure of the inguinal canal. In the deep portion of the repair, interrupted sutures affixing the transversalis fascia medially to the inguinal ligament laterally repair the canal. This requires an incision through the transversalis fascia. The external oblique fascia provides the superficial closure ^[3].

In addition to Bassini's contributions, Lotheissen in 1898 introduced the first true Cooper's ligament repair, which affixes the pectineal ligament to Poupart's ligament and thereby repairs both inguinal and femoral hernia defects. McVay further popularized the Cooper's ligament repair with the addition of a relaxing incision to reduce increased wound tension ^[4].

Seventy-five percent of all abdominal wall hernias are found in the groin, making it the most common location for an abdominal wall hernia. Of all groin hernias, 95% are hernias of the inguinal canal, with the remainder being femoral hernia defects. Inguinal hernias are nine times more common in men than in women. Although femoral hernias are found more often in women, the inguinal hernia is still the most common hernia in women ^[5]. The overall lifetime risk of developing a groin hernia is approximately 27% in males and 3% in females ^[6].

Methodology

Over a period of one and half year patients selected with inguinal hernia as per inclusion and exclusion criteria were included in this prospective study. Patients were randomly divided into two groups' i.e.

Group 1(Control group): were subjected to Lichtenstein Tension free mesh repair

Group 2(Study group): were subjected to Desarda repair

Patients admitted with Inguinal Hernia (direct/Indirect, Unilateral or Bilateral) at Bangalore Medical college Hospital, Bangalore.

Sample Size: A total of 50 patients will be studied, 25 of these undergoing Desarda's hernia repair and 25 undergoing Lichtenstein mesh repair.

Inclusion criteria

All cases of inguinal hernia admitted for surgery

1. Above 18 years of age.
2. With a primary, reducible inguinal or inguino-scrotal hernia; unilateral or bilateral

Exclusion criteria

Patients with:

1. Obstructive uropathy or chronic obstructive pulmonary disease because they are contraindications to elective hernia surgery. They are associated with definite poor outcomes such as high recurrence rates.
2. Old and debilitated patients of poor general condition as they will be unable to give an accurate assessment of the key outcomes of the operation.
3. Patients with strangulated hernia.
4. Recurrent Hernias.
5. Per operative finding of separated, thin and/or weak external oblique aponeurosis

Sample Size Estimation

It's a Hospital based study to include a total of 50 patients, 25 each in two groups.

Group 1: patients who undergo LTF repair

Group 2: patients who undergo Desarda repair

Results

Table 1: Age Distribution

Age (YRS)	Ltf Repair(N=25)	Desarda(N=25)
21-40	11	10
41-60	14	15

In the present study 44% and 40% of sample patients belonged to age group between 21-40 years in LTF and Desarda group respectively.

Similarly 56% and 60% of sample patients belonged to age group between 41-60 years respectively in LTF and Desarda group.

Table 2: Sex Distribution

Age (YRS)	LTF Repair(N=25)	Desarda(N=25)
Male	25	25
Female	0	0

In the present study all the subjects were male in both LTF and Desarda group.

Table 3: Location/Side

Age (YRS)	Ltf Repair (N=25)	Desarda (N=25)
Right	15	14
Left	10	11
Bilateral	0	0

60% and 56% percent of sample patients were having right side Inguinal hernia respectively in LTF and Desarda group. Whereas 40% and 44% of sample patients of LTF and Desarda group respectively were diagnosed to of having left sided Inguinal hernia.

Table 4: Duration of Stay in Hospital

Duration	Ltf Repair (N=25)	Desarda (N=25)
Short(<3days)	20	22
Long(>3days)	5	3

20 OUT 25 patients in LTF repair group had short duration of stay in hospital i.e < 3 days and 22 of 25 patiens among Desarda group had short duration stay.

5 patients among LTF group and 3 patients among Desarda group had to stay in the hospital for more than 3 days.

Fisher exact test was applied to test the statistical significance with p value more than 0.05. But clearly in the present study population, Desarda operated group has less duration of hospital stay when compared to LTF group.

Discussion

In our Present study, about 25 patients were subjected to LTF repair and 2 subjects to Desarda repair. The mean age group was 31+/- 5.46 years of age. All the subjects were male patients. All were either right or left sided inguinal hernia, none were bilateral.

LTF mesh repair is now widely used and is often referred to as gold standard. Cost of Surgery and post-operative morbidity affecting quality of life are important consideration in the Inguinal hernia surgery [7]. There are no clear scientific evidence to prove that that mesh repair is superior to non-prosthesis repair as said by Porrero JL. El Cambio *et al.* [8].

There are advantages and disadvantages associated with all types of open Inguinal hernia surgery. Existing tissue repair methods is blamed for causing tissue tension and mesh repair is blamed for causing complications of a foreign body.

In Desardas, method of inguinal repair an undetached strip of EOA between the muscle arch and the inguinal ligament is used to provide a strong and a physiologically dynamic posterior wall [19]. The movement of the muscle arch was improved after upper border of the strip was sutured to the External Oblique. The newly formed Posterior wall kept physiologically dynamic by the additional muscle strength provided by the external oblique muscle of the muscle arch.

A physiologically dynamic and strong posterior wall and the shielding and compression action of muscles and aponeurosis around the inguinal canal are important factors that prevent hernia formation or recurrence after repair. In addition, the squeezing and plugging action of the cremaster muscle and binding effect of strong cremastic fascia also play a important role in the prevention of hernia [9]. This results in a tension free repair without the use of any foreign body, being simple to perform.

For Inguinal hernia repair different studies have tried to give an answer as to which of the existing technique is better ^[10]. The “Eu Hernia Collaboration” made a systemic revision of the Randomized prospective studies and analysis of the result of different studies. The use of Synthetic mesh substantially reduces the risk of hernia recurrence irrespective of placement method. Mesh repair appear to reduce the chance of persisting pain rather than increasing it McGillicuddy JE *et al.*

Conclusion

Inguinal hernia surgery is the most common and routinely done procedure in general surgery department. Several methods were tried and adapted, but currently LTF repair is the gold standard for open inguinal surgery. Desarda technique is simple and cost effective technique where an undetached strip of external oblique aponeurosis is used to strengthen the posterior wall of inguinal canal in place of a mesh there by avoiding mesh related complications.

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