

A Study of Comparative Efficacy of Mesh Repair Vs Bassini's Repair in Inguinal Hernia Repair

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A prospective study of 40 patients with Inguinal hernia was carried out at Surgical Unit – I Sir Ganga Ram Hospital from Jan 97 to Jul. 98. The patients were randomised and an equal number of patients i.e. 20 each underwent Mesh and Bassini's Repair 29 patients had Indirect and 11 patients direct inguinal hernia. Age incidence of patients varied from 19 years to 63 years. Patients were followed up for a period of 6 months. Patients who had mesh repair alone had lesser pain, returned to work earlier and had no recurrence.

Key Words: Inguinal Hernia, Mesh Repair, Bassini's Repair

Hernias occupy a good deal of surgical time and account for about 10-15% of all the surgical procedures.¹ About 80% of these operations are performed for inguinal hernias.

The fundamental defects which allow the inguinal hernias to develop are related to deficiency weakness of the fascia transversalis and defective support of U-shaped deep inguinal ring of the fascia.

In the hernial repair the main object will be to restore the fascia transversals to normality alongwith reconstitution of internal ring on cases of indirect inguinal hernia. The 1880-1890 period in the last century could justifiably be termed "the decade of the inguinal hernia". Significant contributors included Lucas Champonsuare (incision and opening of the external oblique fascia). Banks (high ligation of peritoneal sac), Mary (closure of transversals fascia/disputric tract) and Bassini's (complete division of fascial floor of the inguinal canal from the internal ring to the pubic tubercle and closure with a layer of non-absorbable suture. The decade of the 1990s may have equivalent significance in the 20th century due to the enthusiastic up take of prosthetic mesh and laproscopic techniques for hernioplasty. Hernial repairs often result in lengthy, painful recovery periods and recurrence.² A prospective study was planned to compare the efficacy of mesh repair with traditional Bassini's repair Modalities used for comparison were rate of recurrence, incidence of post operative pain and return back to normal activity.

Patients and Methods

This study was carried out in Surgical Unit-I of Sir Ganga Ram Hospital, Lahore over a period of nineteen months. It involved 40 patients with Inguinal hernia. All the patients were admitted through the Outpatients Department and were operated on a planned list. All the cases were interviewed, examined, investigated and entered on a Performa prepared for the purpose. Patients were selected at random. Equal number of patients were allotted to each of these two repair methods i.e. Bassini's repair and Mesh Repair 29 patients had Indirect and 11 patients direct Inguinal hernias.

A detailed history and a thorough physical examination was carried out in every case. Only patients with fully reducible hernias were accepted for the study. Informed consent, blood and urine specimens were obtained and a date for operation was decided. All the patients received general anaesthesia. Prolene no. 1 was used for Bassini's repair. Prolene mesh was used as an only graft over the posterior inguinal wall. In cases of mesh repair all the patients who underwent repair received three postoperative shots of a first generation caphalosporin Post-operative course of each patient was recorded. Patients stayed at the hospital for three days on an average. All the patients were followed up at one week, one month, three months and six months interval after their repair procedures.

Results

The age incidence of the patients in this study varied from 19 years to 63 years. Highest numbers of patients were in the age group 30-39 years. Mean age of the patients was 47 years

Table No. 1: Age incidence of the patients

Age	n=	%age
10-20	2	5
21-30	5	12
31-40	7	18
41-50	16	40
51-60	6	15
61-70	4	10
Total	40	100

Distribution of patients having direct and Indirect inguinal hernias is shown in table 2.

Table No. 2: Distribution of patients according to the type of hernia

Type of Hernia	n=	%age
(a) Direct	11	28
(b) Indirect	29	72
Total	40	100

The incidence of post-operative pain at different intervals in the post-operative period i.e. immediately, at 24 hours and one week after the procedure is illustrated in table 3..

Table No. 3: Incidence Of Post Operative Pain

Intensity of pain	Mesh repair						Bassini's repair					
	Immediate		First 24 hrs		First week.		Immediate		First 24 hrs		First week	
	No.	%	No	%	No	%	No.	%	No.	%	No.	%
Mild Pain	8	40	3	15	2	10	14	70	7	35	4	20
Moderate Pain	2	10	1	5	-	-	3	15	2	10	2	10
Severe Pain	-	-	-	-	-	-	2	10	1	5	-	-

Table 4 Comparison of time taken to return to normal activity

Time taken to return to normal activity	Mesh repair		Bassini's repair	
	n=	%age	n=	%age
a. Within 2 weeks	12	60	2	10
b. Within 4 weeks	6	30	8	40
c. Within 6 weeks	2	10	9	45
d. More than 6 weeks	-	-	1	5
Total	20	100	20	100

Table 5 depicts the incidence of recurrence for both types of repair 6 months after the surgical procedure

Table 5: Incidence of Recurrence

Type of Repair	Patients	%age
Mesh Repair	0	-
Bassini's Repair	2	10%

Other complications recorded post-operatively were superficial sepsis in 2 patients and mild to moderate scrotal swelling in 3 patients.

Discussion

The surgical literature abounds with description of operations for inguinal hernias. The foundations underlying the modern approach to inguinal hernia were laid by Marcy and Bassini.³ Classical Bassini's operation was described in 1888 and this repair is still one of the most widely used repair in our setting. This repair almost certainly results in local ischaemia and subsequent healing with disorganized collagen results in areas of weakness of posterior wall. Surgeons have reported recurrence rates of approximately 10-12% at 10 years. Other post-operative cockplants were a prolonged period of local post-operative pain as the repair itself is not tension-free. This resulted in a slow post-operative recovery and a prolonged time taken for return to normal work.

Tension free hernioplasty is one of the popular methods of repair presently. Usher was the first to suggest prosthetic mesh as a useful adjunct in inguinal hernioplasty. The Praline material used initially was not compatible and caused significant problems in terms of local rejection and held back development of mesh in inguinal henioplasty for several decades. Controversy still surrounds the ideal material, polypropylene, Dacron, Prolene and expanded polytetrafluoroethylene being some of the products currently in use. Excellent results of operation performed by Lichtenstem using polypropylae Mesh have been reported.^{5,6,7} The problem with Mesh rejection has been solved and wound infection rates are insignificant. Recurrence rate is less than 1% and patients recover rapidly with a minimum of post operative pain.

Preliminary results from two European centers reporting on patients with this repair are encouraging.⁸ Majority of these operations are now carried out under local anesthesia as a day case procedure. The results of our study are comparable to many other clinical trials conducted in North America and Britain. There is general agreement that Mesh repair operation is particularly suitable to recurrent and to large bilateral direct inguinal hernia, where it may give superior results to the conventional operations^{9,10}

Another important factor regarding increased recurrence and higher morbidity of patients is that in our set up. Herniorrhaphies are mostly performed by untrained and young doctors.

We strongly recommend Mesh repair as first treatment option for patients with inguinal Hernia. We also recommend that this procedure should be carried out by a well-trained surgeon under good antibiotic cover.

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