

Mesh Repair for Inguinal Hernia

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This is a study carried out mostly in Surgical Units of Mayo Hospital, Lahore from 1985 to 2000 to see the outcome of mesh repair in inguinal hernia. The study included 27 patients with inguinal hernia in which 6 patients had indirect and 21 patients had direct inguinal hernia. Of the 21 patients with direct hernia 12 had unilateral direct hernia, 7 had bilateral direct hernia and one had unilateral recurrent direct inguinal hernia and one had bilateral recurrent direct inguinal hernia. Age incidence of patients varied from 26-70 years. Patients were followed up for a period of four years. All the patients with mesh repair had lesser pain and they returned to work earlier. Incidence of postoperative infection was nil and none of the patients reported with recurrence.

Key words: Mesh repair, herniorrhaphy

Hernias account for about 10-15% of all the surgical procedures¹ and occupy a great deal of surgical time. About 80% of the operations are performed for inguinal hernias.

The key defects leading to the inguinal hernias is weakness of posterior inguinal wall/fascia transversalis and defective support of U-shaped deep inguinal ring of the fascia.

In inguinal hernia repair, the main object is to restore the fascia transversalis to normality along with reconstitution of deep ring. The 1880-1890 period in the last century could justifiably be termed "the decade of the inguinal hernia".

Significant contributors are Lucas-Champonniere (Incision and opening of external oblique fascia), Banks (high ligation of peritoneal sac) Marcy (closure of transversalis fascia/iliopubic tract) and Bassini (complete division of fascial floor of inguinal canal from internal ring to the pubis and closure with a layer of non absorbable sutures).

The decade of 1990's may have equivalent significance in the 20th century due to the enthusiastic uptake of prosthetic mesh and laparoscopic technique for hernioplasty. Hernial repairs often result in lengthy, painful recovery periods and recurrence².

A descriptive study was planned basically to see the outcome after mesh repair in hernias regarding infection rate, recurrence and postoperative pain.

Patients and Methods

This study was carried out mostly in Surgical Units of Mayo Hospital, Lahore over a period of fifteen years. It included 27 patients of inguinal hernia. All the patients were admitted through Outpatient Department and were operated on elective list. All the cases were interviewed, examined, investigated and entries were made on a proforma prepared for this purpose. In 27 patients 6 had indirect and 21 had direct inguinal hernia

A detailed history and a thorough physical examination was carried out in every case. Blood and urine

specimens were obtained and date for operation was decided. All the patients received general anaesthesia.

Prolene and mersilene mesh were used as graft. All the patients received their postoperative shots of a first generation cephalosporin. Postoperative course of each patient was recorded. Patients stayed at the hospital for average of four days. All the patients were followed up for four years.

Results

The age incidence in the study varied from 26-70 years. Highest number of patients were in the age group 35-40 years.

Table 1 Age incidence

Age	No.	%age
20-30 years	2	9
31-40 years	6	22
41-50 years	11	40
51-60 years	5	18
61-70 years	3	11
Total	27	100%

Table 2. Distribution of patients with direct and indirect inguinal hernia.

Type	No.
Indirect hernia	6
Direct hernia	21
Unilateral direct hernia	12
Bilateral direct hernia	7
Unilateral recurrent hernia	1
Bilateral recurrent hernia	1

Postoperative pain at different intervals is recorded immediately, at 24 hours and one week after the procedure. (Table 3).

Table 3. Postoperative pain

Severity of pain	Number of Patients		
	Immediate No.	24 hrs. post-operative	7 days post-operative
Mild pain	11	5	-
Moderate pain	8	2	-
Severe pain	-	-	-

Table 4. Incidence of recurrence and infection rate

Recurrence	Nil
Infection	Nil

Discussion

Marcy and Basini³ led the foundation for the modern approach to inguinal hernial repair. These repairs almost certainly result in local ischaemia. 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.

This study was carried out to see the incidence of postoperative pain, infection rate in our setup and the fearful complications of recurrence after mesh repair of inguinal hernia.

Tension free hernioplasty is one the popular methods of repair presently⁶. Usher was the first to suggest prosthetic mesh as a useful adjunct in inguinal hernioplasty. Prolene material used initially was not compatible and caused significant problems in terms of local rejection.

Lichtenstein tension free hernioplasty has become the standard method for repairing inguinal hernia in many western surgical units⁴. Excellent results have been found after plug repair and patch repair and there is no recurrence found with patch repair after 44 months of follow up⁵. Majority of these procedures are now carried out as day care cases in the west.

Controversy still surrounds the ideal material used for mesh repair. Polypropylene, dacron, prolene and polytetrafluoroethylene being some of the products currently in use. Excellent results of operation performed by Lichtenstein using polypropylene mesh have been reported^{7,8,9}. The problem with mesh rejection has been solved and wound infection rates are insignificant. Recurrence rate is less than 1% and patients recovers rapidly with a minimum postoperative pain.

The results of our study are comparable to many other clinical trails conducted in North America and Britain. Our study showed no recurrences, fast postoperative recovery and no postoperative infection. There is general agreement that mesh repair is very suitable for recurrent and large bilateral direct inguinal hernia, where it gives superior results to the conventional operations^{10,11}.

The other factor regarding increased recurrence and higher morbidity of patients in our set up is herniorrhaphies being performed by untrained and young doctors.

Mersilene (polyester) mesh was used by us in all our inguinal hernia cases till 4-5 years ago when the manufacturer replaced it with prolene mesh. Mersilene is cheap and could be easily sterilized by autoclave. It is soft, pliable and easy to handle. Polypropylene dacron and polytetrafluoroethylene meshes serve the same purpose but are expensive. This one factor is a definite deterrent in making tension free hernioplasty with mesh, a routine procedure for inguinal hernia repair in our country, Pakistan.

Conclusion

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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