

# AN EARLY EXPERIENCE WITH LICHTENSTEIN HERNIOPLASTY

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**ABSTRACT** ... [robin\\_rahman2003@yahoo.com](mailto:robin_rahman2003@yahoo.com) All standard methods of hernia repairs are associated with a good number of recurrences. Recently prosthetic materials have been increasingly used in hernia repair to prevent recurrence but specially Lichtenstein has dramatically changed the outcome. The aim of this study is to evaluate personal experience with this new technique. **Methods:** In this prospective study 65 tension free inguinal hernia repair using lichtenstein technique were performed single handedly between June 1999 and May 2002. Intention behind this study was to observe the early and late complication specially recurrence. **Result:** In my study Group , indirect inguinal hernia 39 patients (60.00%), direct inguinal hernia 21 patients (32.3%) and bilateral 5 patients (7.7%). Mean patient age was 55 years (range 20-82), follow up was completed in 57 patients (90%) by clinically examination. The median follow up period was 2.1 years (range 1-4 years). Apart from temporary urinary retention, mild seroma and haematoma formation I have not observed any acute infection or abscess formation or any recurrence or rejection of synthetic mesh. **Conclusion:** Lichtenstein tension free hernia repair is a wonderful breakthrough in the management of inguinal hernia, which is very simple, safe and has remarkably low recurrence rate and it is my preferred choice since 1996.

## INTRODUCTION

Hernia repair is one of the most common operation performed is general surgery. The life time risk for inguinal hernia is 27% for man and 3% for woman<sup>1,2</sup>. All standard method of hernia repair involve suturing together which tissues are not normally in apposition. This violates the basic surgical principle that tissue must never be approximated under tension otherwise account for an unacceptable no. of failure<sup>3</sup>.

In an attempt to reduce the incidence of recurrence and reinforce the plastic reconstruction various techniques and a variety of biomaterials have been used<sup>4</sup>. In the last decade a marked interest in the use of prosthetic materials has been observed. The reports by steppe et al<sup>5</sup> and Lichtenstein<sup>3</sup> as well as the innovation of laparoscopic hernia repair<sup>6,7</sup> greatly contributed to the change in my surgical practice .In this paper I have reviewed my experience on tension free surgical repair of inguinal hernias using

polypropylene mesh.

## METHODS

From June 1999 to May 2002 I performed 65 tension free repair of inguinal hernia in the Central Hospital, Dhaka, Bangladesh. Among these 39 patient had indirect; 21 direct and 5 patients had bilateral indirect inguinal hernia. Mean patient age was 55years (range 20-78) and mean period of suffering was 7 years (9 months-20 years). There was one female patient and all cases were performed under spinal anaesthesia.

### Operative Technique:

The patient is placed in the supine position. The operation field (from above umbilicus to mid thigh including whole perineum) is prepared by Povidone iodine. Before all patient received I/V bolus dose (1mg) of ceftriaxone and continued up to 3 consecutive days as 1 mg I/V daily followed by 500mg 6 hourly cefradine orally for the remaining days until removal of subcuticular proline.

Skin, subcutaneous tissue were incised as usual up to the external oblique; the anterior wall of the inguinal canal. Inguinal canal is opened by splitting the external oblique along the direction of its fibre, the spermatic cord with its cremasteric covering is elevated with a Penrose drain. Care must be taken to include the external spermatic vessels when elevating and dissecting the spermatic cord from the floor of the inguinal canal. This assures that the genital branch of the genitoformal nerve, which is always in close contact with the external spermatic vassels is preserved.

Next cremesteric fibre are transversely incised at the level of the deep inguinal ring to thin out the cord. indirect hernia sacs are dissected free up to the neck marked by collar of extra peritoneal fat and than opened for digital examination of the femoral ring. The sac was transfixed at the neck using 1/0 vicryl and excised.

A proline mesh 7.6X 15 cm size that I used for every case and is trimmed to accommodate the varying

sizes of the inguinal floor. The medial end of the mesh is rounded to the shape of medial corner of the inguinal canal. With cord retracted upward a running suture of 3/0 proline used to fix the mesh. The rounded corner is sutured first to the aponeurotic tissue over the pubic bone by 1.5cm -2cm (this is a crucial step in the repair, since failure to overlap this bone may result in recurrence)<sup>8</sup>. The periosteum of the bone is avoided. Then the suture continue to attach the lower edge of the mesh to the shelving margin of the inguinal ligament to a point just lateral to the internal ring.

A slit is made in the lateral end of the mesh creating two tails, the wider on (2/3) above, the narrow one (1/3) below. The upper wide tail is grasped with a haemostat and passed underneath the spermatic cord. This maneuver positions the cord between the two tails .

The wider upper tail is then placed over the narrower one and held in a haemostat with the cord retracted downward, the upper edge of the mesh is sutured to the internal oblique aponeurosis or muscle using a few intercepted 3/0 proline suture.

During the placement of these sutures the external oblique aponeurosis is retracted upward when the retraction is released, the mesh buckles slightly. This is desirable and 'looseness' assures tension free repair and will flatten out when the patient strains or resumes an upright position. The lower edges of the two tails are fixed to the shelving margin of the inguinal ligament. This creates a new internal ring made up of mesh. The tails are trimmed leaving approximately 3-4 cm of mesh beyond the internal ring.

After meticulous haemostasis a closed suction drain is placed beneath the external oblique aponeurosis specially in large inguinal hernias, when an extensive dissection was performed during the plastic reconstruction.

The aponeurosis of the external oblique is then closed using absorbable suture (Vicryl 1/0) skin

closed by subcuticular proline (3/0).

Regarding perioperative care of the patient antibiotic were used for 7 days in all cases. The patient is mobilized about 12 hours after surgery. Pain usually managed by NSAIDS but a few patient received 1-2 dose of pethedine. The usual hospital stay is 2 days. When a closed suction drainage was used, it is removed on the day of discharge.

**RESULTS**

Table-I. Patients and their hernia characteristics all are male patient		
No. of Pts.	65	
Median age (range)	55 (20-78 years)	
Hernia (Inguinal)		
	No. of Pts	%age
Indirect	39	60.00
Direct	21	32.30
Bilateral	5	7.7

Table-II. Early post operative complication		
Complications	No of Pts	%age
Retention of urine	10	
Seroma/wound haematoma	5	
Testicular swelling	13	
Suture sinus	0	
Ischemia orchitis	0	
Early recurrence	0	
Testicular	11	
Wound discomfort	17	
Allergy to dressing (Microspore)	5	

Post operative pain was minimal and easily controlled. In the immediate post operative period I had 10 urinary retention cases required

catheterization for 24 hours. 5 had Haematoma and seroma formation, only 2 of them required drainage. Testicular swelling occurred in 13 cases and all of them were resolved without intervention. I did not observe abscess formation or acute infection related to the presence of the foreign body.

Follow up was completed in 57 patient by clinical examination ( 90 %). The median follow up period was 2.1 years. 8 of my patient failed to maintain their follow up appointment,6 weeks after surgery. All of my patient attended first two follow up appointment i.e 2<sup>nd</sup> and 6<sup>th</sup> week post operatively and none of them has shown any evidence of recurrence.

**DISCUSSION**

Lichtenstein technique first described about 18 years ago. It is every simple effective and associated with very low recurrence rate (ranging from 0-2%)<sup>9</sup> and in my series it is zero. For these advantage it has been popularized world wide and currently accepted as the preferred method for inguinal hernia repair.

The number of patients of my study is small to address the question of postoperative recurrence but if we look into other series, most important aspect that their recurrence rate was high at the beginning of their study or at their learning phase. Low morbidity attributable to the empirical use of antibiotic selective use of drain and minimal tissue handling. When a method is easy to learn, a high standard is quickly acquired and result of general surgical units will tend to approach those obtained by specialist. Cardiovascular, pulmonary and urinary complication can occur after hernioplasty, especially if the procedure is performed under general or spinal anesthesia<sup>10</sup>.

Large varieties of mesh as now available but monofilament mesh in the most popular presently. Use of porous mesh (Polypropylene ) allow a large surface area for growth of connective tissue leading to permanent fixation of the prosthesis within the abdominal wall. The use of vacuum drains is indicated in large inguinal hernias in order to

minimize haematoma or seroma formation.

To reduce the chances of recurrence, the mesh should extend 2-4 cm beyond the boundary of Hesselbach's triangle<sup>11</sup>.

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