

# Outcomes of Mesh Repair in Inguinal Hernias at a tertiary care hospital

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## ABSTRACT

**Objective:** To assess the outcome of mesh repair of inguinal hernias with special reference to postoperative complications and recurrence rate at a tertiary care hospital.

**Materials & methods:** This prospective study was carried out in General Surgery Department of Nawaz Sharif Social Security University Hospital Lahore from January 2009 to January 2010. All the patients were followed up for 2 years. All patients above the age of 18 or more with inguinal hernia were included in this study. Recurrent inguinal hernias, obstructed inguinal hernia and patients with cirrhosis/ascites were excluded from the study. Post operative complications and recurrence rates were noted.

**Results:** A total 200 patients were studied. Scrotal hematoma was the most common complication followed by wound haematoma and surgical site infection. There was no recurrence during two year follow-up.

**Conclusion:** Lichtenstein mesh repair of inguinal hernia is associated with very low morbidity rate. It is safe and effective method of hernia repair having a low recurrence rate, less postoperative pain.

**Keywords:** Inguinal hernia, mesh repair, recurrence

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## INTRODUCTION

Inguinal hernias are a common problem as life time risk for inguinal hernia is 27% for men and 3% for women<sup>1</sup>. Hammurabi of Babylon in 1700 BC was the first person who presented us the first recorded documentation of inguinal hernia<sup>2</sup>. In the late 19th century the Bassini repair was introduced. The management for inguinal hernia then thereafter remained little changed for over a century until in 1984 when the Lichtenstein Hernia Institute introduced open tension free hernioplasty using synthetic Mesh<sup>3</sup> followed in by laparoscopic mesh hernioplasty initially in the form of a transabdominal preperitoneal repair (TAPP) in 1991 and later, in 1992 with a totally extraperitoneal repair (TEP) which potentially reduced the risks of intraperitoneal complications and adhesions<sup>4</sup>. No difference in recurrence was observed between laparoscopic and open mesh methods of hernia repair<sup>5</sup>. Until recent years, the most important outcome which was desired after any inguinal hernia repair was prevention of recurrence. After the introduction of tension free mesh repair, the rate of recurrence has decreased considerably and now focus has been shifted from recurrence rates to chronic groin pain which restricts the daily life activities of any postoperative patient of inguinal hernia. The

recurrence rate after inguinal hernia repair performed by expert hernia surgeons is <2%. But still certain studies shows recurrence rates of between 5% and 19%, 3-5 years postoperatively from non-specialist units<sup>6</sup>.

## MATERIALS AND METHODS

This prospective cohort study was carried out in general surgery department of Nawaz Sharif Social Security University Hospital Lahore from January 2009 to January 2010. All the patients were followed up for 2 years. All patients above the age of 18 or more with inguinal hernia were included in this study. Recurrent inguinal hernias, obstructed inguinal hernia and patients with cirrhosis/ascites were excluded from the study. Post operative complications and recurrence rates were noted. All the patients were admitted through surgical out patients department and had undergone proper preoperative assessment as complete blood profile, biochemical tests as liver function tests, renal function tests, serum electrolytes, coagulation profile, hepatitis B, C screening prior to surgery. All were operated either under general or spinal anesthesia. Intravenous

Amoxicillin Clavulanic acid 1.2 gm was given at the time of induction and continued for two more doses for 24 hours. A polypropylene mesh was used and tailored according to the size of defect in posterior wall. Intramuscular/intravenous analgesics were used twice a day on first postoperative day

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followed by oral analgesics. Patients were followed after two and six weeks postoperatively and then after every three months for two years. The SPSS version 17 was used for data analysis.

**RESULTS**

A total 200 patients were studied. Scrotal hematoma was the most common complication followed by wound haematoma and surgical site infection. There was no recurrence during two year follow-up. The mean age of patients was 56 years (ranging from 23-78 years). All patients who presented to us with inguinal hernia during this study time were males. The indications and postoperative complications for hernia repair are elaborated in table 1 & 2 respectively.

Table 1: Indications for hernia repair (n=200)

Indications	=n	%age
Indirect inguinal hernia	120	60
Direct inguinal hernia	70	35
Bilateral direct inguinal hernia	10	5

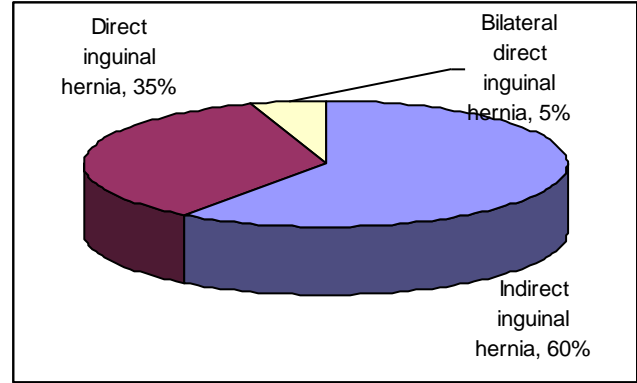
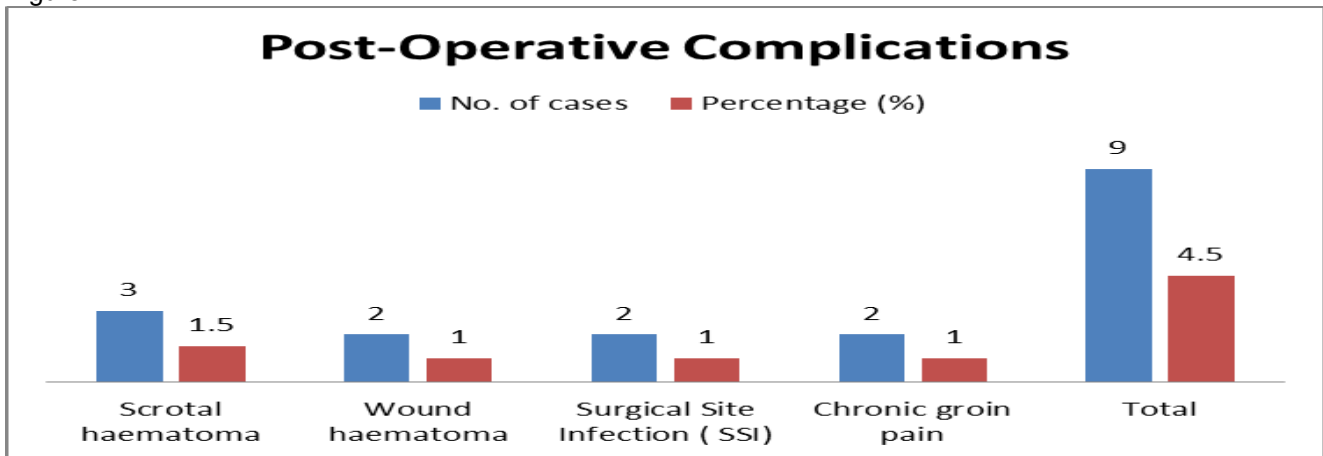


Table 2: Post operative complications

Complications	=n	%age
Scrotal haematoma	3	1.5
Wound haematoma	2	1
Surgical Site Infection ( SSI)	2	1
Chronic groin pain	2	1
<b>Total</b>	<b>9</b>	<b>4.5</b>

Figure 1:



Mean length of hospital stay was 2.5 days. All the patients with scrotal hematoma responded well to conservative management, oral antibiotics and scrotal support. Surgical site infection was managed by oral antibiotics. Wound hematoma was drained from medial side of incision of both patients. There was no recurrence of hernia seen in all the 200 patients during two year of follow up. 160 (80%) patients had mild pain for one week postoperatively but it did not restrict their daily life activity. Chronic groin pain was reported by only 2 patients (1%).

**DISCUSSION**

The surgical management of inguinal hernia repair has undergone through many developmental stages

of development<sup>7</sup>. After the introduction of tension free mesh repair, the rate of recurrence has decreased considerably and now focus of studies has been shifted from recurrence rates to chronic groin pain which restricts the daily life activities of any postoperative patient of inguinal hernia<sup>8</sup>. Scrotal, hematoma was the most common complication encountered in this study followed by wound hematoma and SSI.

The mesh made up Polypropylene can be fused by the fibroblastic reaction, setting up scaffolding that in turn induces the synthesis of collagen, and allows the formation of a new resistant wall which withstands the rising abdominal pressure extended by the abdominal content once the patient strains<sup>9</sup>.

So by mesh we can close the defects of any size easily without the pulling and tension which are produced by the sutured repair, and this may help in reducing the rate of recurrence and intensity of postoperative pain and promoting early return to social activities (10). In this current study no recurrence of inguinal hernia was seen after two year follow-up. This recurrence rate is much better as compared to certain other national studies as of Alam, et al which showed recurrence of 1.2%<sup>11</sup>. Choudry et al showed recurrence of 1.2%<sup>12</sup>, and Farooq & Rehman 1.5%<sup>13</sup>. Certain international authors as Butters et al<sup>14</sup> and Sakorafas et al<sup>15</sup> with large series showed a recurrence rate of less than 1%. The incidence of post-operative surgical site infection was 1% which is better than certain national studies as by Aziz et al (3%)<sup>16</sup>, Najamulhaq and colleagues (3%)<sup>17</sup>. Even it is better than the rate of infection reported by British Hernia Centre (1.2%)<sup>18</sup>. Chronic groin pain or persisting neuralgia following inguinal herniorrhaphy has been recognized as a long-term complication and disability which has a bad effect on quality of life and daily activities of patient (19-21). In our study, chronic groin pain was reported by 2 patients (1%). Wantz et al, had firmly stated that chronic herniorrhaphy neuralgias are mostly the result of tension-producing technique not the entrapment of a nerve, is the cause of pain<sup>22</sup>. Limitation of our study is that the length of follow up is smaller as compared to other international studies.

## CONCLUSION

Lichtenstein mesh repair of inguinal hernia is associated with very low morbidity rate. It is safe and effective method of hernia repair having a low recurrence rate, less postoperative pain.

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