

Out come of Lichtenstein hernioplasty: a multicenter study

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Objective

To asses the out come of Lichtenstein mesh repair of inguinal hernias with special reference to postoperative complications and recurrence rate.

Method

This prospective cohort study was carried out at Ziauddin Medical University Hospital, Karachi and Isra University Hospital, Hyderabad over a period of four years from March 2002 to February 2006. 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

Ninety three patients were studied. Scrotal hematoma and surgical site infection were the most common early complications followed by wound haematoma and seroma formation. There was no recurrence during one year of follow-up. About 4.3% patients had moderate to severe groin pain affecting their daily activities.

Conclusion

Lichtenstein mesh repair of inguinal hernia is associated with very low morbidity rate. (Rawal Med J 2009;34: 135-137).

Key words

Lichtenstein, mesh, inguinal hernia.

INTRODUCTION

Life time risk for inguinal hernia is 27% for men and 3% for women.¹ The first recorded documentation of an inguinal hernia was in 1700 BC by Hammurabi of Babylon.² Following the introduction of Bassini repair in the late 19th century, the methods for inguinal hernia remained little changed for over a century until in 1984 when the Lichtenstein Hernia Institute introduced open tension free hernioplasty using synthetic mesh.³ This was followed in 1991 by laparoscopic mesh hernioplasty initially in the form of a transabdominal preperitoneal repair (TAPP) and later, in 1992 with a totally extraperitoneal repair (TEP) which potentially reduced the likelihood of intraperitoneal complications and adhesions.⁴ No difference in recurrence was observed between laparoscopic and open mesh methods of hernia repair.⁵

Until recently, the most important marker for the quality of hernia repair was recurrence rate. With the advent of tension free mesh repair, the rate of recurrence has decreased considerably and focus has been placed on chronic groin pain which restricts the life style/activities of daily living. The recurrence rate in inguinal hernia surgery performed by expert hernia surgeons or carried out in centers

with a special interest in such repairs is < 2%; however the literature still shows recurrence rates of between 5% and 19%, three to five years postoperatively from non-specialist units.⁶ The objective of this study was to see the out come of Lichtenstein mesh repair of inguinal hernias with special reference to postoperative complications and recurrence rate.

PATIENTS AND METHODS

This prospective cohort study was carried out over a period of four years from March 2002 to February 2006. All patients above the age of 18 or more with inguinal hernia were included and and those with recurrent inguinal hernias, obstructed inguinal hernia and patients with cirrhosis/ascites were excluded from the study. All were electively admitted from out patients department and necessary investigations were done prior to surgery. All were operated either under general or spinal anesthesia. Intravenous Amoxycillin Clavulanic acid 1.2 gm was given at the time of induction and continued for two more doses for 24 hours.

An 11x 6 cm polypropylene mesh was used and tailored according to the size of defect in posterior wall. All patients aged above fifty years and those

who underwent hernia repair under spinal anesthesia were catheterized for 24 hours. Patients were told to wear underwear as scrotal support for 1-2 days post operatively to prevent scrotal edema. Intramuscular diclofenac sodium was used twice a day on first postoperative day followed by oral non-steroid anti-inflammatory drugs (NSAID). Patients were followed after two and six weeks postoperatively and then after every three months for one year.

Data collection was done on predesigned performa and frequencies of complications and recurrences were calculated.

RESULTS

In all, 93 patients were included in the study with mean age of 51 years (range: 22-71). All patients were male. Out of these, 3 had bilateral direct inguinal hernia while in remaining 90 patients, 52 (56%) had indirect inguinal hernia and 38 (41%) had direct inguinal hernia. General anesthesia was used for 64 (69%) operations. Mean length of hospital stay was 3.5 days. Scrotal hematoma and surgical site infection (SSI) were the most common early complications, encountered in 8.6% of patients. Patients with scrotal hematoma responded well to conservative treatment with oral antibiotics, scrotal support and NSAIDS. Similarly, patients with SSI also responded to oral antibiotics. In 3 (3.2%) patients, wound hematoma and seroma formation was observed (Table).

Table. Early post operative complications

Complications	No. of cases (%)
Wound haematoma	3 (3.2%)
Scrotal haematoma	8 (8.6%)
Stitch sinus	2 (2.1%)
Seroma formation	3 (3.2%)
Surgical Site Infection (SSI)	8 (8.6%)
Dressing allergy	2 (2.1%)

In one patient, hematoma was drained from the medial end of wound while the other two responded well to conservative treatment. Eleven patients were lost to follow up after 6 weeks postoperatively. There was no recurrence seen in remaining 82

(88%) of patients during one year of follow up. Ninety percent of patients had mild pain for one week postoperatively but it did not restrict their daily life activity. Chronic groin pain was reported by 9 (9.6%) patients of whom only 4.3% had moderate to severe pain affecting their life style or activities of daily living.

DISCUSSION

The history of groin hernia surgery has gone through many stages of development.⁷ With the wide spread adoption of mesh hernioplasty as the method of choice for inguinal hernia repair, recurrence rate have declined and attention has been focused on chronic groin pain when assessing the quality of repair.⁸

Scrotal hematoma and SSI were the most common complications encountered in this study. Kurzer et al observed 1% of patients having scrotal haematoma and 1.3% with SSI.⁹ Holzheimer et al has also observed 0.3% of SSI and 16% subcutaneous inflammatory tissue granuloma or seroma formation.¹⁰ Taylor et al has also mentioned 5.3% of patients having SSI.¹¹ Similar observation has also been seen in a local study.¹² Wound hematoma and seroma formation have been reported in 3.2% of patients.¹²⁻¹⁴ There was no recurrence of hernia during one year of follow up of patients. This observation is consistent with other studies.¹²⁻¹⁴ However, the follow up in this study is one year which is shorter as compared to one international study having no recurrence at a mean follow up of 4.34 years.⁶ The best objective evidence of this comes from the EU Hernia Triallists Collaboration meta-analysis which included 20 randomized trials (5016 patients).¹⁵ In 2000, the EU Hernia Triallists Collaboration analyzed 15 such trials, the incidence of recurrence was less in mesh groups and fear of an increased incidence of pain or infection proved to be unfounded.¹⁶ However, there was wide variation in the rate and length of follow up. A meta-analysis of 17 trials of open mesh repair concludes that the use of synthetic mesh reduces the risk of hernia recurrence as well as the likelihood of long term pain.¹⁷

There is evidence from number of studies that up to

30% of patients experience some degree of discomfort or pain one year or more after inguinal hernia surgery.¹⁸⁻²⁰ In 6% of patients, this pain is severe and it markedly interferes with the patient's life style. In our study, 9.6% of patients had groin pain and only 4.3% suffered chronic groin pain interfering with their normal daily activities. Limitation of our study is that the number of patients and length of follow up is smaller as compared to other studies.

CONCLUSION

The incidence of recurrence of hernia after Lichtenstein tension free mesh repair was very low. Postoperative groin pain occurred in 9.6% patients

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with half affecting the activities of daily living.

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