



Simultaneous Bilateral Inguinal Hernia Meshplasty Under Local Anaesthesia as Day Surgery

KEYWORDS

Bilateral inguinal hernia, Meshplasty, local anaesthesia, Day Surgery

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ABSTRACT Simultaneous bilateral inguinal hernia repair using meshplasty has not been detailed out in literature. The patients suffering from uncomplicated bilateral inguinal hernias were included in this study. In this prospective study, 32 patients were operated for bilateral inguinal hernias. Both the inguinal hernias were operated under local anaesthesia by separate inguinal incisions as single stage procedure. Meshplasty was done by anterior approach. The mesh was anchored by three stitch technique using polypropylene suture. Local anaesthesia used was 1% Lignocaine. Patient had very less pain in post operative period. These patients returned to normal pain free activity on 14th to 21st days. Complications were noted in early and late post operative period. This study concludes that simultaneous meshplasty of bilateral inguinal hernias under local anaesthesia is feasible as day surgery procedure with minimum complications.

Introduction:

Among the day surgery procedures inguinal hernia repair is the most commonly performed surgery. Bilateral inguinal hernias occur in 6 – 8% of patients suffering from inguinal hernia. Bilateral inguinal hernias repair can be done by anterior approach as open surgery. Anterior approach methods include tissue repairs like Bassini's and Shouldice's repair.¹ Simultaneous bilateral inguinal hernia repair is likely to produce tension in hernia repair with consequent higher recurrence rates. To avoid this tissue tension, the posterior wall strengthening has replaced by Lichtenstein mesh repair. As there is no tissue tension in this meshplasty, the simultaneous repair of bilateral inguinal hernia seems feasible.² This tension free repair procedure can be performed under local anaesthesia as day surgery procedure.³ Pre peritoneal or posterior approach has been devised as Stoppa's technique for bilateral inguinal hernia repair as single stage procedure.⁴ Laparoscopic approach of pre peritoneal mesh placement TEP can be used for simultaneous bilateral hernia repair. All types of anaesthesia are used for inguinal hernia operation. Local anaesthesia has been successfully used by Shouldice hospital and Linchenstein Hernia Institute.⁵ The current guidelines of European Hernia Society recommends local anaesthesia for anterior or open approach of hernia repair in all ASA grade patients.³ These guidelines provide details of most surgical techniques, local infiltration anaesthesia and patient information sheet for practical use by residents, consultants and practitioners. These guidelines provide recommendations for further research that can be performed that can be performed concerning certain aspects of inguinal hernia treatment.³ In view of these guidelines, anterior approach meshplasty repair can be performed simultaneously in bilateral inguinal hernias as cost effective, time saving day surgery procedure.

The purpose of this study is to see the feasibility of simultaneous bilateral hernia repair under local anaesthesia and tension free mesh repair in bilateral hernia as day surgery procedure. The aim of this study is also to confirm the advantages of simultaneous meshplasty in bilateral hernia repair.

Material and Methods:

The study group consisted of 32 patients having bilateral inguinal hernias were operated under local anaesthesia. Both the inguinal hernias were simultaneously operated as day case surgery. A written consent was taken that patient will be operated under local anaesthesia and meshplasty will be done on both sides. If all is well, the patient will be discharged in the evening. All patients were males with age group of 36 to 75 years. Patients with symptoms of prostatic obstruction were investigated and treated with medical or surgical method. Patients with huge sized hernias, obstructed, strangulated and recurrent hernias were excluded from study. All patients were investigated by haematological tests like complete haemogram, blood urea, blood sugar and X-ray chest, ECG. Severely ill patients and ASA grade IV patients were kept away from the purview of study.

In all the patients the local anaesthetic 1% Lignocaine without adrenaline was used. The total volume used was 30-40ml approximately 15-20ml of volume was used on each side. Near anterior superior iliac spine the ilioinguinal nerve was blocked. In skin and subcutaneous tissue local infiltration of Lignocaine solution is done. Cord block is given after opening the inguinal canal. Similar type of anaesthesia is given on the other side after one side surgery has been completed generally on gap of 20 to 30 minutes.

Skin incision was made 1.5cm above and parallel to the medial half of inguinal ligament. The inguinal canal was opened in the direction of fibres of external oblique aponeurosis. With index finger, the testicular cord was lifted. Now the direct hernia can be separated from the cord. It can be confirmed by asking the patient to cough. In case of direct hernia, the covering of the testicular cord, the external spermatic fascia and cremasteric muscle are incised in the direction of the muscle fibres. The hernial sac is separated from pampiniform plexus and the vas deferens. Herniotomy is performed in case of indirect hernia. In direct hernia, the sac is

not opened. A purse string suture is applied in the fascia transversalis. The hernial sac is inverted by tying the purse string suture and plication of transversalis fascia. The polypropylene mesh is tailored according to size of inguinal canal so that at least 1.5cm remains beyond three anchoring sutures. One suture is applied medially to the conjoint tendon as now it forms the anterior rectus sheath. A triangle of mesh of side 1cm is approximately tailored, about 1.5cm from lateral margin. Third suture is applied to the muscle fibres of the external oblique. The testicular cord and ilioinguinal nerve are placed in the inguinal canal. The external oblique sheath is closed with 2-0 polypropylene suture. Skin is closed using staples. The patient is observed in the recovery room for pain, haematoma and urinary retention. In follow up, record was kept about pain, return to routine activities and early postoperative complications. Most of the patients were followed up to 1 year for any complication or recurrence.

Results:

All the 32 patients reported were males. The mean age of the study group was 40 years, ranging from 18 to 85 years. Right side was common about 70% and left side hernia was present in 30%. Ratio of direct and indirect hernia was 70 and 30% respectively.

All the patients were operated under local anaesthesia 1% xylocaine. Volume of xylocaine used varied from 15ml to 30ml. In majority of patients 20ml was used. Only 30% needed i.v. tramadol during surgery. The duration of surgery varied from 10-30 minutes. Mean time was 20 ± 10 minutes. All the patients were operated under local anaesthesia as day surgery. The operative finding of indirect hernia was noted in 20 patients and direct sac was noted in 10 patients and pantaloon hernia was noted in 2 patients. In postoperative period, 30 patients were discharged in the evening within 3-6 hours. In 2 patients, the stay was extended for 24 hours. The mean duration of the pain was 48hours, which was relieved in most of the patients with oral analgesics. A few patients needed Inj. Diclofenac in the immediate postoperative period. Most of the patients returned to routine activity after 72 hours. Hardwork was taken up by patients after 3 weeks. Postoperative course was smooth in most of the patients.

Follow up was done on weekly basis for three weeks and then at 3 months interval for 1 year. There were only a few drop outs in the follow up. The cost of mesh and sutures used was affordable.

Discussion:

Simultaneous bilateral hernia repair by tissue repair or tension free meshplasty are not well documented under local anaesthesia as day surgery procedure. In case of bilateral hernias, tissue repairs like Bassini or Shouldice repair are likely to place the muscles under more tension. Also relaxing incisions can be placed in sheath to relieve the tension on fascia and conjoined tendon.⁶ In this view there are more chances of recurrence of hernia on one or both sides. It is more time consuming surgery and patient is likely to have more pain in immediate post operative period.⁷ Most of surgeons recommend two operations in bilateral inguinal hernias.^{8,9} Bilateral inguinal hernias are also operated by posterior or preperitoneal technique. The open technique called Stoppa's technique is quite popular; but use of a large size mesh, requirement of general anaesthesia, place-

ment of general anaesthesia and long recovery period makes this procedure unsuitable as day surgery procedure.¹⁰ Laparoscopic TEP repair is also performed for bilateral inguinal hernias. High costs and nonavailability of technique precludes its use as day surgery procedure.¹¹

Two operations are advised minimum 3-6 weeks apart for bilateral inguinal hernias.⁷ In this study all the patients with bilateral inguinal hernias as one stage procedure. Tension free repair using mesh under local anaesthesia was done in this study. They concluded that repair of bilateral hernias at one operation, does not result in any increase in hospital stay or complication rate. However avoiding a second operation increases the socioeconomic benefits.⁹

In another study the authors confirm the advantages of simultaneous repair of bilateral inguinal hernias and indicate that it is feasible to perform the procedure under local anaesthesia and suggest that when an open tension free technique is used, the results are superior to those of laparoscopic repair of bilateral inguinal hernias.¹¹

With the introduction of tension free repair, the surgery for bilateral inguinal hernia as day surgery procedure has changed the scenario of simultaneous bilateral inguinal hernia repair. The simultaneous repair of bilateral inguinal hernias has the advantage less expensive, minimum mental stress and early return to work.¹²

Conclusions:

Uncomplicated bilateral inguinal hernias can be treated simultaneously by tension free meshplasty. By this method it is feasible to perform the operation under local anaesthesia. Post operative pain and recovery period are equivocal with unilateral inguinal hernia tension free meshplasty. The complications are less and easily recoverable. The recurrence rate is much less. As compared to Stoppa's repair and laparoscopic TEP repair both being used for bilateral inguinal hernias repair, simultaneous bilateral inguinal hernias under local anaesthesia is best as day surgery procedure with minimum cost and early return to work.



FIG 1. Three Stitch anchoring of Mesh in Right Inguinal Hernia



FIG2. Left Inguinal Hernia being operated

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