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Original Research Article

Prospective studies on clinical outcomes of Lichtenstein's tension free inguinal hernioplasty under local anaesthesia

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ABSTRACT

Background: Inguinal hernia may be generally defined as a protrusion of viscus or part of a viscus though inguinal canal. The only way recommended to treat inguinal hernias now a day is to perform tension free Lichenstein repair. In this study, we have done a prospective study on clinical outcomes of lichtenstein tension free inguinal hernioplasty under local anaesthesia in Department of General Surgery, Sri Guru Ram Dass Hospital and Research, Sri Amritsar from 15 August 2014 to 15 February 2017, a period of 2 and half years.
Methods: A prospective study was conducted in patients admitted in wards with inguinal hernia from General Surgery Outpatient Department. The series consisted of 60 patients between 15 to 74 years.
Results: It is found that no recurrence has yet occurred in 2½ years follow up and it is well accepted specially in older age group (55 -74 years).
Conclusion: The methods of Lichtenstein's tension free inguinal hernioplasty under local anaesthesia is safe, simple, effective, economical, and without any side effects such as hypotension, nausea, vomiting, urinary retention, and spinal headache.

Keywords: Inguinal hernia, Inguinal hernioplasty Lichenstein repair, Local anaesthesia

INTRODUCTION

Inguinal hernia may be generally defined as a protrusion of viscus or part of a viscus though inguinal canal. Casper Stromayr in 1559 classified inguinal hernia into direct and indirect varieties. But this classification of direct and indirect inguinal hernia is meaningless in the terms of modern surgical biology, as one can be converted to other by simple traction or mere elimination of the inferior epigastric vessels. But the classification of congenital and acquired is still very much in practice. The congenital variety is associated with simple protrusion of the patent processus vaginalis. On the other hand, in the acquired variety the derangement in the collagen metabolism is mainly responsible for herniation.[1,2] The physiologic restoration is justifiable in the congenital variety and to be liberal, in anatomic defects like dilatation, paralysis and laceration. But there is no justification in attempting physiologic restoration in the acquired type where the underlying pathology is the metabolic defect.

The modern biologically based concept for repair of groin hernia, acquired during adult life, is application of a patch, avoidance of tension and use of local, spinal or epidermal anaesthesia. The most important principle in this reconstruction surgery is to avoid tension when restoring the muscular or elastic structures, attempting to suture the mobile muscular side to the fixed, immovable cooper's ligament is against the principle of reconstructive surgery.[3] On the other hand a patch between movable structures fulfils the principles of reconstructive surgery.[4] Of the patch materials, synthetic materials like poly propylene mesh is most suitable, because of its pliability and its inert nature.[5]

Very little post-operative discomfort such as uncomplicated micturition and early restoration to normal routine and long-term recurrence rate approximating zero, can make this procedure under local anaesthesia as a method of choice in hernia repair.

METHODS

A prospective study was conducted in the Department of General Surgery in Sri Guru Ram Dass Medical College and Hospital. Patients admitted in wards with inguinal hernia from General Surgery Outpatient Department were selected for study. The series consisted of 60 patients between 15 to 74 years; The study period is from 15 August 2014 to 15 February 2017. Thorough examination along with per rectal examination was done to evaluate the prostatic size and other pathology in rectum and anal canal.

All cases of obstructed and strangulated hernias were excluded. Patients unfit for any type of surgery such as terminal malignancy, very old age, advanced diabetes and renal failure where co-morbid factors present were also excluded. In this series of hernioplasty all patients were subjected to local anaesthesia with an average of 45 ml of mixture of 1% lidocaine and 0.5% Bupivacaine with or without 1/200, 000 epinephrine for a unilateral hernia repair. During intra-operative procedure, all patients are observed for the acceptance of the method under local anaesthesia.

Since the patient is awake and able to co-operate, he is requested to cough and performed the valsalva maneuver in order to test the strength of repair. The external oblique aponeurosis closed over the cord with a continuous absorbable suture.

The post-operative pain was meticulously asked for and was classified according to visual pain score scale and according to post-operative requirement of sedative or analgesic. The antibiotic coverage was given by injection Reflin (1 gram) i.v. just before incision and 12 hours after operation. Then Amoxycillin and clavulanic acid combination: 625 mg TDS for 5 days is given.

The patients operated under local anaesthesia was allowed unrestricted movements with in twelve hours if there were no other contra indications.

The first change of dressing was done after the 48 hours of the operation in a strict aseptic manner to look far early post-operative complications like seroma and haematoma. The second change of dressing was done 5 days after the first dressing in a strict aseptic manner to look for any wound infection.

The patient was discharged with advice to attend follow up clinic at surgical Outpatient Department after 1 week, 4 weeks and 2 months and there after every month up to 6 months of discharge. The patient was also told to attend OPD if any complication arises at any time later on.

RESULTS

The present study comprises 60 cases of inguinal hernia over the span of 2 and half years. All of these cases were studied prospectively and results were analysed from various angles. Severity of pain was looked very precisely and categorized through visual analogue scale into mild (0-3), moderate (4-5) and severe (6-10).

Table 1: Severity of post-operative pain (within 48 hours).

Type of pain	No. of patients	Percentage
Mild	45	75
Moderate	10	16.67
Severe	5	08.33
Total	60	100

Table 2: Type of complication (early complication <1 week).

Type of complication	No. of cases	Percentage
Retention of urine	5	8.33
Infection	1	1.67
Seroma	3	5
Hematoma	2	3.33
Scrotal swelling	2	3.33
Induration	2	3.33

Table 3: Type of complication (late complication >1 week).

Type of complication	No. of patients	Percentage
Scar tenderness	2	3.33
Post herniorrhaphy pain syndrome (neuralgia)	5	8.33
Wound dehiscence	0	0
Testicular atrophy	0	0
Reccurence	0	0
No complication	53	88.33

DISCUSSION

Considering the results obtained in this study which are depicted in different tables, a detailed discussion could be held from different viewpoints to arrive at a final evaluation of Lichtenstein's tension free inguinal hernioplasty under local anaesthesia employed in this study.

Severity of post-operative pain (within 48 hours) is recorded. Most of the patient suffering from mild degree of pain 45 cases (75%) and 10 cases (16.67%) moderate

degree of pain and only 5 cases (8.33%) suffering from severe degree of pain.

In the present study 15 cases (25%) had early complications of which, 5 cases (8.33%) had retention of urine, 1 cases (1.67%) had wound infection, 3 cases (5%) had seroma, 2 cases (3.33%) had haematoma, 2 cases (3.33%) had scrotal swelling and 2 cases (3.33%) had induration.

Wound induration was attributed to the combination of wound haematoma and oedema; probably has some relation with the extent of dissection required for the repair. In Western literature incidence was found to be 5.2% as reported by Ponka and Desarda also found it to be 1.5%.[6,7]

Desarda in his series of 40 cases found mild skin infection with only 4 cases (1%). Wantz in his 4114 hernioplasty showed minor wound infection in 0.58% cases.[8,9] Present result was not so much discouraging when compared with the western series inspite of our economically poor patients profile having poor personal hygiene.[10-13]

Excellent results from the Lichtenstein's open tension free operation are less dependent on the experience of the surgeon, an indication of the simplicity of the operation and short learning cure. The same technique can safely be applied to all inguinal hernias, indirect and direct, as well as recurrent hernias.[14,15]

There were no significant late complications (>1 week), the only minor complication was neuralgia in 5 cases (8.33%) and scar tenderness in 2 cases (3.33%).

No recurrence has yet occurred in 2½ years follow up.

CONCLUSION

From our results of observations in the study we can conclude that

- The methods of Lichtenstein's tension free inguinal hernioplasty under local anaesthesia is safe, simple, effective, economical, and without any side effects such as hypotension, nausea, vomiting, urinary retention, and spinal headache.
- Open tension free inguinal hernioplasty performed under local anaesthesia allows the patient's immediate mobilization, early return to of work and patients discomfort of a minimum level and uniformly low recurrence rate.
- Inguinal hernioplasty and in those operation where pain due to visceral origin is minimum and where profound muscle relaxation is not required, local infiltration anaesthesia is beneficial and becoming popular.

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