

POST OPERATIVE COMPLICATIONS IN 100 CASES OF INGUINAL HERNIORRHAPHY USING DARN TECHNIQUE

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SUMMARY

Inguinal hernia is a common surgical problem. In this study one hundred patients of inguinal hernia operated in Rehman Medical Complex D.I. Khan from January 1998 to January 2001 are presented. The repair was done with prolene using darn technique. The prevalence and management of post operative complications were evaluated. The result of study showed that early complications like hematoma scrotum is 2%, swollen testis 3%, ecchymosis of scrotum 7%, seroma of wound 6%, chest infection 6% and retention of urine 5%. The delayed complications like painful groin is 18%, decrease libido 6%, anaesthesia of scar 30% and recurrence 1%.

INTRODUCTION

Herniorrhaphy is a common surgical procedure performed in a general surgical unit. 75% of these operations are performed for inguinal hernias.¹ Hernia can present at any age. Inguinal hernias in infants, children and young adults are mainly indirect. It most often presents during first year of life when the baby starts to walk,¹ however it may be delayed until middle or old age² when increased intra abdominal pressure and dilation of deep inguinal ring allows

abdominal contents to enter the previously existing peritoneal diverticulum.³

Direct inguinal hernias are acquired as the result of a developed weakness of the fascia transversalis in Hasselbach's triangle. These hernias may be due to hereditary or acquired defect in collagen synthesis.⁴

Conditions that chronically increase intra abdominal pressure contribute to the appearance and progression of hernia.⁵ All these hernias should be repaired regardless of the type. A number of methods are available for the repair and management of

inguinal hernias.⁶ In our study Darn technique was used and postoperative complications were noted.

MATERIAL AND METHODS

A prospective study was conducted on 100 patients during a period of 3 years extending from January 1998 to January 2001 in Rehman Medical Complex a private hospital in Dera Ismail Khan. The patients who were suffering from diabetes, chronic obstructive airway disease, ischemic heart disease were excluded from this study. Also patients who were having associated inguinoscrotal disease such as hydrocele were excluded from this study. The age range of patients in our study was 12 years to 60 years. All patients were given third generation cephalosporin ceftriaxone 1 gram at the induction of anaesthesia.

TECHNIQUE

The technique of herniorrhaphy used in our study is as below,

- *Position Supine
- *Anaesthesia General
- *Incision A transverse inguinal incision was placed 1.25 cm above the medial half of inguinal ligament.
- *Procedure After cutting the skin, subcutaneous tissue and deep fibrous layer the external oblique aponeurosis was exposed which is then divided in the direction of its fibers to enter the inguinal canal. Ilio-inguinal nerve was identified. The spermatic cord was lifted and the hernial sac was demonstrated. It was isolated and incised or in case of direct hernia plicated.⁷ Fascia transversalis was plicated if redundant.⁸

The darn was made of two layers, commencing at the pubic tubercle by suturing continuously between the conjoint tendon and muscle to the inguinal ligament. Prolene (monofilament polypropylene) number zero was used as suturing material. Darning was done upto the deep ring. The cord was placed on the darn and the cut edges of external oblique aponeurosis were stitched with cicyl 2/0. The Scarpa's fascia and subcutaneous fat was closed with interrupted non-absorbable stitches.

The time of operative procedure, operative findings, anaesthetic and operative complications were noted. Postoperative complications were recorded. The patients were discharged from the hospital when they were pain free.⁸ Stitches were removed on tenth postoperative day. Patients were reexamined after 1 month and then three months and six months post operatively.

POSTOPERATIVE COMPLICATIONS

No	Early Complications (with in one month)	Per-centage
1	Haematoma scrotum	2
2	Swollen testis	3
3	Echymosis of wound & scrotum	7
4	Seroma of wound	6
5	Wound infection	0
6	Chest infection	6
7	Retention of Urine	5
Delayed Complications (after one month)		
1	Painful groin	18
2	Sinus formation	0
3	Decrease libido	6
4	Ischaemic orchitis	0
5	Anaesthesia of scar & scrotum	6 months 1 year 30 0
6	Recurrence	1

TABLE-1

Complications with in first month after surgery were labeled as early and those that occur after one month of surgery were labeled as delayed.

RESULTS

In our study we selected only those patients who were between the age of 12 to 60 years. Out of 100 patients 80 percent were below the age of 50 years and 20 percent were above 50 years, with a mean age of 35.62 years. The right side hernia was found in 44 percent of cases and left side in 46 percent. Bilateral hernia was found in 10 cases. The swelling was reducible in 75 cases and irreducible in 25 percent of cases. In all cases small gut or omentum was found in the hernial sac.

Operative Complications:

There were no major operative or anaesthetic complications. In 6 cases there was mild hemorrhage from inferior epigastric vessel, which was controlled by ligating the inferior epigastric vessels. Majority of patients were discharged on second or third post operative day. All the patients were allowed light work a week after surgery. Return to heavy work was 6 weeks.

DISCUSSION

The post operative complications after hernia surgery has decreased in past 50 years due to increase in social standards, better sterilization techniques, early ambulation and the use of inert polymers as suturing material.

The result of our study shows that majority of the patients stopped taking analgesic i.e. 80% by the end of 1st week. This is comparable to the study of one hundred and twenty five inguinal hernia repair done in 115 patients by Lichtenstein¹⁰ in the department of surgery university of Liverpool UK.

Early Complications

Scrotal haematoma may reach a large proportions but usually absorbed with time and occasionally need to be drained. In our study it's incidence was low i.e. 2 patients. When the external or / and internal inguinal ring are stitched too tightly testis get swollen. The treatment is to support the testis. It was noted in 3% of the cases and resolved with conservative treatment. 7 patients had ecchymosis when resolved spontaneously.

Perhaps the most common complication is the presence of serous fluid in the subcutaneous tissue. This was either aspirated or drained by opening one skin stitch noted in 6 patients.

Wound infection is the most important short-term complication. If the infection extends beneath the external oblique aponeurosis the risk of recurrence becomes very high. The chance of wound infection with monofilament polypropylene suture is very low. There was not a single patient who developed wound infection in our study, probably due to meticulous surgery and fewer no cases. Six patients developed chest infection. This was treated with broad spectrum penicillin (Augmentin 1.2 gm IV eight hourly for five days).

Retention of urine; frequently occurs probably through alpha-adrenergic nerves. In our study the incidence was 5%. All of them were relieved either with assurance or short term catheterization.

Delayed Complications

Painful groin is usually temporary and disappears with in few months. Some times it may persists for long time. The main cause is crushing and clamping of nerve leading to neuralgia. In our study pain in groin for six months was noted in 18% of the patients. This pain disappeared in all by the end of one year.

Sinus formation; is not very uncommon and can occur with majority of suturing material and procedures. By using monofilament and aseptic technique sinus formation could be avoided, if it does occur it should be given time and antibiotics and it invariably heals.

Impotence has been reported after inguinal hernia repair. This is functional as there is no relationship. In our study there was no case of importance, but temporary decrease in libido was observed in about 3% of cases.

Ischaemic orchitis; due to damage to it's vessels can occur, most of such cases completely resolve within 3 to 4 days after surgery. In 50% of the cases testicular atrophy is noted. This complication of ischemic orchitis was not observed in our study. The ilio-inguinal, ilio-hypogastric and genito-femoral nerves are liable to trauma during inguinal herniorrhaphy. Usually all patients experience some numbness, below and medial to the incision, which usually disappeared within one month. In our study 30% of the patients developed transient anaesthesia which disappeared within a month.

Recurrence; with modern treatment should be low.^{11,12} In our study a recurrence rate of 1% was noted. This low rate may be due to follow up over a smaller period.

In our study mortality was zero. We excluded all those cases with complications like strangulation, previous M.I, major systemic disease, even patient above sixty years of age.

CONCLUSION

1. Darn technique is a safe and effective procedure.
2. Prolene (monofilament polypropylene) is a good suturing material with low rate of infection.

3. The use of prophylactic antibiotic in hernia surgery using non-absorbable suture is justified.
4. In our study there was very low recurrence rate. This may be due to short period of study although 50% recurrence takes place within six months.

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