

A Comparison of Efficacy of Darn Repair and Bassini Repair for Inguinal Hernia in District Head Quarter Hospital, Bannu

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ABSTRACT

Objective: The objective of the study was to compare the results of Bassini vs. Darn inguinal hernia repair techniques in terms of postoperative pain, infection rate, hospital stay, resumption of duty and recurrence.

Study Design: A randomized controlled study

Place and Duration of Study: This study was conducted at the Department of Surgery, DHQ Teaching Hospital, Bannu from January 2015 to January 2016.

Materials and Methods: In our study, 60 patients having inguinal hernia were selected for the trial from both sexes. After thorough investigations, they were randomly assigned into two groups, 30 (group 1) of these were operated and repaired by the old Bassini repair and 30 (group 2) patients underwent darn repair. Patients were followed up at one week, six weeks, six months and one year and any complications were noted.

Results: Age range of patients was between 20-60 years. The patients were operated under general anesthesia. In Group One, 7 patients required intramuscular analgesics, their hospital stay was for 5 days, resumption of duties after 4-5 weeks & recurrence after 1Year was 0%. In group 2, 5 patients required intramuscular Analgesics, mean hospital stay was 4-5 days, resumption of duties after 4 weeks & recurrence after 1Year was 0%

Conclusion: Darn repair of inguinal hernia is easy, cheap, pain free and having negligible chances of recurrence.

Key Words: Inguinal hernia, Darn repair, Bassini

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INTRODUCTION

An Inguinal hernia is a resultant of some sort of tissue protrusion such as that of intestine etc. This protrusion takes place through a weak spot within abdomen. This buldge is more painful at the time of coughing, bending over or at the time of lifting some heavy objects. Inguinal hernia is not dangerous all the times yet produces life threatening problems some time. The painful or enlarging hernia can be made fix through surgery. So surgical procedure is a common technique used for its management.¹ Risk factors for the development of a hernia include: smoking, chronic obstructive pulmonary disease, obesity, pregnancy, peritoneal dialysis, collagen, vascular disease, and previous open appendectomy, among others.^{1,2}

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Inguinal hernia has two types, Direct and Indirect. The direct inguinal hernia enters through a weak point in the fascia of the abdominal wall, and its sac is noted to be medial to the inferior epigastric vessels. Direct inguinal hernias may occur in males or females, but males are ten times more likely to get a direct inguinal hernia³. An indirect inguinal hernia results from the failure of embryonic closure of the deep inguinal ring after the testicle has passed through it. Like other inguinal hernias, it protrudes through the superficial inguinal ring. It is the most common cause of groin hernia.⁴

In 1987, a classification was introduced by Gilbert for repairing hernia. Four basic techniques/procedures were introduced for.⁵ Pure tissue repair, combined tissue and prosthetic repair, pure prosthetic repair and Darn repair were the classified techniques. Shouldice method displayed good results but british method of nylon darn has better successive rates in preservative deep groin anatomy.⁶

The darn repair of groin hernias is a pure tissue repair and is one of the classic open herniorrhaphies. It is simple, generally applicable to primary and recurrent hernia repairs, and has a remarkably low recurrence rate. In a 1991 survey of 240 consultant surgeons in England, the darn repair was the most popular technique; 35% of surgeons used it as their sole method of repair⁷. The Shouldice operation alone or combined with other techniques was used by only 20%.⁸ Inguinal,

femoral and abdominal hernias resulted in 51,000 deaths in 2013 and 55,000 in 1990.⁹

MATERIALS AND METHODS

60 patients were included in our study that was conducted in surgery department of DHQ teaching hospital Bannu and in private practice setting. Study period comprised of one year i.e. from January 2015 to January 2016. We compared darn repair with bassini repair technique in subjects having inguinal hernia. Two groups were designed, one for darn and one for bassini repair. All 60 patients were divided randomly in these two groups. The complications before and after surgical procedure, hospitalization time duration and operative procedure time was documented. Follow up to these patients was given for 1Year after surgical procedure and the complications were noted. Patients were equally divided into 2 groups keeping in view their age, sex and weight etc. Antibiotics were administered to all the patients in both groups.

Exclusion criteria were diabetes, chronic obstructive airway disease, steroids intake etc. Patients experiencing associated inguino-scrotal diseases as hydrocele and spermatocele were excluded from the study. Patients with an age between 16 to 60 years were considered for the study.

Bassini repair was found to be the the classic one. Opening of the inguinal canal was done followed by the lifting of spermatic cord followed by suturing of the inferior edge of interior slanting and transversus muscles to the inguinal tendon with intervallic nurolon. In situation of tension on repair, tanner slide was incorporated. The cord was positioned on the recently shaped subsequent flooring. Continuous chromic catgut No 1 was used for suturing the external oblique. Scarp fascia was clogged by catgut followed by closing of the skin using skill no 2/0.

The darn repair was done with the help of a polyamide monofilament thread that was commercially available. The darn was completed in 2 layers, starting at the pubic tubercle, suturing was done in between the conjoint tendon and conjoint muscle to inguinal ligament. Half hatch was used to lock each stitch. The cord was positioned on the darn. General anesthesia was given to patients in both groups.

Base line investigations were carried out for all patients. Post operative and systemic complications were also recorded.

Patient's examination was done at an interval of a week, a month, 3 and six months and even for 1 year to observe wound infection, sinus formation, pain in scar, atrophy of the testis, sexual abnormality, hydrocele and reappearance of hernia.

RESULTS

The study comprised 60 patients. Age range was between 16-60 years. The patients were operated under

general anesthesia. In group one, 7 patients' required intramuscular analgesics mean hospital stay was 5 days, resumption of duties after 4-5 weeks & reappearance after 1year was 0%. In group two, 5 patients required intramuscular analgesics, mean hospital stay was 4-5 days, resumption of duties after 4 weeks & recurrence after 1Year was 0%. Results are shown in the table 01.

Table No. 1; Age distribution

Patient's age	Patient's No	Percentage
16-20	08	13.34 %
20-30	25	41.67 %
30-40	05	8.34 %
50-60	12	20.0 %

Patient's mode of presentation is displayed in the following table 02.

Table No. 2; Mode of presentation

Mode of Presentation	No of Hernias	Percentage
Swelling inguinal/inguinoscrotal	60	100
Reducible Hernias	50	93.34
Irreducible Hernias	10	16.67
Painful Hernias	30	50.00
Pain free Hernias	30	50.00

Side of hernia either right or left is given in the table 03.

Table No. 3; Hernial side

Hernial side	No of patients	Percentage
Right	26	43.34
Left	28	46.66
Bilateral	06	10

Type of hernia and complete/incomplete hernia's detail is given in table 04

Table No. 4; Type of heria, complete/incomplete hernia

Hernia type	No of patients	percentage
Indirect inguinal hernias	45	75
Direct inguinal hernias	14	23.34
Pantaloon hernias	07	11.67
Complete Hernias (Inguinoscrotal)	26	43.34
Incomplete Hernias	34	56.67

Operative Time; Darn repair was associated with a mean operative time of 40 minutes whereas bassini repair was associated with 45 minutes. We observed that there was no momentous variance of operative time in both procedures.

Coming to routine work; One week was required to patients for starting their routine lighter work out in darn repair whereas in bassini repair, the return of the

patients to their routinely workout was a little prolonged coz of painful groin. Returning to hefty work done was almost 6 weeks in both group's patients. Below are the complications:

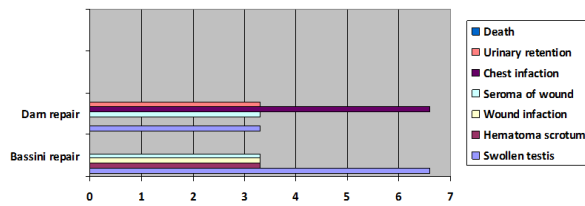


Figure No. 1: Post operative early complication percentage in both repairs (within one month)

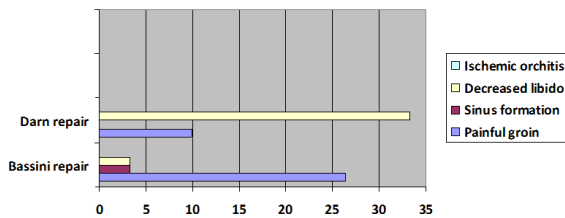


Figure No. 2: Post operative delayed complication percentage in both repairs (after one month)

No principal operative and anesthetic complications including cardiac arrest, injury of viscera, cord injury, injury of the nerve or copious hemorrhage was observed in both procedures.

More pain was observed by the patients in bassini repair so there was a prolonged use of analgesics as compare to darn repair.

DISCUSSION

A saying was stated many years back by Sir John Bruce "The final word on hernia will probably never be written"¹⁰. The same is true today.

The Incidence of inguinal hernia is 73% to 84 %¹¹. Ninety five per cent of patients presenting to primary care are male¹². The objective in inguinal hernia is to provide a tension free repair. The operation usually takes about 30-45 minutes to complete and you'll usually be able to go home on the same day. Some people stay in hospital overnight if they have other medical problems¹³. The practice in our unit is to be discharged on the following day. Our results displaced the incidence of inguinal hernia 10.29% of the total admissions. The frequency in other centers ranges from 10%-18% of the total surgical admissions^{14, 15, 16}.

The cause of post operative pain in bassini repair is seems to be due to tension on the suture between conjoint muscles and inguinal ligament which was significantly fewer in darn repair.

In the first 10 years of life, right inguinal hernia is more common due to late plunge of right testis. After second decade of life, hernia on left side is as common as on

right side¹⁷. In 16% of cases, bilateral hernia is observed.¹⁸

The frequency of persistent hernia after principal reparation of a groin hernia vary in between 1% (in specialized centers) to 30% (in general surveys)¹⁹. During the pre-mesh era, it was predictable that primary inguinal hernia reparation had a 10%–30% reappearance ratio and that the degree was 35% for recurring hernia restoration¹⁹. The Lichtenstein repair is considered the "gold standard". Results of 3019 cases from 05 spots have confirmed a 0.5% reappearance.²⁰

CONCLUSION

Darn repair and bassini repair can be compared for younger patients experiencing primary hernia. However, darn is more superior to bassini in terms of early ambulation, analgesic treatment and post-op painful conditions.

Author's Contribution:

- Concept & Design of Study: Dost Mohammad
- Drafting: Dost Mohammad
- Data Analysis: Ajmal Shah Bukhari & Muhammad Ashraf
- Revisiting Critically: Makil Shah and Wasim Ahmad
- Final Approval of version: Dost Mohammad

Conflict of Interest: The study has no conflict of interest to declare by any author.

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