Original Article

Inguinal Hernial Repair

Shouldice Versus Bassini'S Procedures for Inguinal Hernial Repair

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ABSTRACT

Objective: To evaluate the optimum surgical technique for inguinal hernia repair, Shouldice or Bassini's ?

Study Design: Retrospective comparative study.

Place and Duration of Study: This study was conducted between 2004 to 2006 in the surgical ward DHQ Hospital Karak. 200 patients with unilateral & primary inguinal hernia were randomly allotted to either Shouldice or Bassini's repair. The cases were collected either as emergencies or electively.

Materials and Methods: All the patients had primary and unilateral inguinal hernia. They were operated electilively or as emergencies. Patients were randomly allotted to either Shouldice or Bassini's repair. The Shouldice was performed with 2/0 prolene in four layers while the bassini's repair was done with prolene 0 or 1.

Results: The patients operated for inguinal hernia were followed for up to 5 years. The shouldice repair was found associated with a lowest recurrence rate of 3% and the Bassini's repair with 5.7%. The difference remains statistically significant (P<0.001).

Conclusion: The Shouldice repair for inguinal hernia was associated with a recurrence rate of less than 1% in the Shouldice clinic at TORONTO[1]. Here in this study the Shouldice resulted in 3% recurrence rate which is nearer to the international value while the Bassini's repair was associated with a recurrence rate of 5.7% which is higher than the Shouldice repair. The Shouldice repair for inguinal hernia should be the Gold Standard and serves as the basis for comparison for all other techniques, be they prosthetic or laparoscopic [2].

Key word: Shouldice, Bassini's, inguinal hernial repair.

INTRODUCTION

The Shouldice surgical technique for inguinal hernia repair; The Shouldice is performed in 4 layers (Glassow) [3-4]; After herniotomy, the fascia transversalis is cut horizontally, starting at the stretched deep inguinal ring and proceed medially to the pubic tubercle, safeguarding the inferior epigastric vessels. The upper and lower flaps of fascia transversalis are formed. The lower flap is stitched to the under surface of the upper flap and the upper flap is stitched to the upper surface of the lower flap with 2/0 prolene. The conjoint tendon and the lateral fleshy part of the internal oblique and transversus abdominus are stitched to the inguinal ligament in two layers with 2/0 prolene. Finally the external oblique is stitched over the cord with catgut 1. Bassini's Repair for Inguinal hernia; Bassini's repair, a massive leap forward and has been the basis of open repair for over hundred years. After herniotomy, the conjoint tendon above is sutured with the lower edge of inguinal ligament with interrupted, non-absorbable sutures e.g. polypropylene, nylon or thick black silk. Today, the Basini's repair is the most commonly performed procedure for inguinal hernia and most surgeons use continuous, non-absorbable sutures which are darned between the conjoint tendon and inguinal ligament. The Shouldice repair is actually a development and refinement on the Bassini's repair [5]. The original Shouldice was performed under local anesthesia. The Shouldice gave excellent results with 2/0 steel wire. Inguinal hernia repair is the second most commonly performed operation (Appendectomy the 1st one) in general surgery all over the world [6]. Shouldice hernia repair provides the best chances of non-recurrence regardless of the anatomical type of hernia.

MATERIALS AND METHODS

This study was conducted between 2004 to 2006 in the surgical ward DHQ Hospital Karak. 200 patients with unilateral & primary inguinal hernia were randomly allotted to either Shouldice or Bassini's repair. The cases were collected either as emergencies or electively. All the patients had primary and unilateral inguinal hernia. They were operated electilively or as emergencies. Patients were randomly allotted to either Shouldice or Bassini's repair. The Shouldice was performed with 2/0 prolene in four layers while the bassini's repair was done with prolene 0 or 1.

RESULTS

All the patients had primary and unilateral inguinal hernia. They were operated electilively or as emergencies. Patients were randomly allotted to either Shouldice or Bassini's repair. The Shouldice was performed with 2/0 prolene in four layers while the

bassini's repair was done with prolene 0 or 1. At the time of induction of anaesthesia, a broad spectrum IV antaibiotic was given. General anaesthesia was given for 75% cases, spinal anaesthesia was given for 20% cases and local anaesthesia was used for 05% cases. Patients remained in surgical ward for 24 to 48 hours. In this comparative study, some 200 patients were randomly allotted to either Shouldice or Bassini's repair.

Patients	200
Age	30-65 years
Average	47 years
Gender	All male patients

Type of Hernia:

Indirect inguinal Hernia:	160
Direct inguinal hernia	40
Shouldice repairs:	130
Bassini's repairs:	70

Follow Up: The operated patients were examined routinely at 1 and 6th month and then every 6 month for a total of 5 years.

Results: Patient was checked for recurrences.

Recurrence: In Shouldice series, there were 4 recurrences out of 130 operations.

Recurrence rate: 3%

In Bassini's Repair: There were 4 recurrences out of 70 operations.

Recurrence rate: 5.7%

Relative risk of Recurrence:

Shouldice: 1 (reference value)

Bassini's: 1.9 (p value = 0.001)

The difference is statistically significant. The Bassini's repair resulted in almost twice as recurrences as in the Shouldice repair.

Follow up: All the patients were seen routinely at 1st week then after 1 and 6th month and every 6th month for 3 years and then every year after. The Shouldice repair was associated with statistically significant fewer recurrences than that of the Bassini's repair (P<0.001)

DISCUSSION

In the population under study, the recurrence occurred less often after the Shouldice repair compared with the Bassini's repair. In the original Shouldice, the posterior inguinal wall was repaired in four layers with running 2/0 stainless steel sutures under local anesthesia. In the Shouldice hospital at Toronto, the repair gave a recurrence rate of less than 01 % where patients were operated by specialists while the recurrence elsewhere was 6-15 % in non specialized centers on long term basis (i.e. 10-15 years) [7,8,9]. Shouldice repair is relatively more efficient for indirect Inguinal hernia than direct one [10], but the difference is not statistically significant. In our study 50% recurrences occurred within 2 years and 75% within 3 years after the operation which compares favorably with the study conducted by Panos-et al [11]. In a controlled trial, Kingsnort et al and Deysine and Soroff reported 2-3 % recurrence rate for Shouldice and 4-6% for Bassini's [12-13]. Suture line tension(and hence ischemia) gives rise to post operative pain and recurrence. In Shouldice repair, the suture line tension is the least while it is high for Bassini's repair. So early post operative pain and numbness below the medial part of Inguinal Ligament were high for Bassini's repair [14-15]. Shouldice gives the lowest recurrence rate next to Lichtenstein with as:

1. Good quality of life
2. Less post operative pain.
3. With less chance of wound infection.
4. And is cost effective

So Shouldice is superior to Bassini for inguinal herniorrhaphy [16-17].

CONCLUSION

The Shouldice technique should be the 1st choice in Unilateral and primary inguinal hernia in adult males with hernial size less than 3cms. The Shouldice repair for inguinal hernia was associated with a recurrence rate of less than 1% in the Shouldice clinic at TORONTO[1]. Here in this study the Shouldice resulted in 3% recurrence rate which is nearer to the international value while the Bassini's repair was associated with a recurrence rate of 5.7% which is higher than the Shouldice repair. The Shouldice repair for inguinal hernia should be the Gold Standard and serves as the basis for comparison for all other techniques, be they prosthetic or laparoscopic[2].

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