JPGM
Journal of Postgraduate Medicine

Open access journal indexed with Index Medicus & ISI's SCI

Journal is indexed with MEDLINE/Index Medicus, PubMed and Science Citation Index Expanded

ORIGINAL ARTICLE
Year : 2000 | **Volume** : 46 | **Issue** : 1 | **Page** : 9-12

Shouldice's herniorrhaphy versus Moloney's darn herniorrhaphy in young patients (a prospective randomised study).

V Thapar, P Rao, A Deshpande, B Sanghavi, AN Supe
Department of Surgery, Seth G. S. Medical College and K. E. M. Hospital, Parel, Mumbai - 400 012, India., India

Correspondence Address:
V Thapar
Department of Surgery, Seth G. S. Medical College and K. E. M. Hospital, Parel, Mumbai - 400 012, India.
India
Login to access the email ID

Source of Support: None, **Conflict of Interest:** None

crossref Check Citations

PMID: 0010855070

:: Abstract

AIMS: Shouldice's repair (SR) and Moloney's darn repair (DR) are commonly practised repairs for hernias in the young age group with acceptably low recurrence rates. The SR is considered technically challenging and difficult, while the DR is gaining popularity in recent years. Therefore, there is a need to compare these repairs. MATERIAL AND METHODS: To compare these techniques a total of 50 cases (age group 18-40 years) were randomised to two groups (SR 25, DR 25). These were well matched for age, the side and the type of hernia. Both groups were studied with respect to operative time; postoperative pain at 6,12 and 24 hours (evaluated by pain scale 1-10) need for analgesia, ambulation (evaluated by a four-point scale), complications and return to work. RESULTS: The SR required a longer time (average 81 minutes) compared to DR (average 43 minutes). Patients undergoing SR complained of pain of a higher scale at 6, 12 and 24 hours post surgery and had a significant higher need for analgesia on day 1 and 2 ($p < 0.05$). Ambulation grades were significantly better in the DR group on the first postoperative day ($p < 0.05$). There was no significant difference in the two groups with respect to postoperative complications, return to work, and recurrences rate (2-year follow-up). CONCLUSION: The SR and DR are comparable for young patients having a primary hernia. However, DR is superior in terms of the time taken, post-operative pain, need for analgesia and early ambulation.

Keywords: Adult, Chi-Square Distribution, Comparative Study, Female, Hernia, Inguinal, surgery,Human, Male, Prospective Studies, Surgical Procedures, Operative, methods,Suture Techniques, Treatment Outcome,

How to cite this article:
Thapar V, Rao P, Deshpande A, Sanghavi B, Supe A N. Shouldice's herniorrhaphy versus Moloney's darn herniorrhaphy in young patients (a prospective randomised study). J Postgrad Med 2000;46:9-12

How to cite this URL:
Thapar V, Rao P, Deshpande A, Sanghavi B, Supe A N. Shouldice's herniorrhaphy versus Moloney's darn herniorrhaphy in young patients (a prospective randomised study). J Postgrad Med [serial online] 2000 [cited 2019 Dec 15];46:9-12. Available from: http://www.jpgmonline.com/text.asp?2000/46/1/9/327

Shouldice's repair (SR) and Moloney's darn repair (DR) are commonly practised repairs for hernias in the young age group. Shouldice's repair is considered technically challenging and difficult while Moloney's Darn repair is gaining popularity[1],[2]. Though being two different repairs, they are relatively tension free[3],[4] and are comparable in terms of recurrence rates[4],[5]. Both repairs are disparate in terms of the principles and the repair techniques involved. In this study the aim was to compare these repairs in terms of operative time, postoperative pain, need for analgesia, early ambulation, postoperative complications, early return to work and recurrence rates.

:: Material and method

This study was conducted in a major public hospital over a period of one year (February 1, 1996 - January 31, 1997). Patients with primary inguinal hernias in the age group of 18-40 years were included in the study. Patient's consent and ethics committee clearance was obtained. They were randomly selected to undergo either repair by drawing lots just prior to the surgery. Fifty patients were operated in this study, 25 by each technique. The patients in each group were well matched for the side and type of hernia [Table - 1]

Patients with bilateral inguinal hernias, recurrent hernias, complicated hernias and other inguinoscrotal pathologies were excluded from the study because the parameters studied would be affected by the surgery for the other associated pathology and by the previous repair.

Preoperative preparation: Straining factors like cough constipation and obstructive urinary symptoms were evaluated and corrected prior to surgery. A total of 50 patients were kept on the trial, of which an equal number underwent the Shouldice's and the Moloney's darn repairs. All patients were shaved on the night prior to the surgery and were administered a single dose of antibiotic Cefazolin Sodium 1g intravenously, just prior to the incision. A single dose of analgesic Diclofenac Sodium 2 cc was administered intramuscularly at the end of the surgery. Further analgesia was "on demand" basis.

Technique of Shouldice's repair[5]: A four-layer repair was done. After dealing with the sac and skeletonising the cord, the transversalis fascia is first slit from the deep ring to the pubic tubercle and the flaps raised. The first layer beginning medially approximates the edge of the inferolateral leaf to the under surface (white line) of the superomedial leaf. The second layer beginning laterally at the deep ring approximates the edge of the superomedial leaf to the iliopubic tract. The third layer begins laterally, approximates the musculoaponeurotic arch to the upturned part of the inguinal ligament, and then doubles backs as the fourth layer. The cord is then reposited and the external oblique is then sutured over the cord in a single layer.

Technique of Moloney's Darn Repair[4]: This is a tensionless repair. Here a continuous suture is used to bring down the musculoaponeurotic arch down to the inguinal ligament but with no effort made to approximate these structures forcibly under tension. The suture starts laterally just medial to the deep ring and is continued medially until the pubic tubercle. This is followed by a second continuous suture passing laterally from the pubic tubercle between good strong tissue in the rectus sheath and the musculoaponeurotic arch above to the inguinal ligament below.

All the surgeries were carried out or supervised by qualified surgeons.

Factors compared were

* Time taken: This included the time taken from the incision till the time the last skin suture was placed.

* Pain: To measure the severity of pain, a scale from 1-10 was used and patients would be asked how much pain they felt on the scale at the end of 6, 12 and 24 hours of the surgery.

* Need for analgesia: Apart from the single dose of intra muscular analgesic given immediately after surgery the need for intra muscular and oral analgesia was taken in to account.

* Ambulation: This took in to account the ability of the patient to walk in the evening of the surgery after the effect of spinal analgesia had worn off and on the next day morning. The gait of the patient and the presence or absence of pain was taken in to account. A four-point scale was prepared as follow.

1. Not able to walk

2. Able to walk but with altered gait and pain

3. Able to walk with a normal gait but with pain

4. Able to walk with a normal gait and no pain

* Complications: Those studied were presence or absence of cord oedema, cord haematoma, retention of urine and wound infection.

* Return to work: The day when patients resumed work.

* Recurrence / bulge[6]: Defined as the presence of local swelling with (recurrence) or without (bulge) impulse on cough was assessed for at 6,12 and 24 months post surgery.

The statistical test applied was the chi square test.

:: Results

Time for Surgery: The time taken differed depending on the type of the repair. The average time for Moloney's darn repair was 43 minutes compared to 81 minutes for the Shouldice's repair.

Pain: The pain experienced by patients of the SR group was statistically more ($p<0.05$) at the end of 6, 12 and 24 hours of the surgery when compared to the DR group. [Figure - 1].

Need For Analgesia: [Figure - 2] shows that the patients of the SR group needed more doses of analgesics on day one, two and three when compared to the DR group, which is statistically significant ($p<0.05$).

Ambulation: The ambulation grades of the DR group were statistically better ($p<0.05$) than the SR group on postoperative day 1 as compared to the SR group though there was no statistically significant difference in the ambulation grades on the evening of the surgery [Figure - 3].

Postoperative Complications: Though cord oedema was seen in five patients of the SR group as compared to two patients of the DR group the result is not statistically significant ($p>0.05$). No patient experienced post-operative cord haematoma, urinary retention or wound infection.

Return to work: The average postoperative stay for the SR group was 3.5 days (range 3-5 days) and for the DR group was 3.2 days (range 3-5 days), the result is not significant ($p>0.05$). All the patients were encouraged to return to their normal daily activities as soon as possible. However out of the 25 patients in both the groups ten of the SR group (six because of local discomfort and pain, four because of personal reasons not related to surgery) did not return to work till post operative day 12, while only six of the DR group (one because of local discomfort and pain, rest due to personal reasons) did not return to work in the same time period. The result is not statistically significant ($p>0.05$). All the rest returned to work on postoperative day 8.

Recurrence/Bulge: None of the patients had recurrence /bulge in the two-year of follow up.

:: Discussion

The aim of this study was to analyse which amongst the two repairs was better suited to the young age group in terms of postoperative morbidity. Factors such as age and local factors were standardised and straining factors were eliminated, so that the outcome of the trial depended only on the surgery performed. The young age group was the focus of this study because inguinal hernias are common in this age group, they are socially more productive and that a repair with the least postoperative morbidity and one which allows early return to work will be the most suitable one. It was observed that SR took significantly more time than the DR. The reasons for this could be because Shouldice's is technically more difficult to perform, involves skeletonisation of the cord and extensive dissection to expose the posterior wall. In DR skeletonisation of the cord is unnecessary, neither is there extensive dissection involved making it easier to perform.

The trial shows that the postoperative pain was significantly higher in the Shouldice's group than in the Moloney's darn group. Similar results have been found in other trials[1]. This difference is mainly attributed to the extensive dissection and tension which is present in the Shouldice's repair as compared to the darn repair which is a tension free repair as the posterior wall of the inguinal canal is reinforced by a monofilament nylon tension free darn between the conjoint tendon above and the inguinal ligament below[4].

As expected since pain is significantly higher in the SR group the need for analgesics was more and the ambulation grades poorer postoperatively.

Postoperative complications and return to work in both the groups was comparable. Longer periods of return to work could be due to the social norms of our population.

Amongst the various tissue repairs, Shouldice's repair has stood the test of time and has emerged superior to any other tissue repair[7]. However it is technically more difficult to perform, involves more dissection and is associated with significant postoperative pain and discomfort. In contrast because no attempt is made to approximate the conjoint tendon to the inguinal ligament there is no tension in the Moloney's darn repair. Also simplicity and minimal dissection account for significantly decreased operative time, lesser pain and early ambulation. This accounts for the fact that outside specialised hernia centres darn repair is the most common repair employed by the surgeons[1],[2].

This study concludes that the darn repair was significantly superior in terms of postoperative pain, the need for analgesia and early ambulation. In terms of postoperative complications and return to work there was no significant difference between the two groups. Larger trials and longer follow-ups will be required before one can conclusively opine on these two repairs.

:: References

1. Kingsworth AN, Gray MR, Noff DM. Prospective randomised trial comparing Shouldice's repair with plication darn for inguinal hernia. Br J Surg 1992; 79:1068-1072.
2. Mansberger JA, Rogen DA, Jenny WD. A comparison of a new two layer anatomic repair to the traditional Shouldices repair. Am J Surg 1992; 58:211.

3. Calcagno D, Wantz GE. Suture tension and the Shouldices technique (letter). Lancet 1985; 1:1446.
4. Moloney GE. Darning inguinal hernias. Arch Surg 1972; 104:129-130.
5. Donald W, Welsh R, Alexander MA. Shouldice's repair. Surg Clin North Am 1993; 73:451-469.
6. Leacock AG, Krowley R. Results of nylon darn in inguinal hernias. Lancet 1962; 20-21.
7. Abrahamson J. Hernias. In: Zinner MJ, Schwarz SI, Ellis H editors. Maingots Abdominal Operations Vol 1, 10th edition, Connecticut: Appelton and Lange; 1987. pp 479-580.

Figures

[Figure - 1], [Figure - 2], [Figure - 3]

Tables

[Table - 1]

Print this article | Email this Article to your friend

Previous article Next article

Site Map | Home | Contact Us | Feedback | Copyright and Disclaimer

Online since 12th February '04

Official Publication of the Staff Society of the Seth GS Medical College and KEM Hospital, Mumbai, India

Published by Wolters Kluwer - Medknow

Editorial and Ethics Policies

(cc) BY-NC-SA Open Access $ No Fee View mobile site

ISSN: Print -0022-3859, Online - 0972-2823