



OPEN ACCESS

Key Words

Inguinal hernia repair, mesh fixation and minimum sutures

Corresponding Author

Romena Mukherjee,
Master of Surgery, Department of
General Surgery, Meenakshi Medical
College Hospital And Research
Institute (M.M.C.H.R.I.) Raasi Nagar,
Karrapettai Post, Enathur,
Meenakshi Nagar, Tamil Nadu
631552 India
rromena.93@gmail.com

Author Designation

Junior Resident

Received: 20 November 2023

Accepted: 31 December 2023

Published: 4 January 2024

Citation: Romena Mukherjee, 2024.
A prospective Study of Inguinal
Hernia Patients Managed by Three
Stitch Hernioplasty. Res. J. Med.
Sci., 18: 32-35, doi: 10.59218/
makrjms.2024.4.32.35

Copy Right: MAK HILL Publications

A prospective Study of Inguinal Hernia Patients Managed by Three Stitch Hernioplasty

Romena Mukherjee

*Master of Surgery, Department of General Surgery, Meenakshi Medical
College Hospital And Research Institute (M.M.C.H.R.I.) Raasi Nagar,
Karrapettai Post, Enathur, Meenakshi Nagar, Tamil Nadu 631552*

ABSTRACT

A hernia is defined as an aberrant protrusion of a viscus or part of a viscus through an aperture in the walls of the cavity in which it is contained, either normal or abnormal. Both acquired and spontaneous hernias are possible. An external abdominal hernia is the most prevalent kind of spontaneous hernia. To examine the following side effects in patients with inguinal hernias treated with three stitch hernioplasty recurrence of the hernia, persistent pain in the groin, foreign body sinus and wound infection. It was a Prospective study this study was conducted January-march 2022-2023. 100 cases of inguinal hernia patients admitted at Meenakshi medical college hospital and Research Institute. The following observations were made when the patients were examined to evaluate postoperative issues at one-week, one-month, three-month, six-month and one-year intervals. Two of the 100 patients who underwent surgery experienced wound infections. The patients received three doses of parenteral antibiotics postoperatively and one dose prior to surgery. The medication used for this was cefotaxime. The two patients had diabetes and required additional antibiotics to help control their blood sugar levels. In order to get a reliable and consistent result, we still need to follow up on the cases for at least five years. In addition the three stitch hernioplasty technique is simple, easy to learn, less likely to cause vascular injury, requires less time, produces less tissue damage and has a lower risk of foreign body reaction. Inguinal hernia repair, mesh fixation and minimum sutures.

INTRODUCTION

An irregular protrusion of a viscus or a portion of a viscus through a normal or abnormal opening in the walls of its containing cavity is known as a hernia. A hernia can develop suddenly or over time. The most prevalent type of spontaneous hernia is the external abdominal hernia. Shear hernias in the abdominal wall are frequently repaired with prosthetic meshes^[1-3]. Mesh implantation can be done in a number of ways, but most involve the use of sutures to hold the mesh firmly in place and stop it from migrating or curling. The placement of sutures is often challenging and requires time^[4]. These sutures also result in nerve entrapment, extensive tissue tension and an increased risk of infection, all of which prolong postoperative pain^[5-7]. The issue is not resolved even by switching to absorbable sutures from nonabsorbable sutures^[5]. It was suggested that polypropylene mesh be applied to the surrounding tissue with little to no suture attachment in order to mitigate the previously mentioned drawbacks^[8]. Examining mesh fixation with minimal sutures and its recurrence is the study's goal.

MATERIALS AND METHODS

- Type of Study
- Prospective study
- Cases
- 100 cases of inguinal hernia patients admitted at Meenakshi medical college hospital and Research Institute

Inclusion criterias:

- Indirect inguinal hernia
- Direct inguinal hernia
- Age 21-60 years
- Good muscle tone

Exclusion criterias:

- Recurrent hernia
- Sliding hernia
- Hypotonia
- Age more than 60 years
- Bladder outlet obstruction
- LRI/COPD
- Ischemic heart disease

RESULT

All of the cases in this study ranged in age from 21-60 years. In this investigation, all of the patients were men. 50 of the 100 cases had right sided hernias, 25 had left sided hernias, and 25 had bilateral inguinal hernias.

Typical presentation:

- 58% had swelling in the inguinoscrotal or inguinal area
- Inguinal/inguinoscrotal pain 16%
- Swelling and pain in the inguinoscrotal region 26%

Presentation time: This study solely included cases of voluntarily admitted patients. This study did not include emergency situations such as blocked or strangulated inguinal hernias.

Postoperative complications: This study solely included cases of voluntarily admitted patients. This study did not include emergency situations such as blocked or strangulated inguinal hernias.

Seroma: In this study, 12 of the 100 patients who were followed up on had seroma.

Haematoma: Out of 100 patients who underwent three stitch hernioplasty for inguinal hernia, four developed hematoma.

Wound infections: Among the 100 patients operated on, two developed wound infections. One preoperative and three postoperative doses of parenteral antibiotics were administered to the patients. Cefotaxime was the medication used for this. Both patients were diabetic and required extra antibiotics to help with glycemic control.

Chronic groin pain: In our investigation, two patients acquired chronic groin pain. Chronic groin pain is defined as post-operative discomfort that lasts longer than three months and causes severe morbidity. The VAS (visual analog scale) score was used to assess pain, with a value of less than 1 indicating mild pain, 1-5 indicating moderate pain and greater than 5 indicating severe pain As per Lichtenstein *et al.*^[5] in a study In 1989 the incidence of chronic groin discomfort was estimated to be 1-2%. Panton and Panton conducted another trial in 104 patients treated by laparoscopic hernia repair in 1994 and the frequency of chronic groin discomfort was just 1%. The prevalence of chronic groin discomfort in this study is 2%.

DISCUSSIONS

Because inguinal hernias are so frequently encountered, advances in surgical techniques are constantly being made to better serve patients by decreasing recovery times and complications after surgery. While more and more hernia surgeries are being performed laparoscopically, open surgery is still the preferred method for novices. Prior to conducting a sizable randomized prospective study to compare the

Table 1: Age percentage

	Age	Percentage
Age	21-30 years	20
	31-40 years	12
	41-50 years	16
	51-60 years	50
Sex	Males	100
	Females	0
Type of hernia	Right	52
	Left	27
	Bilateral	27
Prospective complication	Seroma	14
	Haematoma	06
	Wound infection	5
	Chronic groin pain	05
	Recurrence	02
	Foreign body fistula formation	00
Visual analog scale score	0	No pain
	1-3	Mild pain
	4-6	Moderate pain
	7-9	Strong pain
	10	Very strong pain

outcomes to alternative modern treatments, our objective is to evaluate the safety and effectiveness of the three-stitched hernioplasty procedure.

The stiffness, flat-shape memory, and high adhesive qualities of the mesh implanted in the limited anatomical space are utilized during the three stitch hernioplasty technique to lessen wrinkling, curling, folding and mesh migration. The three stitch hernioplasty procedure has a number of practical and clinical advantages over Lichtenstein's tensionless repair. First off the surgeon saves time and has less technical difficulty because of the mesh's limited attachment to the surrounding tissue. Limited surgical dissection lowers the risk of infection and improves patient and tissue satisfaction during the procedure. The total operating time of one hour was similar to what was achieved using the laparoscopic technique or Stoppa Repair^[9].

When suturing soft polypropylene mesh with the Rives-Stoppa technique, misalignment of the mesh tension can lead to the formation of dead spaces and subsequent chronic fluid collection, hematomas or infections. The three stitch technique should lessen the possibility of such problems because flat-shape-memory mesh sits flat without the stress brought on by fixation to surrounding tissue. Patient recovery is prolonged by the high level of postoperative pain at the wound and around the edges of the prosthesis as a result of tissue damage and tension^[10].

Lichtenstein *et al.*^[11] state that According to a 1988 study, 1-2% of people experience persistent groin pain. Only 1% of patients in a 1994 study by Panton and Panton, which involved 104 patients undergoing laparoscopic hernia repair, reported having chronic groin pain. The study found that 2% of people had persistent groin pain. According to a 2010 study by Jaiswal, Chaudhry and Agarwal at Armed Force Medical College, using absorbable sutures for fixation and utilizing the fewest number of sutures to anchor a mesh were key factors in the low prevalence of chronic

groin discomfort. The VAS score was evaluated at one week, one month, three months, six months, twelve months and twenty-four months in our study.

The two patients who continued to experience groin pain at three months had VAS scores of 1-3 (minor pain). There is a 2% chance of recurrence with any carefully executed tension-free mesh repair or Shouldice method hernia repair. The trial in our study only lasted two years but there was a 1% chance of recurrence. Since only 50% of recurrences happen in the first two years, a minimum of five years of follow-up are necessary to evaluate the effectiveness of the particular kind of hernioplasty used in our study. The diabetic patient who experienced a recurrence in our study had a significant defect, weakening musculo-aponeurotic fibers and an infection in the surgical wound. Following surgery the patient's hernia reappeared after a year and five months.

Approaches to enhance the repair of inguinal hernias and lessen surgical site infections and hematomas, as well as seroma formation, are being developed. In terms of mean operating time and frequency of postoperative discomfort, this study compared standard mesh fixation with three stitches. The average surgery time contributes to a high patient turnover rate. Reduced operating time also directly affects the surgeon's ability to operate, which results in higher efficiency. Less stitches are needed to anchor the mesh during an inguinal hernioplasty, which reduces postoperative pain. Patients experience less stress and recover more quickly when they are in less pain. Quick recovery leads to a quicker return to work and fewer days missed from work. This has a substantial effect on the patient's financial well-being in addition to their general well-being.

CONCLUSION

Three stitch hernioplasty has similar long-term results to other common tension-free open hernia repair methods and other laparoscopic procedures.

The briefness of our study is its sole shortcoming. We need to keep following up on the cases for at least five years in order to get a consistent and predictable result. In addition the three stitch hernioplasty procedure is less complicated, easier to learn, quicker, less invasive, less likely to result in tissue damage and less likely to cause vascular injury.

REFERENCES

1. Hernia. E.U., Trialists. Collaboration., 2002. Repair of groin hernia with synthetic mesh: meta-analysis of randomized controlled trials. *Ann. Surg.*, 235: 322-332.
2. Neumayer, L.A., A.A. Gawande, J. Wang, A. Giobbie-Hurder and K.M.F. Itani et al., 2005. Proficiency of surgeons in inguinal hernia repair. *Ann. Surg.*, 242: 344-352.
3. Grant, A.M., N.W. Scott and P.J. O'Dwyer, 2004. Five-year follow-up of a randomized trial to assess pain and numbness after laparoscopic or open repair of groin hernia. *Br. J. Surg.*, 91: 1570-1574.
4. Nienhuijs, S.W., O.B.A. Boelens and L.J.A. Strobbe, 2005. Pain after anterior mesh hernia repair. *J. Am. Coll. Surgeons*, 200: 885-889.
5. Janu, P.G., K.D. Sellers and E.C. Mangiante, 1998. Recurrent inguinal hernia: Preferred operative approach *Am. Surg.*, 64: 573-574.
6. Rüedi, T.,P. and Matter, 1986. Intra-articular fractures of the distal tibial end. *Helvetica. chirurgica. acta.*, 35: 556-582.
7. Sabiston's., 2019. Textbook of surgery. 18th Ed Edn., Pages: 1179.
8. Conze, J., A.N. Kingsnorth, J.B. Flament, R. Simmermacher and G. Arlt et al., 2005. Randomized clinical trial comparing lightweight composite mesh with polyester or polypropylene mesh for incisional hernia repair. *Br. J. Surg.*, 92: 1488-1493.
9. M.D.A., N.F. , V.R. , H.P. , L.O. , K.J. and G. J, 2001. Modifications to rives technique for midline incisional hernia repair. *Hernia*, 5: 70-72.
10. Eklund, A.S., A.K. Montgomery, I.C. Rasmussen, R.P. Sandbue, L.Å. Bergkvist and C.R. Rudberg, 2009. Low recurrence rate after laparoscopic (tep) and open (lichtenstein) inguinal hernia repair. *Ann. Surg.*, 249: 33-38.
11. Patchayappan, M., S.N. Narayanasamy and N. Duraisamy, 2015. Three stitch hernioplasty: A novel technique for beginners. *Avicenna J. Med.*, 5: 106-109.