

ORIGINAL ARTICLE

Outcome of The Endoscopic Repair in Groin Hernias: An Experience of 100 Total Extraperitoneal (Tep) Repairs in Terms of Operative Time, Hospital Stay & Post Operative Pain

¹SOMER MASOOD, ²ZAINAB ZUBAIR, ³USMAN HAIDER, ⁴AYESHA SHAUKAT, ⁵ZAHID NIAZ, ⁶JAVED RAZA GARDEZI

¹Assistant Professor Department of Surgery KEMU/Mayo Hospital, ²Senior Registrar Department of Gynecology, ³Medical Officer Department of Surgery, ⁴Professor of Surgery Mayo Hospital, Lahore. ⁵Professor of Surgery AIMC/Jinnah Hospital, Lahore.

Correspondence Author:- Dr. Somer Masood, Assistant Professor of Surgery KEMU/Mayo Hospital, Lahore.

ABSTRACT

Background: Groin hernia surgery is the most commonly performed surgery done by surgeons all over the globe.. Although many different techniques are practiced for this but still there is no consensus on the most suitable technique., Recurrences and chronic pain postoperatively is the most common complication in inguinal hernia repair after Lichtenstein's technique. To reduce postoperative chronic pain, the use of total extra peritoneal placed mesh has been suggested.

Materials and Methods: This study included 100 consecutive inguinal hernia repairs were done by using the Total Extraperitoneal (TEP) technique between April 2014 and October 2015. The, primary endpoint was the early recurrence and the secondary endpoints were the operative time, hospital stay and post-operative pain on 4 weeks follow-up after surgery.

Results: All of the 100 Patients were male with the average age of 42.50, SD ± 15.94 years. Early recurrence was noted in only 10 patients (10%) who were assessed clinically at the follow up of the patient at 4th week post-operatively. Mean hospital stay in all the patients post-operatively was found to be as 1.267 days SD ± 0.225 . Mean operative time of the TEP procedure was found to be 46.68, SD ± 10.60 while the mean VAS score at 4th week postoperatively was noted as 3.72, SD ± 1.478 .

Conclusions:The Laparoscopic Total extra peritoneal mesh repair (TEP) is safe, feasible and effective technique. With this approach, there is reduced early recurrence, operative time, less pain in the post-operative period and the hospital stay.

Key words: Total extra peritoneal, Mesh hernioplasty.

INTRODUCTION

Inguinal hernia repair is one of the most commonly performed procedures. Inguinal Hernia can be repaired by both Open and Minimal Access Surgical technique. Laparoscopic repair is an excellent mode of treatment in the era of laparoscopic surgery. Major innovations continue to occur in the operative techniques used in Hernia operations. The repair of inguinal hernias¹ by minimal access technique is in vogue nowadays. This can be done either by Trans-abdominal pre-peritoneal (TAPP) or Total extra-peritoneal (TEP) approach.

The peritoneum is not entered during Total extra-peritoneal (TEP) mesh hernioplasty so it is considered as a better choice as compared to Trans-abdominal pre-peritoneal (TAPP) mesh hernia repair so the chances of intra-abdominal

complications^{1,4} are remote. One major advantage of laparoscopic Total extra-peritoneal inguinal hernia repair (TEP) is the direct visualization of all of the hernia orifices simultaneously and the entire myopectineal ligament, facilitating repair of any unexpected hernia and reducing the chance of recurrence.^{2, 3, 5, 6, 7}

N D Swadia et al in a study of 1539 Laparoscopic TEP repair noted recurrence in 8% patients, mean operative time was noted to be 28 ± 7 minutes (0.47 ± 0.12 hours) in unilateral hernia and 36 ± 8 minutes (0.60 ± 0.13 hours) in bilateral hernia with mean hospital stay of 1.5 ± 0.75 days.² In another study, mean post-operative pain score was noted to be 0.37 ± 0.185 on visual analogue scale in a prospective study of 108 patients whose inguinal hernias⁶ inguinal hernias were repaired by means of TEP repair.

Outcome of The Endoscopic Repair in Groin Hernias: An Experience of 100 Total Extraperitoneal (Tep)

Despite of various studies published in foreign literature, there is still reluctance in our surgeons to adopt laparoscopic approach to inguinal hernia repair because this approach is thought to be more time consuming, skill demanding and thus more prone to complications like post-operative pain and early recurrence. There is not a single study available to evaluate outcome of TEP in our population. This study would encourage the surgeons to adopt TEP approach for inguinal mesh hernioplasty to improve patient care.

MATERIAL AND METHODS

This descriptive case series was conducted in West Surgical Ward, surgical unit III, King Edward Medical University, Lahore. Non-probability, purposive sampling technique was used and the study duration was 18 months starting from April 2014 to October, 2015. Only males of ages 18 years and above, with unilateral or bilateral inguinal (both direct and indirect) hernias were included in this study. Patients having recurrent inguinal hernias, acute obstructive or incarcerated inguinal hernias and irreducible inguinal hernias were excluded. Patients who did not give consents, or having coagulation disorders or belong to the ASA group III/ IV were also excluded from the study. Informed consent from all the patients was obtained. Anaesthesia fitness was confirmed and patients were enrolled in elective surgery list. A single surgical team operated all the patients including in study to provide uniformity in surgical expertise and technique. All data collected and organized by Proforma and analysed by using SPSS 16.0 through its statistical program.

RESULTS

Mean age of all the 100 patients was found to be 42.50, SD ± 15.94 . 29 patients (29%) were diagnosed having direct inguinal hernias while 71 patients (71%) were having indirect inguinal hernias. The early recurrence was described as the reducible swelling with positive cough impulse at the site of previous hernia within the 4 weeks of the Total extra-peritoneal (TEP) procedure and was assessed clinically on follow-up, 4 weeks after surgery. Only 10 patients (10%) had early recurrence at the follow up at 4th week post-operatively, remaining 90 patients (90%) didn't experience any post-operative recurrence at 4th week follow up. Most of the patients i.e. 50 patients (50%) had VAS pain score after 24 hours of TEP procedure of 4, while VAS pain score 2 is noted in

33 patients (33%), and in 15 patients (15%) the VAS pain score was found to be 6 while pain score of 8 is noted in only 2 patients (2%) patients and the mean VAS score is 3.72, SD ± 1.478 . And the mean hospital stay after TEP procedure in all 100 patients was found to be 1.267 days, SD ± 0.225 . Mean operative time of the TEP procedure in the 100 patients was noted to be 46.68 minutes S.D ± 10.60 .

Table 1: Mean VAS score. Mean operative time in minutes and Mean hospital stay in days and their Standard deviations.

(Total number n=100)	Mean	Standard deviation SD
Mean VAS score	3.72	± 1.478
Mean operative time	46.68	± 10.60
Mean hospital stay	1.267	± 0.225

DISCUSSION

Inguinal hernia repair is the most frequently performed operation in general surgery. The Minimal Access Surgery is now being practiced all over the globe for all types of hernias. In the early 1990s, MASHernia repair was controversial since various studies reported recurrence rate as high as 25%^{8,9} in the early postoperative period. After years of experience the repair of any hernia by means of minimal access technique has now become surgeons first choice. There are many pros of doing hernia repair by means of laparoscopic approach as compared to the traditional open techniques. The chances of recurrence^{10,11} has literally gone zero since the advent of the hernia repairs by means of laparoscopic approach. Many laparoscopic techniques have been advocated for the repair of inguinal hernias^{12,13}. The procedure of choice amongst surgeons for inguinal hernia is Total extra peritoneal (TEP) approach. In this method mesh prosthesis is implanted in the extra peritoneal space, dorsal to the transversalis fascia. This technique therefore represent minimal invasive version of open mesh implantation technique. In TEP peritoneal cavity is not entered and mesh is used to seal the hernia from outside the peritoneum. I. As the surgeons are in a familiar field due to their knowledge of anatomy of extraperitoneal approach so TEP repair has become popular amongst them. This approach has fewer complications as compared to other techniques.

In this study all TEP procedures were done by a single experienced surgeon with his skilled

surgical team. Out of the 100 patients, only 10 patients (10%) had early recurrence at the end of 4 weeks follow-up post-operatively. The remaining 90 patients (90%) didn't experience any post-operative recurrence at the routine follow up after 4th week.

CONCLUSION

The Laparoscopic Total extra-peritoneal (TEP) hernia MAS technique offers many advantages. This technique enables the surgeon to cover all of the potential defects with a single piece of mesh. Total extra-peritoneal (TEP) repair of inguinal hernia is a good and effective technique. With this approach, there is decreased early recurrence, operative time, Post-operative pain and the hospital stay.

REFERENCES

1. Dulucq JL, Wintringer P, Mahajna A. Laparoscopic totally extraperitoneal inguinal hernia repair: lessons learned from 3,100 hernia repairs over 15 years. *Surg Endosc* 2009; 23(3):482-6.
2. N D Swadia. Laparoscopic totally extra-peritoneal inguinal hernia repair: 9 year's experience. *Hernia* 2011;15(3):273-9.
3. Dulucq JL, Wintringer P, Mahajna A. Occult hernias detected by laparoscopic totally extra-peritoneal inguinal hernia repair: a prospective study. *Hernia* 2011; 15:399-402.
4. Misra MC, Bansal VK, Kumar S, Prashant B, Bhattacharjee HK. Total extra-peritoneal repair of groin hernia: prospective evaluation at a tertiary care center. *Hernia* 2008; 12(1):65-71.
5. Napier T, Olson JT, Windmiller J, Treat J. A long-term follow-up of a single rural surgeon's experience with laparoscopic inguinal hernia repair. *WMJ* 2008 May; 107(3):136-9.
6. Morrison JE Jr, Jacobs VR. Laparoscopic preperitoneal inguinal hernia repair using preformed polyester mesh without fixation: prospective study with 1-year follow-up results in a rural setting. *SurgLaparoscEndoscPercutan Tech* 2008; 18(1): 33-9.
7. van der Pool AE, Harlaar JJ, den Hoed PT, Weidema WF, van Veen RN. Long-term follow-up evaluation of chronic pain after endoscopic total extraperitoneal repair of primary and recurrent inguinal hernia. *SurgEndosc* 2010; 24(7):1707-11.
8. Fitzgibbons RJ, Camps J, Cornet DA et al. Laparoscopic inguinal hernia plasty: results of multicentre trial. *Ann Surg.* 1995; 221: 3-13.
9. Vogt DM, Quret MJ, Pitcher DE et al. Preliminary results of prospective randomized trial of laparoscopic versus conventional inguinal hernioplasty. *Am J Surg.* 1995; 169: 84-89.
10. Barrat C, Surlin V, Bordia A et al. Management of recurrent inguinal hernias: a prospective study of 163 cases. *Hernia.* 2003; 7:125-129.
11. Sayad P, Ferzli G. Laparoscopic pre-peritoneal repair of recurrent inguinal hernias. *J LaproendoscAdvSurg Tech A.* 1999; 9(2): 127-130.
12. Camps J, Nguyen N, Annabali R et al. Laparoscopic inguinal hernioraphytransabdominal technique. *Int Surg.* 1995; 80: 18-25.
13. Dulucq JL. Preperitoneal approach in laparoscopic treatment of inguinal hernia. *J Chir.* 2000; 137(5): 285-288.