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Original Article

A Study On Retrospective Analysis Of Inguinal Hernia Repair By Various Methods

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ABSTRACT
Background: Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Repair of inguinal hernia is one of the most common operations in general surgery. Hence; we planned the present study to retrospectively analyze inguinal hernia repair by various methods. **Materials & methods:** The present study included retrospective evaluation of cases of inguinal hernia that underwent repair by different methods. Data records of a total of 150 patients were included in the present study. Complete demographic, clinical and surgical details of all the cases were obtained. All the cases were broadly divided into three study groups with 50 patients in each group depending upon the type of repair method: Lichtenstein's repair (LR), Preperitoneal meshplasty (PM), and Laparoscopic totally extraperitoneal repair (LTEP). Detailed record of the preoperative investigations and postoperative complications was obtained in all the patients. **Results:** Early complications observed in the present study were hematoma formation, wound infection. Postoperative pain and mesh infection. Late complications observed in the present study were chronic pain, recurrence and sinus formation. Non- significant results were obtained while comparing the occurrence of postoperative infections in between the three study groups. **Conclusion:** All the three surgical procedures are equally effective in terms of postoperative complications in patients with inguinal hernia.
Key words: Extraperitoneal, Hernia, Repair

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INTRODUCTION

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Repair of inguinal hernia is one of the most common operations in general surgery.[1, 2] Lateral and medial hernias seem to have both common and different etiologies. A patent processus vaginalis and increased cumulative mechanical exposure are risk factors for lateral hernias. Medial hernias seem to have a more profoundly altered connective tissue architecture and homeostasis compared with lateral hernias.[3, 4] However, altered collagen ratios are seen for both hernia types in adults, and combined with the peak prevalence of hernias observed late in life, connective tissue alterations may very well play a role in development of both subtypes.[5-7] Hence; we planned the present study to retrospectively analyze inguinal hernia repair by various methods.

MATERIALS & METHODS

The present study was planned in the department of general surgery of the medical institute and it included retrospective evaluation of cases of inguinal hernia that underwent repair by different methods. Data records of a total of 150 patients were included in the present study. Complete demographic, clinical and surgical details of all the cases were obtained. All the cases were broadly divided into three study groups with 50 patients in each group depending upon the type of repair method: ichtenstein's Repair (LR), reperitoneal Meshplasty (PM), And aparoscopic Totally Extraperitoneal Repair (LTEP) Laparoscopic totally extraperitoneal repair (LTEP) Detailed record of the preoperative investigations and postoperative complications was obtained in all the patients. Obese patients and patients with history of diabetes or hypertension were excluded from the present study. All the results were summarized and were analyzed by SPSS software. Univariate regression curve was used for assessment of level of significance.

RESULTS

Data record of a total of 150 patients was included in the present study. All the patients were broadly divided into three study groups: LR, PM and LTEP group. Mean age of the patients of the LR group, PM group and the LTEP group was 45.2 years, 41.6 years and 47.5 years respectively. Only males were included in the

present study. Mean duration of procedure of the LR, PM and LTEP group was 44 minutes, 52 minutes and 71 minutes respectively.

Early complications observed in the present study were hematoma formation, wound infection. Postoperative pain and mesh infection. Late complications observed in the present study were chronic pain, recurrence and sinus formation. Non- significant results were obtained while comparing the occurrence of postoperative infections in between the three study groups.

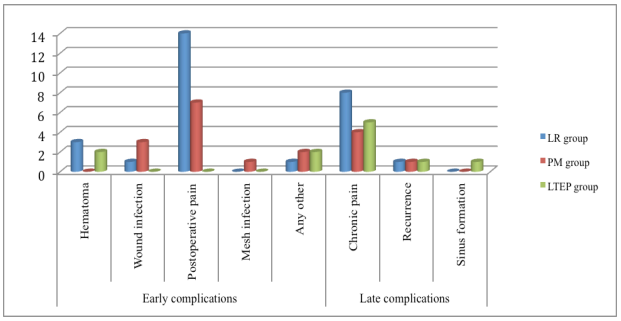
Table 1: Data of the patients

Parameter	LR group	PM group	LTEP group
Mean age (years)	45.2	41.6	47.5
Duration of procedure (minutes)	44	52	71

Table 2: Complications observed in the present study

Complications		LR group	PM group	LTEP group	P-value
Early complications	Hematoma	3	0	2	0.25
	Wound infection	1	3	0	
	Postoperative pain	14	7	0	
	Mesh infection	0	1	0	
	Any other	1	2	2	
Late complications	Chronic pain	8	4	5	0.41
	Recurrence	1	1	1	
	Sinus formation	0	0	1	

Graph 1: Complications observed in the present study



DISCUSSION

In the present study, data record of a total of 150 patients was included. All the patients were broadly divided into three study groups: LR, PM and LTEP group. McCormack K et al determined whether laparoscopic methods are more effective and cost-effective than open mesh methods of inguinal hernia repair, and then whether laparoscopic transabdominal preperitoneal (TAPP) repair is more effective and cost-effective than laparoscopic totally extraperitoneal (TEP). Conference proceedings, Manufacturers' submissions to the National Institute for Clinical Excellence (NICE) were reviewed. Selected studies were rigorously assessed. Dichotomous outcome data were combined using the relative risk method and continuous outcomes were combined using the Mantel-Haenszel weighted mean difference method. For the management of unilateral hernias, the base-case analysis and most of the sensitivity analysis suggest that open flat mesh is the least costly option but provides less quality adjusted life years (QALYs) than TEP or TAPP.[8]

Mean age of the patients of the LR group, PM group and the LTEP group was 45.2 years, 41.6 years and 47.5 years respectively. Only males were included in the present study. Mean duration of procedure of the LR, PM and LTEP group was 44 minutes, 52 minutes and 71 minutes respectively. Bowling K et al compare open and laparoscopic hernia repair in patients >65 years old and those <65 years old with respect to patient reported outcomes. As part of a quality assurance process patients receive a telephone consultation day 2 post procedure. This included an optional survey with questions to quantify pain, general feeling, nausea, dizziness, drowsiness, satisfaction and vomiting since the operation. Patients were then classified into age ≥ 65 years or <65 years and subclassified into totally extraperitoneal (TEP) or open inguinal hernia repair (IHR). Data is presented from patients treated between January 2009 and August 2016, totalling those included 1167 of 2522 (55.5%). Only five patients (4.42%) reported moderate pain; in the >65 TEP group this was significantly lower. Patient satisfaction with the surgery was satisfied or very satisfied in all patients in all groups. Time off work is not an absolute appropriate measure of return to premorbid status with respect to the elderly as a substantial number of >65 year olds have retired.[9] Early complications observed in the present study were hematoma formation, wound infection. Postoperative pain and mesh infection. Late complications observed in the present study were chronic pain, recurrence and sinus formation. Non- significant results were obtained while comparing the occurrence of postoperative infections in between the three study groups. Lal P et al compared complications, operative time, postoperative pain, length of hospital stay, and return to work between open tension-free mesh Lichtenstein (open) repair and laparoscopic total extraperitoneal (TEP) repair. In a prospective randomized study, open hernia repair was performed in one group (n = 25), and TEP repair using a large mesh was performed in another (n = 25). Then intraoperative and postoperative complications and results were compared. The mean operative time in the TEP group was 75.72 +/- 31.6 min, which was significantly longer than the mean operative time in the open group (54 +/- 15) min (p <0.001). The mean pain scores in the TEP group were 2.64 +/- 1.4 at 12 h and 1.76 +/- 1.4 at 24 h. These scores were significantly lower than the corresponding scores of 3.52 +/- 1.7 (p <0.04) and 2.74 +/- 1.5 (p <0.01) in the open repair group. In terms of complications and short-term recurrence, TEP

repair is comparable with open repair. Moreover, TEP is significantly less painful in the early postoperative period, leading to earlier ambulation than open repair.[10]

CONCLUSION

Under the light of above obtained data, the authors conclude that all the three surgical procedures are equally effective in terms of postoperative complications in patients with inguinal hernia. However; further studies are recommended.

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