

Original Research

Comparison of laparoscopic vs open groin hernia repair in tertiary care teaching Hospital in Delhi

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ABSTRACT:

Aim: To compare laparoscopic vs open groin hernia repair in tertiary care teaching hospital. **Methodology:** One hundred forty adult patients age ranged 18- 60 years with history of groin hernia reporting to general and laparoscopic surgery department were enrolled in this study. Patients were randomly divided into 2 group. Each group comprised of 70 patients. Group I patients underwent laparoscopic hernia repair performed with a transabdominal preperitoneal or a totally extraperitoneal approach and group II patients underwent open repair. Parameters such as site of hernia, type of hernia, recurrence of hernia, and complications were recorded. **Results:** Group I comprised of 65 males and 5 females and group II had 63 males and 7 females. Side was left in 25, right in 35 and bilateral in 10 in group I and left in 30, right in 20 and bilateral in 20 in group II. Type of hernia was inguinal hernia in 67 and femoral in 3 in both group I group II. Recurrence was seen in 4 in group I and 2 in group II. The difference was significant ($P < 0.05$). Surgical complications were injury of lateral cutaneous nerve of thigh seen in 1 in group I, visceral injury in 2 in group I and 1 in group II, damage to vas or testicular vessels in 8 in group I and 3 in group II, injury to epigastric vessels 2 in group I and 1 in group II and diathermy burn in 1 in group I. The difference was significant ($P < 0.05$). **Conclusion:** Open repair for groin hernia found to be beneficial and advantageous as compared to laparoscopic hernia repair.

Key words: Groin hernia, Mesh, open

Received: 14 March, 2018

Accepted: 17 April, 2018

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This article may be cited as: Vatsa A. Comparison of laparoscopic vs open groin hernia repair in tertiary care teaching Hospital in Delhi. J Adv Med Dent Scie Res 2018;6(5):137-139.

INTRODUCTION

Groin hernia is an inguinal hernia usually occurs when fatty tissue or a part of bowel, such as the intestine, protrudes into the groin. Repair of a groin hernia is one of the most common elective operations in general surgery. The rates range from ten per 10 000 of the population in the UK to 28 per 10 000 in the USA.¹ Long-term follow-up indicates that 15-30% of all hernia repairs will fail, and 60% of these will cause symptoms. Because of such rates of recurrence after sutured hernia repair, the concept of tension-free mesh repair has gained wide acceptance.² Anterior and preperitoneal approaches with or without mesh fixation have been undertaken. Recurrence rates of less than 1% without any case of mesh rejection have been reported from specialised hernia centres for anterior tension-free approaches.³

Laparoscopic repair and open repair with mesh are the typical treatments for hernia, and both regimens have proved beneficial. However, recurrence, with a rate as high as 33% recorded in different studies, poses a

significant problem to the effective treatment.⁴ Both surgical approach and the size of the mesh used to repair the primary hernia influence the chance of recurrence. If the hernia reoccurs, repair is a demanding procedure to perform and carries a high risk for recurrence and complications.⁵ Therefore, increasing the successful rate of hernia repair and reducing the recurrence and complication present a considerable challenge to the management of hernia.⁶ This study compared laparoscopic vs open groin hernia repair in tertiary care teaching hospital in Delhi

METHODOLOGY

One hundred forty adult patients age ranged 18- 60 years with history of groin hernia reporting to general and laparoscopic surgery department were enrolled in this study. After considering the utility of the study and obtaining approval from ethical review committee of the institute, we obtained written consent from all patients.

Demographic data was recorded and patients were randomly divided into 2 groups. Each group comprised of 70 patients. Group I patients underwent laparoscopic hernia repair performed with a transabdominal preperitoneal or a totally extraperitoneal approach and group II patients underwent open repair. Parameters such as site of hernia, type of hernia, recurrence of hernia, and

complications were recorded. Laparoscopic Hernia repairs were performed under general anaesthesia whereas open hernia repairs were performed under spinal anaesthesia. In all cases, a 15 cm by 10 cm patch of polypropylene mesh was used. The results were compiled and subjected for statistical analysis using Mann Whitney U test. P value less than 0.05 was set significant.

RESULTS

Table I Patients distribution

Groups	Group I	Group II
Method	laparoscopic hernia repair	open hernia repair
M:F	65:5	63:7

Group I comprised of 65 males and 5 females and group II had 63 males and 7 females (Table I).

Table II Comparison of parameters

Parameters	Variables	Group I	Group II	P value
Site	Left	25	30	0.05
	Right	35	20	
	Bilateral	10	20	
Type	Inguinal	67	67	0.02
	Femoral	3	3	
Recurrence	Yes	4	2	0.01
	No	66	68	

Table II, graph I shows that side was left in 25, right in 35 and bilateral in 10 in group I and left in 30, right in 20 and bilateral in 20 in group II. Type was inguinal hernia in 67 and femoral in 3 in both group I and in group II. Recurrence was seen in 4 in group I and 2 in group II. The difference was significant ($P < 0.05$).

Graph I Comparison of parameters

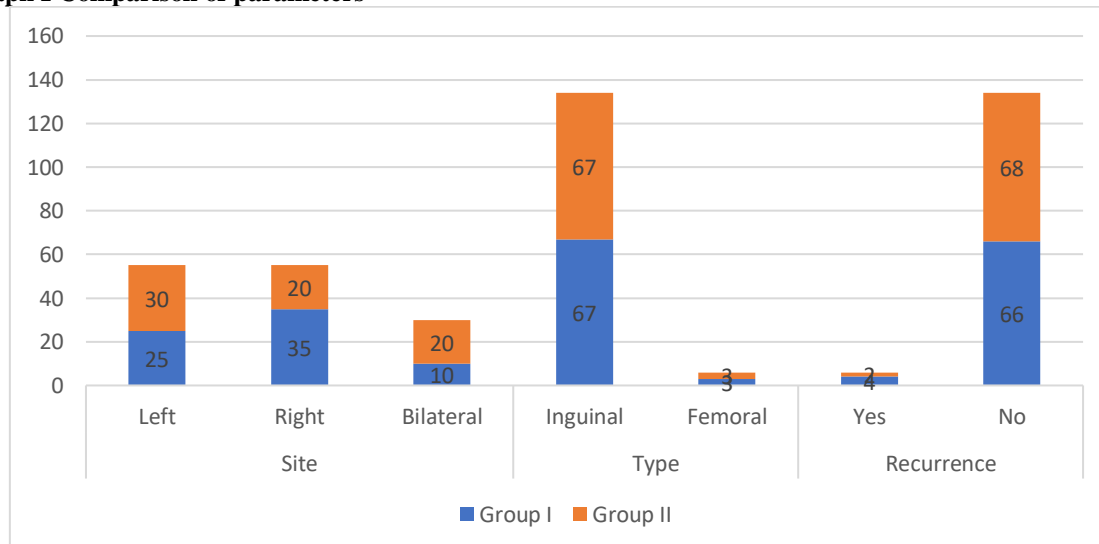


Table III Surgical complications

Complications	Group I	Group II	P value
Injury of lateral cutaneous nerve of thigh	1	0	0.04
Visceral injury	2	1	
Damage to vas or testicular vessels	8	3	
Injury to epigastric vessels	2	1	
Diathermy burn	1	0	

Table III shows that surgical complications were injury of lateral cutaneous nerve of thigh seen in 1 in group I, visceral injury in 2 in group I and 1 in group II, damage to vas or testicular vessels in 8 in group I and 3 in group II, injury to epigastric vessels 2 in group I and 1 in group II and diathermy burn in 1 in group I. The difference was significant ($P < 0.05$).

DISCUSSION

Laparoscopic hernia repair is similar to the open preperitoneal approaches and is performed transabdominally or totally extraperitoneally. Unlike laparoscopic cholecystectomy, this procedure has been slow to gain acceptance.⁷ This reluctance is mainly because of reports of rare serious complications during and after surgery which include visceral, vascular, and nerve injury, and small bowel obstruction.^{8,9} This study compared laparoscopic vs open groin hernia repair in tertiary care teaching hospital in Delhi

Group I comprised of 65 males and 5 females and group II had 63 males and 7 females. Side was left in 25, right in 35 and bilateral in 10 in group I and left in 30, right in 20 and bilateral in 20 in group II. Type was inguinal hernia in 65 and femoral in 5 in group I and inguinal in 58 and femoral in 12 in group II. Recurrence was seen in 4 in group I and 2 in group II. Li J et al¹⁰ in their study a total of 1,311 patients enrolled into 6 randomized controlled trials and 5 comparative studies were included. There were no differences in other complication rates or the operation time between the 2 methods. The laparoscopic technique in the treatment of recurrent inguinal hernia was associated with less wound infection rates and a faster recovery to normal activity, whereas other complication rates, including the re-recurrence rate, were comparable between these 2 methods. Laparoscopic and open procedures could be performed with equal operation time.

Our results showed that surgical complications were injury of lateral cutaneous nerve of thigh seen in 1 in group I, visceral injury in 2 in group I and 1 in group II, damage to vas or testicular vessels in 8 in group I and 3 in group II, injury to epigastric vessels 2 in group I and 1 in group II and diathermy burn in 1 in group I. In a study 928 patients with groin hernia, from 26 hospitals in the UK and Ireland, were randomly assigned to laparoscopic repair (n=468) or to open hernia repair (n=460, of which 433 were tension-free mesh repairs). Patients were clinically assessed at 1 week and 1 year after surgery, and were sent questionnaires at 3 months and 1 year. The primary endpoints were: complications; return to usual activities of social life (as the most generally applicable example of return to usual activities); hernia recurrence; groin pain that persisted at 1 year; and costs to the health services. All analyses were by intention to treat. Findings At 1 week, at least one complication was found in 108 (29.9%) patients allocated to laparoscopic repair and in 155 (43.5%) patients allocated to open repair.¹¹ Several previous studies have shown that wound hematoma is more

common in open repair groups when compared with laparoscopic surgery groups.^{12,13}

CONCLUSION

Open repair for groin hernia found to be beneficial and advantageous as compared to laparoscopic hernia repair.

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