Surgical Outcomes Of Laparoscopic Totally Extraperitoneal Inguinal Hernia Repair Compared To Open Hernia Repair Performed by A Junior Surgeon

Warit Rungsrithananon MD, Panot Yimcharoen MD
Department of Surgery, Bhumibol Adulyadej Hospital, Bangkok, Thailand

BACKGROUND

Laparoscopic totally extraperitoneal (TEP) inguinal hernia repair is an effective minimally invasive method for treating hernias which has become popular worldwide. However, laparoscopic TEP repair has been shown to be relatively difficult, takes longer time to perform, and requires more advanced surgical techniques. Hence, many junior surgeons may choose to perform traditional open hernia repair. We aim to demonstrate the surgical outcome performed by a junior surgeon.

METHODS

A retrospective cohort study was performed on 65 patients who underwent hernia repair by a junior surgeon in a single institution between January 2023 and June 2024. We included only unilateral inguinal hernia operation. Recurrent surgery and emergency surgery were excluded. The operative outcomes of patients undergoing laparoscopic TEP repair (group A, n = 31) were compared to those undergoing open hernia repair (group B, n = 34). Baseline patient demographic characteristics were compared between groups. Self-gripping polypropylene mesh was placed in laparoscopic TEP repair compared to lightweight polypropylene with suture fixing in open hernia repair. Postoperative data included pain score at 24 hours by numeric rating scale, length of hospital stay, postoperative complication, surgical site complication, and recurrence were obtained in all patients.



Review of 71 unilateral hernia surgery records

6 records were excluded:
- 3 Emergency surgery
- 1 Recurrent surgery
- 2 Loss follow-up

65 Eligible records for the study

Group A
TEP repair = 31 (48%)

Group B
Open repair = 34 (52%)

PATIENT CHARACTERISTICS

	Group A	Group B	P value
Age	51 ± 22	64 ± 29	0.140
Gender			
Male	29 (94%)	33 (97 %)	0.446
Female	2 (6%)	1 (3 %)	
BMI (kg/m^2)	22.7 ± 11.3	24.5 ± 6.1	0.218
ASA Classification	2.18	2.74	0.062
Indirect hernia	24 (77%)	28 (82%)	0.392
Direct hernia	11 (35%)	7 (20%)	0.177
Operative time (min)	72 ± 33	55 ± 11	0.030
Operative blood loss (ml)	13 ± 17	16 ± 24	0.232
Conversion	0	0	-

RESULTS

Patients baseline characteristics were not different between groups except for age (51 ± 22 vs 64 ± 29, p = 0.140). The mean operative time for group A was significantly longer than group B (72 ± 33 min vs 55 ± 11 min; P = 0.030). A statistical difference between groups was observed in mean postoperative stay (1.1 ± 0.6 d vs 1.4 ± 1.1 d; P = 0.049) and pain score at 24hour (3.1 ± 2.4 vs 5.2 ± 2.1, P = 0.030). No recurrence was found in all patients after 3 months of follow up. One patient from group A suffered from pneumoscrotum which resolved spontaneously upon discharge. One patient from each group suffered from a mild case of hematoma.

POSTOPERATIVE OUTCOMES

	Group A	Group B	P value
Length of stay (days)	1.1 ± 0.6	1.4 ± 1.1	0.049
Pain score at 24 hour	3.1 ± 2.4	5.2 ± 2	0.030
Hematoma	1 (2.9 %)	1 (3.2%)	0.411
Pneumoscrotum	1 (2.9%)	0 (0%)	0.212
Visceral organ injury	0 (0%)	0 (0%)	-
Surgical site infection	0 (0%)	0 (0%)	-
Chronic pain	0 (0%)	0 (0%)	-
Recurrence	0 (0%)	0 (0%)	-

CONCLUSION

Surgical outcomes of laparoscopic TEP repair performed by a junior surgeon was non-inferior to the open technique. Although longer operative time may be encountered, we encourage junior surgeons to perform laparoscopic hernia repair as the minimally invasive approach provided benefits in terms of faster recovery and shorter hospital stay.