

Comparison of Lichtenstein method of hernioplasty and pre- peritoneal meshplasty in inguinal hernia

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Abstract

Background: The present study was conducted to compare Lichtenstein hernioplasty and pre- peritoneal mesh repair for inguinal hernia. **Materials & Methods:** 58 patients diagnosed with inguinal hernia were divided into 2 groups of 29 each. Group I patients were treated with preperitoneal mesh repair and group II patients with Lichtenstein hernioplasty. Parameters such as operating time, complications of each methods etc. was recorded.

Results: mean operating time (minutes) in group I was 38.6 and in group II was 45.3, BMI (Kg/m²) was 28.2 in group I and 27.4 in group II, ASA score was 1 in 13 and 14 patients, 2 in 12 and 13 patients and 3 in 4 patients and 2 patients in group I and II respectively. Complications were seroma in 2 and 3 in group I and group II, wound infection in 1 and 2 in group I and group II, Hydrocele in 1 in group I, testicular atrophy in 2 and 1 in group I and group II and numbness in 1 in group II. The difference was non- significant (P>0.05). **Conclusion:** Both methods were equally effective in the management of inguinal hernia.

Key words: Inguinal hernia, Mesh repair, Lichtenstein hernioplasty.

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Introduction

Inguinal hernia repair is one of the most common surgical procedures performed, and nearly 80 operative techniques have been described. Surgeons continue to search for the ideal repair method with the best outcome.[1] Because tension-free inguinal hernia repair has a low recurrence rate, parameters other than recurrence are becoming increasingly important to determine the effects of hernia repair (eg, postoperative inguinal pain and discomfort).[2]

With almost 20 millions groin repair each year, inguinal hernia is the most frequent procedure worldwide in general surgery.[3]

Although many different surgical techniques have been described, although European Hernia Society (EHS) guidelines promotes some procedures as “golden standard”, there is still no consensus as to the best choice. Mesh repair has reduced the incidence of recurrence to 2 – 5 %.The open preperitoneal approach

might benefit from putting a mesh in the preferred preperitoneal space free of the disadvantages of an endoscopic procedure.[4]

One of the most frequently used open techniques is the Lichtenstein hernioplasty. Nowadays, chronic pain is the main problem associated with the Lichtenstein procedure with a reported rate of 15% to 40%. The reason of the postoperative pain was complex, and the position of the mesh is probably 1 factor.[5] Furthermore, this anterior method needs extensive dissection of the inguinal wall and the fixation of the mesh. Despite skepticism about the anterior placement of the mesh, Lichtenstein was a safe, easy, and effective inguinal hernia method, with a recurrence rate as low as 12% in their hands.[6] The present study was conducted to compare Lichtenstein hernioplasty and pre- peritoneal mesh repair for inguinal hernia.

Materials and Methods

The present study was conducted in the department of general surgery. It comprised of 58 patients diagnosed with inguinal hernia of both genders. All were informed regarding the study and their consent was obtained.

Data such as name, age, gender etc. was recorded. Patients were divided into 2 groups of 29 each. Group I

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patients were treated with preperitoneal mesh repair and group II patients with Lichtenstein hernioplasty. All patients underwent routine blood investigations such as bleeding time, clotting time, ECG, viral

markers etc. before operating. Parameters such as operating time, complications of each methods etc. was recorded and subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table 1: Distribution of patients

Groups	Group I (29)	Group II (29)
Methods	Preperitoneal mesh repair	Lichtenstein hernioplasty
M:F	17:12	16:13

Table 1 shows that there were 17 males and 12 females in group I and 16 males and 13 females in group II.

Table 2: Assessment of parameters

Parameters	Group I	Group II	P value
Operating time (minutes)	38.6	45.3	0.07
BMI (Kg/m ²)	28.2	27.4	0.91
ASA score 1	13	14	0.92
2	12	13	
3	4	2	

Table 2, Fig.1 shows that mean operating time (minutes) in group I was 38.6 and in group II was 45.3, BMI (Kg/m²) was 28.2 in group I and 27.4 in group II, ASA score was 1 in 13 and 14 patients, 2 in 12 and 13 patients and 3 in 4 patients and 2 patients in group I and II respectively. The difference was non-significant (P>0.05).

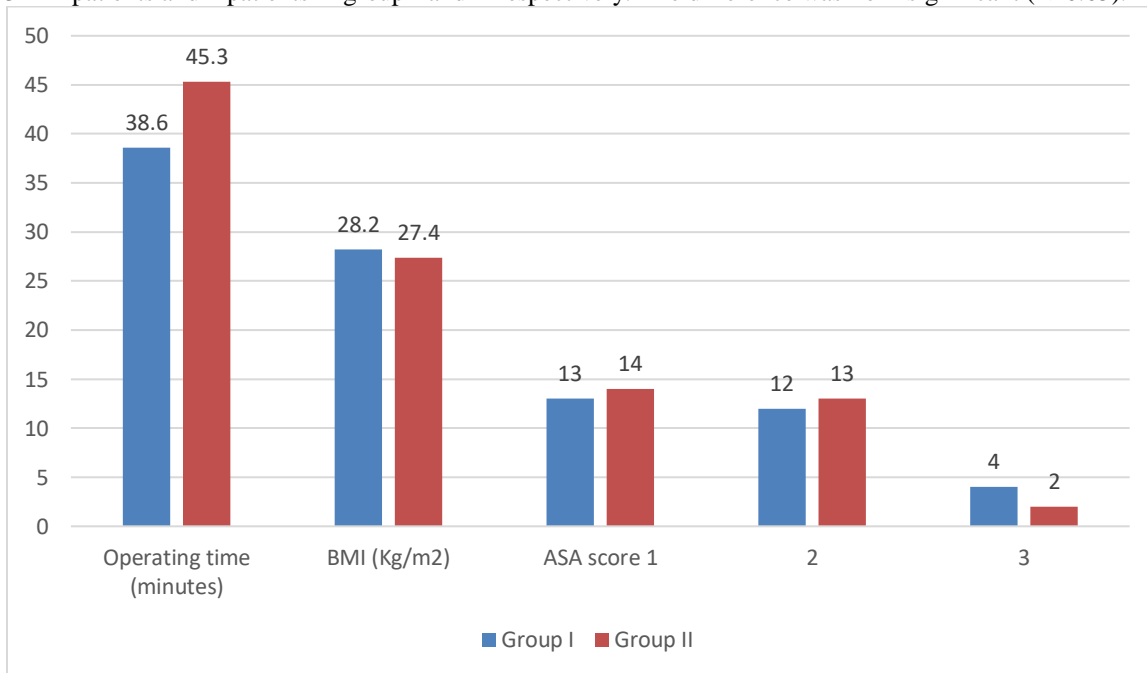


Fig. 1: Assessment of parameters

Table 2: Complications in both groups

Complications	Group I	Group II	P value
Seroma	2	3	0.12
Wound infection	1	2	0.25
Hydrocele	1	0	0.31
Testicular atrophy	2	1	0.25
Numbness	0	1	0.31

Table 3, Fig. 2 shows that complications were seroma in 2 and 3 in group I and group II, wound infection in 1 and 2 in group I and group II, Hydrocele in 1 in group I, testicular atrophy in 2 and 1 in group I and group II and numbness in 1 in group II. The difference was non-significant ($P>0.05$).

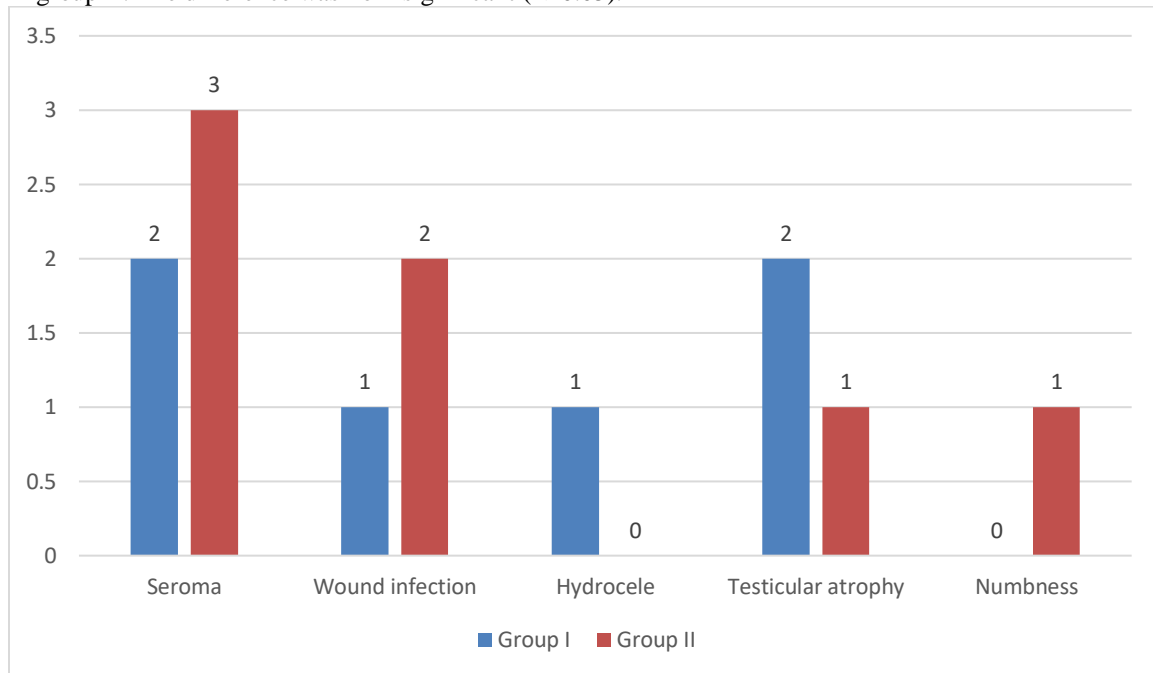


Fig. 2: Complications in both groups

Discussion

Surgeons continue to search for the ideal repair method with the best outcome.[7] Because tension-free inguinal hernia repair has a low recurrence rate, parameters other than recurrence are becoming increasingly important to determine the effects of hernia repair (eg, postoperative inguinal pain and discomfort).[8] Although the laparoscopic approach was reported to be associated with less pain, laparoscopic hernia repair is more expensive and has a longer learning curve and the need for general anesthesia; hence, most surgeons reserve this approach for specific indications and in specialized centers.[9] The present study was conducted to compare Lichtenstein hernioplasty and pre-peritoneal mesh repair for inguinal hernia.

In present study, group I patients were treated with preperitoneal mesh repair and group II patients with Lichtenstein hernioplasty. There were 17 males and 12 females in group I and 16 males and 13 females in group II. Li et al compared the outcomes of the open preperitoneal approaches and the Lichtenstein technique in the repair of inguinal hernias. A systematic literature review was undertaken to identify studies comparing the outcomes of open preperitoneal and Lichtenstein techniques in the repair of inguinal hernias. The present meta-analysis pooled the effects of

outcomes of a total of 2,860 patients enrolled into 10 randomized controlled trials and 2 comparative studies. The preperitoneal technique was associated with a lesser incidence of recurrence. However, statistically there was no difference in the incidence of chronic pain, hematoma, wound infection, testicular problem, urinary problem, numbness, inguinal parenthesis, and operative time.

We found that mean operating time (minutes) in group I was 38.6 and in group II was 45.3, BMI (Kg/m²) was 28.2 in group I and 27.4 in group II, ASA score was 1 in 13 and 14 patients, 2 in 12 and 13 patients and 3 in 4 patients and 2 patients in group I and II respectively.

Oprea et al in their study all the patients were randomized in two groups: LR and TIPP. Baseline characteristics, intraoperative findings, pain and complications were recorded[11]. Follow-up was at least 1 year. The main outcome after 1 year were recurrence, chronic pain and its intensity recorded on VAS scale. Results: 205 patients (101 in LR group and 104 in TIPP) were included in the study. There were no differences in baseline characteristics and operative findings. Postoperative pain was lower for TIPP group.

We found that complications were seroma in 2 and 3 in group I and group II, wound infection in 1 and 2 in group I and group II, Hydrocele in 1 in group I, testicular atrophy in 2 and 1 in group I and group II and

numbness in 1 in group II. Konig et al health status measured on SF – 36 showed significant better outcomes after TIPP for “physical function” and “physical pain” when compared with LR at 1 year follow-up. These differences are in line with reported significant differences in less patients with postoperative chronic pain after TIPP compared with Lichtenstein at 1 year but the study was not performed on patients with complex groin hernias[12].

Conclusion

Authors found that both methods were equally effective in the management of inguinal hernia.

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