

Original research article

COMPARISON OF LAPAROSCOPIC AND LICHTENSTEIN'S HERNIOPLASTY IN INGUINAL HERNIA REPAIR

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Abstract

A hernia is the atypical protrusion of an organ or adipose tissue.

The current study aimed to compare the outcomes of laparoscopic hernia repair with Lichtenstein's hernioplasty in the study population.

Keywords: Inguinal hernias, laparoscopic repair, Lichtenstein's

Introduction

A hernia is the anomalous protrusion of an organ or adipose tissue, such as the colon, through the wall of its usual anatomical chamber. Inguinal hernia repair is a frequently performed surgical operation on a global scale ^[1]. Hernia poses a significant burden on healthcare systems, regardless of the country, colour, or socioeconomic position of individuals. Surgical repair is the final treatment for all hernias, regardless of their origin or nature. Approximately 20 million hernia repairs are performed worldwide each year. The absence of agreement in the literature regarding the most effective repair approach or prosthetic mesh to ensure a lasting long-term outcome is also remarkable. The lifetime risk for males is 27% ^[2]. Inguinal hernias manifest as a protrusion in the groin area that recedes with slight pressure or when the patient assumes a supine position. The majority of cases result in mild to moderate discomfort that intensifies with physical exertion. Approximately one-third of patients who are scheduled for surgery do not experience any pain, and the occurrence of severe pain is infrequent, with only 1.5% experiencing pain at rest and 10.2% experiencing pain while activity. Inguinal hernias have a potential risk of becoming irreducible or incarcerated, leading to strangulation and obstruction. However, it is important to note that unlike femoral hernias, strangulation is uncommon ^[3]. Inguinal hernias can be categorised as either direct or indirect, depending on whether the hernia sac protrudes directly through the back wall of the inguinal canal (direct hernia) or travels through the internal inguinal ring alongside the spermatic cord, following the path of the inguinal canal ^[4]. The objective of this study was to compare the outcomes of laparoscopic hernia repair versus Lichtenstein's hernioplasty in the study population.

Materials and Methods

The current investigation was carried out at the General Surgery department, involving a total of 46 patients with hernias of both sexes. Everyone was notified about the study. Prior to the investigation, the institute sought ethical approval. Basic demographic data, including name, age and gender, was documented. The patients were segregated into two groups, each consisting of 23 individuals. those in Group I underwent laparoscopic surgery, while those in Group II underwent open Lichtenstein's repair. Operating time and pain score were compared in both groups. The received results were analysed using statistical methods. A significance level of 0.05 was used to determine statistical significance.

Results

Table 1: Sex ratio

Male	Female
30	16

Table 2: Prevalence

Total	Mean age	Std deviation
46	46.76 years	3.41 years

Table 3: Comparison

Total-46		
Groups	Group I	Group II
Procedure	Laparoscopic repair	Open Lichtenstein's repair
Number	23	23

Table 4: Comparison of parameters

Parameters (Mean)	Group I	Group II	P value
Operating time	90.2 mins	62.4 mins	0.01
Pain score	2.1	3.7	0.02
Follow up days	18.2	20.4	0.62

Discussion

Inguinal hernias frequently necessitate surgical intervention and are a prevalent cause for primary care patients to be referred. The historical and physical assessment typically provide adequate information to establish the diagnosis. Patients exhibiting symptoms frequently experience intense groin ache. Inguinal hernias can result in a sense of burning, gurgling, or aching in the groin area. Additionally, individuals may

have a feeling of heaviness or dragging, which tends to intensify later in the day and after extended physical exertion. The presence of an abdominal bulge may resolve when the patient assumes a prone position ^[5].

Research has indicated that laparoscopic hernia repair offers advantages such as decreased pain, reduced discomfort, shorter hospitalisation, and quicker return to regular daily activities. However, this procedure is not widely performed due to the requirement for general anaesthesia and the lengthy learning process ^[6]. A comprehensive study of randomised clinical trials has determined that laparoscopic surgery for hernia, as compared to open repair, results in longer operation durations but less intense postoperative discomfort, fewer complications, and a quicker resumption of regular activities. During the initial phase of acquiring laparoscopic surgical skills, there is a higher likelihood of recurrence. However, when evaluated by questionnaires up to a five-year period, laparoscopic surgery results in reduced instances of persistent pain and numbness. The duration of the task in group A was 35 minutes, however in group B it was 43.5 minutes, which is significantly longer. In group A, the pain score was much lower, with 75% of patients reporting a score of 1-2 (indicating mild pain), and 3 patients experiencing discomforting pain. This difference was statistically significant with a p-value of less than 0.05.

The average duration of operations in group I was 90.2 minutes, while in group II it was 62.4 minutes. The pain score was 2.1 in group I and 3.7 in group II. The follow-up period lasted for 18.2 days in group I and 20.4 days in group II. The prevalence of associated illnesses in group I included 2 cases of diabetes mellitus, 3 cases of ischemic heart disease (IHD), and 5 cases of hypertension. In group II, there were 3 cases of diabetes mellitus, 5 cases of IHD, and 6 cases of hypertension. The symptoms of an inguinal hernia might manifest gradually or rapidly, particularly in cases of incarceration where the contents of the hernia sac cannot be repositioned back into the abdominal cavity. Inguinal hernias might be without symptoms and discovered by chance during a routine physical examination. Patients experiencing symptoms frequently exhibit intense groin discomfort ^[9]. The hernia defect can cause the tissue in the surrounding area to stretch or rip, resulting in a sensation of burning, gurgling, or aching in the groin. Typically, this results in localised pain specifically at the hernia site. Discomfort may intensify when performing Valsalva manoeuvres. Patients may encounter a pronounced or lingering feeling of weight or pulling in the groin area, particularly as the day progresses and following extended periods of physical exertion ^[11]. Activities that elevate intra-abdominal pressure, such as coughing, lifting, or straining, result in a greater amount of abdominal contents being forced through the hernia defect ^[10].

Conclusion

Inguinal hernias can be treated via laparoscopic repair or open Lichtenstein's repair. Nevertheless, laparoscopic repair demonstrates superior results in terms of pain assessment.

References

1. Mahesh GS. Laparoscopic Versus Open Mesh Repair for Inguinal Hernia. Indian Journal of Research. 2015;11:104-6.
2. Bobo Z, Nan W, Qin Q, Tao W, Jianguo L, Xianli H. Meta-analysis of randomized controlled trials comparing Lichtenstein and totally extraperitoneal laparoscopic hernioplasty in treatment of inguinal hernias. J Surg Res. 2014;192(2):409-20.
3. Pisanu A, Podda M, Saba A, Porceddu G, Uccheddu A. Meta-analysis and review of prospective randomized trials comparing laparoscopic and Lichtenstein techniques in recurrent inguinal hernia repair. Hernia. 2015;19(3):355-66.
4. Smink DS, Paquette IM, Finlayson SR. Utilization of laparoscopic and open inguinal hernia repair: a population- based analysis. J Laparoendoscopic Adv. Surg Tech. 2009;19(6):745-8.
5. Bittner R, Schmedt CG, Schwarz J, Kraft K, Leibl BJ. Laparoscopic transperitoneal procedure for routine repair of groin hernia. Br J Surg. 2002;89(8):1062.
6. McIntosh E. Cost-utility analysis of open versus laparoscopic groin hernia repair: results from a multicentre randomized clinical trial. Br J Surg. 2001;88(5):653-61.
7. Fitzgibbons RJ, Giobbie-Hurder A, Gibbs JO, Dunlop DD, Reda DJ, McCarthy M Jr, *et al.* Watchful waiting vs repair of inguinal hernia in minimally symptomatic men: a randomised clinical trial. JAMA. 2006;295:285-92.
8. Murthy PK, Ravalia D. Assessment and comparison of laparoscopic hernia repair versus open hernia: a non- randomized study. Int Surg J. 2018;5:1021-5.
9. Bisgaard T, Bay-Nielsen M, Christensen IJ, Kehlet H. Risk of recurrence 5 years or more after primary Lichtenstein mesh and sutured inguinal hernia repair. Br J Surg. 2007;94:1038-40.
10. Hernia EU. Trialists Collaboration. Laparoscopic compared with open methods of groin hernia repair: systematic review of randomized controlled trials. Br J Surg. 2000;37:860-7.