Original Article

Assessment Of Comparison Of Lichtenstein Technique With Rutkow-Robbins And Gilbert Double Layer Techniques In Inguinal Hernia Repair

Dr Sagar D Choudhari[1], Dr H B Janugade[2], Dr Nitin Nangare[3]

[1]3rd year Resident, Professor, Department of General Surgery, KIMS, Karad, Maharashtra, India
[2,]Professor, Department of General Surgery, KIMS, Karad, Maharashtra, India
[3]Professor, Department of General Surgery, KIMS, Karad, Maharashtra, India

***Corresponding author:** Dr Sagar D Choudhari,

*3rd year Resident, Department of General Surgery, KIMS, Karad, Maharashtra, India Email: dr.sagarchoudhari2@gmail.com
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Abstract

Background: A hernia is an abnormal protrusion of a viscus or a part of it, through the wall that contains it but without a breach in the body surface. The present study was conducted to compare lichtenstein technique with Rutkow–Robbins and Gilbert double layer techniques in inguinal hernia repair.

Materials & Methods: 45 cases of inguinal hernia of both genderswere divided into 3 groups of 15 each. Group I patients were managed with Rutkow-Robbins Repair, group II with Gilbert double repair and group III with Lichtenstein operation. Parameters such as side, anaesthesia used during operation, operation time, hospital time, return to work, recurrence and complications etc. were recorded.

Results: Group I had 8 males and 7 females, group II had 9 males and 6 females and group III had 5 males and 10 females. Right side was involved in 6 in group I, 10 in group II and 7 in group III and left side in 9 in group I, 5 in group II and 8 in group III. Anaesthesia used was GA in 2, 4 and 3, LA in 3, 2 and 4 and SA in 10, 9 and 8 in group I, II and III respectively. The mean operative time was 53.2 minutes, 60.4 minutes and 52,9 minutes, hospitalization time was 2.7, 2.3 and 2.1 and return to work was 25.6 days, 24.1days and 23.8 days in group I, II and III respectively. The difference was significant ($P< 0.05$). Early complications were seen in 2, 3 and 5 and late in 3, 4 and 3 in group I, II and III respectively. The difference was non- significant ($P> 0.05$).

Conclusion: Among Rutkow–Robbins, Gilbert double layer techniques and Lichtenstein technique of inguinal hernia repairs, Lichtenstein technique found to be the most useful method in terms of short operative time and hospitalization time.

Key Words: Rutkow–Robbins,Gilbert double layer techniques, inguinal hernia repairs

INTRODUCTION

A hernia is defined as an abnormal protrusion of a viscus or a part of it, through the wall that contains it but without a breach in the body surface.[1]As people get older, hernia incidence, strangulation frequency, and length of hospital stay exhibit rises. While the underlying etiology has not been understood yet, processus vaginalis patency, genetic inheritance, and erect posture are held responsible for its development.[2]

Inguinal hernias present with a lump in the groin that goes away with minimal pressure or when the patient is lying down. Most cause mild to moderate discomfort that increases with activity. A third of patients scheduled for surgery have no pain, and severe pain is uncommon (1.5% at rest and 10.2% on movement).[3]Inguinal hernias are at risk of irreducibility or incarceration, which may result in strangulation and obstruction; however, unlike with femoral hernias, strangulation is rare.[4]

Currently, hernia is treated with surgery. Hernia surgeries comprise 10–15 % of all general surgery procedures. In terms of recurrence and complication rates, tension-free repairs are the most commonly preferred operative techniques.[5] Lichtenstein method and it's modifications such as Gilbert and Rutkow–Robbins are known to be tension-free anterior approaches which have been found to produce considerably low recurrence and complication rates.Moreover, the fact that those operations can also be performed under local anesthesia instead of general or spinal anesthesia provides yet another advantage.[6]The present study was conducted to compare lichtenstein technique with Rutkow–Robbins and Gilbert double layer techniques in inguinal hernia repair.

MATERIALS & METHODS

The present study comprised of 45 cases of inguinal hernia of both genders. All gave their written consent for the participation in the study.

Data such as name, age, gender etc. was recorded. Patients were divided into 3 groups of 15 each. Group I patients were managed with Rutkow-Robbins Repair, group II with Gilbert double repair and group III with Lichtenstein operation. Parameters such as side, anaesthesia used during operation, operation time, hospital time, return to work, recurrence and complications etc. were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II	Group III
Method	Rutkow-Robbins Repair	Gilbert double repair	Lichtenstein operation
M:F	8:7	9:6	5:10

Table I shows that group I had 8 males and 7 females, group II had 9 males and 6 females and group III had 5 males and 10 females.

Table II Assessment of parameters

Parameters	Variables	Group I	Group II	Group III	P value
Side	Right	6	10	7	0.94
	Left	9	5	8	
Anaesthesia used	GA	2	4	3	0.01
	LA	3	2	4	
	SA	10	9	8	
Operative time (mean)		53.2	60.4	52.9	0.81
Hospitalization time (days)		2.7	2.3	2.1	0.94
Return to work (days)		25.6	24.1	23.8	0.97

Table II, graph I shows that right side was involved in 6 in group I, 10 in group II and 7 in group III and left side in 9 in group I, 5 in group II and 8 in group III. Anaesthesia used was GA in 2, 4 and 3, LA in 3, 2 and 4 and SA in 10, 9 and 8 in group I, II and III respectively. The mean operative time was 53.2 minutes, 60.4 minutes and 52,9 minutes, hospitalization time was 2.7, 2.3 and 2.1 and return to work was 25.6 days, 24.1days and 23.8 days in group I, II and III respectively. The difference was significant (P< 0.05).

Graph I Assessment of parameters

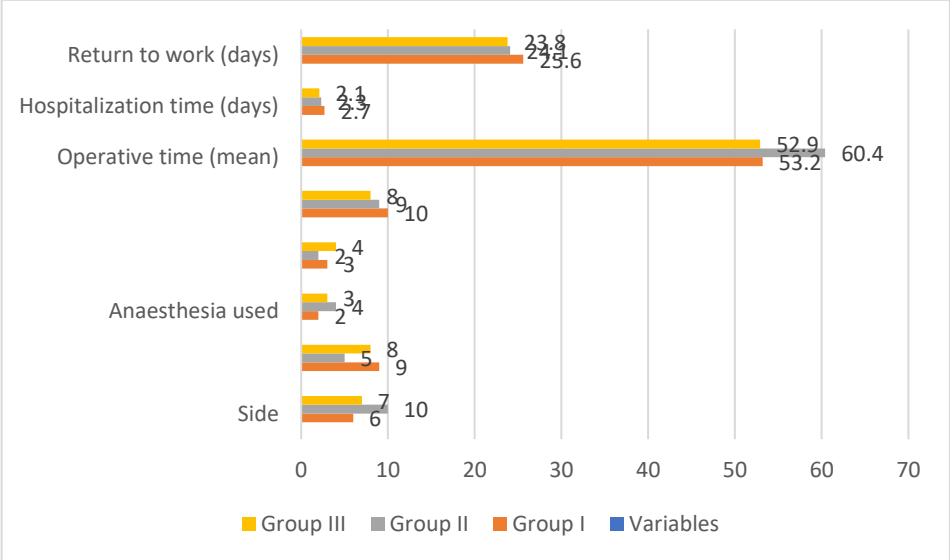

Table III Post operative systemic complication

Complication	Group I	Group II	Group III	P value
Early	2	3	5	0.74
Late	3	4	3	

Table III shows that early complications were seen in 2, 3 and 5 and late in 3, 4 and 3 in group I, II and III respectively. The difference was non- significant (P> 0.05).

DISCUSSION

Inguinal hernias are often classified as direct or indirect, depending on whether the hernia sac bulges directly through the posterior wall of the inguinal canal (direct hernia) or passes through the internal inguinal ring alongside the spermatic cord, following the coursing of the inguinal canal (indirect hernia).[7] However, there is no clinical merit in trying to differentiate between direct or indirect hernias.[8]The present study was conducted to compare Lichtenstein technique with Rutkow–Robbins and Gilbert double layer techniques in inguinal hernia repair.

We found that group I had 8 males and 7 females, group II had 9 males and 6 females and group III had 5 males and 10 females.A recent, Swedish, multicentre trial randomised patients to receive local infiltration anaesthesia, regional anaesthesia, or general anaesthesia for repair of inguinal hernia in non-specialist centres. The trial found a significant advantage with local infiltration anaesthesia, which was associated with a shorter hospital stay, less severe postoperative pain, and fewer micturition difficulties.[9]

We observed that right side was involved in 6 in group I, 10 in group II and 7 in group III and left side in 9 in group I, 5 in group II and 8 in group III. Anaesthesia used was GA in 2, 4 and 3, LA in 3, 2 and 4 and SA in 10, 9 and 8 in group I, II and III respectively. Mishra et al[10]compared the Lichtenstein technique with Rutkow–Robbins and Gilbert double layer techniques in inguinal hernia repair. In this study, out of total 95 patients, 60 (63.1%) patients were having right indirect inguinal hernia, 30 (31.6%) patients were having left indirect inguinal hernias and 10 (10.5%) patients were having bilateral inguinal hernias. It is clearly shown that there is much higher incidence of right sided indirect inguinal hernias as compared to the left sided indirect inguinal hernias and bilateral inguinal hernias.

We found that the mean operative time was 53.2 minutes, 60.4 minutes and 52,9 minutes, hospitalization time was 2.7, 2.3 and 2.1 and return to work was 25.6 days, 24.1days and 23.8 days in group I, II and III respectively. We found that early complications were seen in 2, 3 and 5 and late in 3, 4 and 3 in group I, II and III respectively. KaracaA et al[11]in their study one-hundred and fifty patients diagnosed with inguinal hernia were randomly split into three groups. The comparisons across groups were carried out in terms of operation length, postoperative pain, femoral vein flow velocity, early and late complications, recurrence rates, length of hospital stay, time required to return to work, and cost analysis. No difference was found between the groups regarding age, gender, type and classification of hernia, postoperative pain, and late complications. Operation length was 53.70 ± 12.32 min in the Lichtenstein group, 44.29 ± 12.37 min in the Rutkow–Robbins group, and 45.21 ± 14.36 min in the Gilbert group ($p < 0.05$). Mean preoperative and postoperative femoral vein flow velocity values were 13.88 ± 2.237 and 13.42 ± 2.239 cm/s for Lichtenstein group, 12.64 ± 2.98 and 12.16 ± 2.736 cm/s for Rutkow–Robbins group, and 16.02 ± 3.19 and 15.52 ± 3.358 cm/s for the Gilbert group, respectively. Statistical difference was found between all the groups ($p < 0.001$). However, no difference was determined between the groups regarding the decrease rates ($p = 0.977$). Among early complications, hematoma was observed in one (2 %) patient of Lichtenstein group, five (10 %) patients of Rutkow–Robbins group, and three (6 %) patients of Gilbert group ($p = 0.033$).

C. S. Huang et al[12] conducted a study and compared the patients treated with Prolene and plug in which the hospital stay was found to be $1.31 + 1.00$ days for Prolene patients and 1.45 ± 1.43 for plug patients.

The limitation the study is small sample size.

CONCLUSION

Authors found that among Rutkow–Robbins, Gilbert double layer techniques and Lichtenstein technique of inguinal hernia repairs, Lichtenstein technique found to be the most useful method in terms of short operative time and hospitalization time.

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