

## Study of Laparoscopic Groin Herneal Repair



### Medical Science

**KEYWORDS :** laparoscopic groin herneal repair, Trans abdominal preperitoneal Repair, Total extraperitoneal herneal repair

**Dr. Busineni Moksha prasuna**

Assistant professor in Department general surgery Upgraded Department of general surgery Osmania medical college Hyderabad

**Dr .Ravi mohan**

Assistant professor of surgical gastro Osmania medical college Hyderabad

**Dr. Y. Indira**

Associate professor Department of physiology RIMS kadapa

### ABSTRACT

*The present study Laparoscopic Groin Herneal Repair to determine duration of procedure, morbidity in terms of Complications, duration of hospital stay, early return to work and recurrence with special reference to its surgical management.*

*The aim of the study is to find out Merits and Demerits of Laparoscopic Groin Herneal Repair.*

*Prospective study of management of groin hernias by Laparoscopic surgery either TEP or TAPP in Osmania Medical College in Hyderabad.*

*Total number of subjects are 17 in numbers, who came to Osmania General Hospital for inguinal herneal repair either direct or indirect, bilateral or unilateral, either complicated or uncomplicated.*

*Two types of laparoscopic surgeries done (1) Trans abdominal preperitoneal repair; (2) Total extraperitoneal herneal repair depending upon surgeon's choice.*

### Introduction

Laparoscopic inguinal herniorrhaphy was first described by Ger in 1982. Proponents of this technique have claimed several advantages over open repair . Less postoperative discomfort or pain; reduced recovery time and earlier return to full activity; easier repair of a recurrent and bilateral hernia, fewer wound complications, and improved cosmesis.

A Cochrane review in 2003 showed recurrence rates for laparoscopic and open repair to be equivalent. It also concluded that laparoscopic techniques were associated with longer operating times (about 15 minutes longer), and a lower incidence of haematomas, wound infection and persisting pain and numbness. However, there was a higher incidence of seromas, vascular injuries and visceral injuries (predominantly bladder, but also stomach, small bowel and postoperative bowel obstruction). Patients undergoing laparoscopic repair were found to have a faster return to usual activities (by about 7 days).

It is not universally accepted that these advantages have been achieved, and concerns remain about increased expense, the need for a general anaesthetic and the risk of organ damage in the transabdominal pre-peritoneal (TAP) approach. The purpose of this study was to evaluate laparoscopic herniorrhaphy in a large private practice healthcare setting. The primary outcome was hernia recurrence. Complications and chronic pain were secondary measures. To our knowledge, this is the first audit of laparoscopic hernia performed in this country.

The etiology of hernia is multifactorial. It is assumed that three main factors are involved.

1. Presence of preformed sac
2. Increased intra abdominal pressure
3. Weakening of the body musculature

The original repair developed by Bassini during the 1880 emphasized the importance of the reconstitution of the transversalis fascial layer of the posterior wall of the inguinal canal. Often, the repair was performed too superficially and failed to repair the transversalis fascia, the sutures merely opposing the muscle fibres of internal oblique to the inguinal ligament. Tension was recognized as a potential problem when a true transversalis fascia repair was performed. The vertical release of the anterior rectus sheath, the Tanner slide , was a useful later .

Trans abdominal preperitoneal hernioplasty

The TAPP procedure represents an amalgamation of the principles of conventional preperitoneal repair and minimally invasive surgery. The preperitoneal mesh uses the forces available within the abdomen to keep the mesh sandwiched between the layers of the abdomen.

The TAPP approach can be performed in almost all types of inguino-femoral hernia.

Direct, Indirect ,Bilateral, Recurrent Femoral hernia

### Material and Methods

This prospective study was carried out on in-patients who had undergone .

laparoscopic groin herneal repair at Osmania General Hospital between 01.06.2007 to 01.11.2008. Total number of subjects are 17 in numbers, who came to Osmania General Hospital for inguinal herneal repair either direct or indirect, bilateral or unilateral, either complicated or uncomplicated.

Two types of laparoscopic surgeries done (1) Trans abdominal preperitoneal repair; (2) Total extraperitoneal herneal repair depending upon surgeon's choice.

The discussion is mainly based on analysis and the observations made with regards to duration of surgery, hospital stay, post-operative complications, and return to normal" activity. With our special interest we also carried out age incidence, associated diseases, side of hernia. All the cases were analysed and the result was charted.

### RESULTS

**Table-1**  
**comparison of type of hernia with mayo clinic series**

Type of Hernia	Personal Series	Mayo Clinic Series
Direct	23.52%	21.8%
Indirect	64.70%	61.8%
Both	11.77%	10.4%

**Table -2**  
**Duration of hospital stay after surgery**

Total No. of Cases	Total Duration of Hospital Stay after surgery	Mean Duration of Hospital stay after surgery is
17	72 days	4.24 days

In this study, Mean Duration of Hospital stay after surgery is 4.24 days

**Table – 3**  
**comparison of duration of surgery between unilateral and bilateral repair**

Repair Patients Surgery	No of patients	Mean duration of surgery
Unilateral	15	93.33
Bilateral	02	130.00

In this study, the Mean Duration of Surgery between Unilateral and Bilateral shows some significant difference

**Age incidence:**

**Table-4**

Age in years	No of patients	% of age group
21-30	05	35.30%
31-40	02	11.76%
41-50	09	47.06%
51-60	01	05.88%

The age group ranging from 21 to 59 years was noted in this study. The

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peak age incidence is between 41-50 years, consisting of 47.06%. Among other age groups, 35.30% are between 20-30 years, 11.76% are between 31-40 years, 5.88% are between 51-60 years.

**DISCUSSION**

Now the increasing number of inguinal hernia repair is approached laparoscopically. The initial enthusiasm for the laparoscopic approach however was tampered by reports of complications and recurrences. This enthusiasm once again justified as multiple hernia centers and practicing general surgeons around the world have reported extremely low recurrence and post operative complications.

This prospective study is set to determine the duration of hospital stay after surgery, early return to work and less post-operative complications. In our study, the duration of surgery is more in early cases, later it was reduced by experience.

The average operation time appears to be a good measure of experience. In our study, the average operation time is 108.82 Minutes. Feliu-pala et al compared the length of operation against surgical experience, they found in-experienced surgeon took 70 minutes while experienced surgeons only took 40 minutes an average. Stoker et al and Liem et al have shown the operative time correlate inversely with experience.

In today's condition, the length of hospital stay and return to work are of great importance not only economically and socially also. Treating the inguinal hernia as an out patient, is the present day trend in western countries. Thus has been an initiative to increase the number of inguinal hernia repairs done in day surgery to save the hospital bed cost. In our study, the mean hospital stay is 4.24 days. A study of Menon et al found there was a mean reduction in hospital stay of 3.43 hours when performed laparoscopically. Consequently money is saved and bed is freed.

Rehabilitation after hernia repair is relatively lengthy process and any factor that can reduce this will be of great usefulness to patients and their dependents. Early ambulation is advisable as in any other surgery which avoid post operative complications. In our study, the time of return to work and resumption of normal activities is an average of 9.88 days. A study by Liem et al shows that, the patients who had Laparoscopic Herniorrhaphy return to normal activities soon, it mean 6 days. Another study by Khoury? showed mean time of return to work is 4 8 days, another study Wellwood et al reported 17 days. Another study Taphiphat et al reported mean time of return to work is 8 days.

Different group shows different months of follow-up. In our study, the follow-up is 12 months. A recent study of patients undergoing both open and laparoscopic hernia repairs has suggested that up to 5% of patients surveyed felt that they were worse off after the hernia repair. The complication rate reported for laparoscopic hernia repair ranges from less than 3% to as high as 20%. The large variation is due to expertise of surgeon. In our study, the complication rate is 23.52%. Regarding post operative pain, in our study no patient complaining of significant postoperative pain or chronic pain after surgery. This post-operative pain was assed by using various pain measurement scales including quantification of consumption of analgesics. The study of Neumayer et al found that complications peri operatively were 2.6 times more with laparoscopic hernia. But, post-operative pain, wound infection and recovery time is less. A study of Kozol et al regarding post-operative pain using two standardized pain scales and cumulative dosage of analgesics showing post-operative pain is significantly less with laparoscopic surgery. In our study, one case shows post-operative seroma. That mean 5.88%. It is spontaneously absorbed after 5 weeks. Edward L Felix]8 study shows 10% patients showing fluid collection after laparoscopic hernioplasty. In our study, I case shows urinary retention after surgery. In this case, urine drained by Foley's Catheter. Recurrence is often the end point in the evaluation of given hernia repair.

The incidence of recurrent hernia varies, there is no generally accepted time period for its measurement and recurrence was defined. The early group of recurrence is mainly by failure on the part of surgeon or by infection. In a study of Felix et al showing 0.4% developed recurrence. It is due to inadequate lateral fixation, too small mesh, missed lipoma of cord. Phillips et al considered the technical factor contributing to recurrence is use of mesh that was too small. Tetik et al showing the recurrence rate is 0.4% to 0.7%. In our study, 5.88% showing recurrence. Leibell et al study shows 0.9% recurrence noticed after 2 years. In our study, there is no significant relation between C.O.P.D. and recurrence, but B.P.H. associated recurrence noticed. In our study, all repairs done under general anesthesia.

**CONCLUSION**

In the present series, 17 cases of inguinal hernia was studied and analyzed.

The following conclusions were made:

It commonly seen in males, peak incidence is in between 41-50 years.

Hernia is more common in right side.

Indirect hernia more common than direct hernia.

Patient with associated conditions like B.P.H. should treat before going to definitive surgery.

Bilateral inguinal hernias are an ideal indication for laparoscopic repair.

We can do repair of both at a time.

Time taken for surgery improves with experience of surgeon.

The hospital stay is less with laparoscopic repair.

Post-operative complications like post-operative pain, wound infection and usage of analgesics and antibiotic requirement also less.

Patient ability to return to normal activity is early.

Better Cosmetic

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