

## 124 Tep (Total Extraperitoneal Repair) Hernia Repair – Short Stay Surgery

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### Abstract:

**Aim:** The purpose of this study is to present our experience of total extraperitoneal inguinal hernia repair and to know the feasibility of short course hospital stay

**Method:** Between November 2013 to November 2016 over a period of three years, 100 consecutive patients who underwent TEP at Department of surgery, Max Super speciality Hospital, Gurgaon were prospectively reviewed. Data on patient's demographics, post operative recovery, complication and results were collected.

**Result:** The mean operative time for unilateral hernia was 50 minutes while it took 75 minutes for bilateral repair. Mean age of patients was 47 years ranging from 31 to 76 years, 75% patients had unilateral hernia while 6% had secondary hernia. Most of the patient discharged after overnight stay with mean hospital stay of 1+0.5 days, recurrence in our series was less than 2 %.

**Conclusion:** The total extraperitoneal laparoscopic inguinal hernia repair is a safe and effective procedure with low morbidity, good cosmesis, less post operative pain, early return to normal activity and low recurrence

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### I. Introduction

Inguinal hernia has been disease ever since mankind existed. Many great surgeons like Bassine, Shouldice and Liechtenstein played their role for the development of hernia repair surgery and get maximum popularity. [1]. For a long time hernia was being repaired by open technique but there was no effective method to prevent recurrence. Liechtenstein Tension Free Mesh Hernioplasty revolutionised the field of hernia surgery. [2]. The laparoscopic approach for inguinal hernia was first reported by Ger [3]. Laparoscopic enthusiast described three form of laparoscopic repair – TEP (Totally Extraperitoneal), TAPP (Transabdominal Preperitoneal) repair, IPOM (Intraperitoneal Only Mesh Repair)[4,2,5]. Laparoscopic hernia repairs now recommended as method of choice for bilateral and recurrent inguinal hernia [6]. A number of studies claimed the superiority of laparoscopic surgery over open repair in terms of post operative pain, earlier return to normal activity, less recurrence rate and less post operative paraesthesia [7,8,9].

In 1993 Mc Keron and Law first described TEP [10]. TEP is gaining popularity and accepted globally [11,12]. It has advantages that it does not breach peritoneal cavity and reduces the rate of visceral injury, post op illus, has a shorter recovery period, early return to work and less chance of port site hernia. [13,14]

TEP gives comparable results to other form of laparoscopic repair and for these reason it has become the preferred technique of laparoscopic repair of inguinal hernia.

### II. Material And Method

Between November 2013 to November 2016 over a period of three years, 100 consecutive patients who underwent TEP at Department of surgery, Max Super speciality Hospital, Gurgaon were prospectively reviewed. Data on patient's demographics, post operative recovery, complication and results were collected.

After taking the informed consent they were included in the study. Routine pre operative investigations were done for anaesthesia fitness. All repairs were done under general anaesthesia.

### III. Procedure

1 cm infraumbilical incision was made, Rectus sheath was identified, vertical incision was made over the ipsilateral rectus sheath. Rectus muscle was retracted laterly and the space between rectus muscle and posterior rectus sheath was enlarged with a gauge piece for insertion of 10 mm port cannula. After insufflations with carbon dioxide, the telescope was introduced through 10 mm port and a space was created in the mid line for the access to the pubic ramus. Dissection in the pre peritoneal space done under vision by blunt and sharp method. The first step was to identify the key anatomical landmark such as the pubic bone, cooper's ligament, spermatic cord, inferior epigastric vessels (IEV) and type of hernia (Direct hernia medial to IEV and Indirect Hernia Lateral to IEV). The next step was to reduce the hernia sac from inguinal wall. After complete and meticulous dissection the operative site assessed. The deep ring visualised with only the cord structures traversing its opening into the inguinal canal.

In the final step a 10x15 cm Polypropylene mesh was inserted in the pre peritoneal space through the 10mm port. The mesh was placed horizontally, covering the inguinal wall from mid line of the pubis to lateral wall of deep inguinal ring. The mesh was then anchored with laparoscopic tacks (Protack, Autosuture) to cooper's ligament to prevent any mesh migration. Tacking was avoided near the iliac vessels or laterally near the Ileoypogastric nerve, Genitofemoral nerve. In case of bilateral hernia two separate pieces of mesh were placed and fixed. At the conclusion port site wound were closed.

**Table : 1 - patients characteristics :**

No. Of Patients	100
No Of Hernias	124
Mean Age Range In Years	47 ( 31 -76)
Male	95 (95%)
Female	5 (5%)
Type Of Hernia	
U/L Hernia	
Right Sided Hernia	76 (76%)
Left Sided Hernia	50
B/L Hernia	26
Mean Hospital Stay (Days)	24 (24%)
Primary Hernia	1.5 (0.5 - 4)
Secondary Hernia	94 (94%)
	6 (6%)

**Table 2: post operative complications :**

COMPLICATION	INCIDENCE (PERCENTAGE)
Severe post operative pain	6
Paraesthesia	2
Seroma	7
Hematoma	3
Urinary retention	10
Recurrence	2

#### IV. Result

A total of 124 elective hernia repair were performed over 100 patients during a period of 3 years from November 2013 to November 2016. Out of 100 patients maximum were male 95 (95%) with mean age of 47 years ranging from 31 to 76 years. 76 patient had unilateral hernia while 24 had bilateral hernia. Right sided hernia were present in 50 patients while 26 had left sided hernia. 94% had Primary inguinal hernia while 6% underwent previous inguinal hernia surgery and presented as secondary hernia. Operative time for unilateral hernia was 50 minutes while for bilateral hernia repair it took 75 minutes. Post operatively seroma seen in 7 patient, out of these 5 had large indirect hernia, all these resolved spontaneously within 5 week. 10 (10%) patient developed acute retention, two patient developed transient paraesthesia in lateral cutaneous nerve region. Six patient developed sever post operative pain needs multiple analgesics injection. In our series one patient had B/L hernia recurrence, managed by open repair

#### V. Discussion

Accounting for 75% of all abdominal wall hernias with life time risk of 27 % in men and 3% in women, inguinal hernia repair is one of the most commonly performed surgeries in the world. [15] Laparoscopic repair of inguinal hernia is a recent advancement, although less conventional, but gaining world wide popularity as these are alternative to open and feasible techniques [16]. When compared to open surgery laparoscopic results in less wound complications, less post operative pain, reduced analgesic requirement, faster resumption of normal activities [17]. Laparoscopic approach is especially useful in patient with bilateral hernia, where repair can be accomplished through the same wound and to those with recurrent hernia from previous open repair where no adhesion are encountered in extra peritoneal repair. TEP repair had a clear advantage for both bilateral hernia and recurrent hernia. The morbidity related to hernia surgery has markedly reduced as it is evident from various studies [18]. The incidence of neuralgia is reported between 0.5 to 4.6% depending on technique of repair. The commonly involved nerve are lateral cutaneous nerve of thigh, genitofemoral nerve of thigh. They are usually involved by mesh induced fibrosis or entrapment by tack. Neuralgia can be prevented by avoiding fixing the mesh lateral to deep inguinal ring in the region of the triagle of pain, safe dissection of a large hernial sac and no dissection of fascia over psoas Seroma is a common complication after laparoscopic hernia repair. Seroma is specially seen after large indirect hernia repair. Most of the seroma resolve spontaneously over 4-6 weeks. Seroma can be avoided by minimizing dissection of hernia sac from cord structure, fixing the direct sac to pubic bone and fenestrating the transversalis fascia The very low recurrence rate of 1.34% shows that in experienced hands the TEP is procedure of choice with additional advantages of recurrent and bilateral hernia [19]. One of the most common reason for recurrence is incomplete dissection of preperitoneal space and inadequate overlap of hernia defect by placement of small mesh [20,21]. Laparoscopic approach significantly reduces the long term morbidity of permanent paraesthesia or groin pain compared to open surgery (5% Vs 33%) in a recent trial of 400 patients. [22]. A steep learning curve in laparoscopic hernia repair is making its uptake low despite known benefit over open hernia repair. Steep learning curve is one reason why most general surgeon still favours open hernia surgery. Steep learning curve is attributed to technical difficulties of hernia repair such as (1) Difficult to operate in a confined extra peritoneal space, (2) anatomy of inguinal region has to be learned from laparoscopic view point. [23,24,25]. Laparoscopic repair has generally been reported to result in fewer problem than open hernioplasty but nearly 1/5th of patients still described a new type of groin pain [26]. Novalk et al reported significant less post operative chronic pain for the patients whose mesh was fixed with glue compared with those who had mesh fixation with staple tacks [27].

#### VI. Conclusion

TEP hernia repair when performed by experienced surgeon offers the appropriate alternative to open surgery. TEP hernia repair is gaining popularity because of low recurrence rate, less post operative pain, early recovery and return to home, low rate of early and late complication, can be performed as short hospital stay/day care procedures.

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