



COMPARATIVE STUDY OF LAPROSCOPIC TAAP MESH REPAIR VS TEP MESH REPAIR IN TERTIARY CARE HOSPITAL.

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ABSTRACT

The objectives of the study would be to compare the parameters like duration of operation ,Conversion rates to open method, Post operative pain, Complications of each procedure, Duration required to get back to normal activities, Recurrence rates and Safety and efficacy of the procedure between the two commonly performed methods of laparoscopic repair, namely the Total Extra- Peritoneal (TEP) repair and Trans Abdominal Pre-Peritoneal (TAPP) repair of inguinal hernia.

KEYWORDS :

INTRODUCTION:

Groin hernias are the most common conditions referred to surgeons all over the world and over five lakh hernia repairs are performed annually. The lifetime risk for men is 27% and for women is 3%. There has been a revolution in surgical procedures for groin hernia repairs after the introduction of prosthetic material by Usher. Minimally invasive surgical approaches are increasingly popular because they offer the potential for less post operative pain and a quick return to normal activities. Laparoscopic repair of inguinal and femoral hernia is no exception. The choice of approach to the laparoscopic repair of hernia is controversial. The most commonly used laparoscopic technique of inguinal hernia repair are TAPP repair and TEP repair. There is scarcity of data directly comparing laparoscopic TAPP and TEP and questions remain about their relative merits and risks. In the light of this, our study aims to compare these two methods of laparoscopic inguinal hernioplasty in terms of duration of surgery, post-op pain, post operative hospital stay, Duration required to get back to normal activities complications and recurrence of hernia.

MATERIALS AND METHODS

This is a prospective study. This study consisted of 30 patients of inguinal hernia treated with laparoscopic hernia repair, 15 of whom were treated by Laparoscopic Trans Abdominal Pre-Peritoneal (TAPP) mesh repair and the remaining 15 cases treated by Total Extra-Peritoneal (TEP) mesh repair of inguinal hernia in our hospital from August 2015 to August 2017.

INCLUSION CRITERIA

1. Patient aged 18 years and above giving written valid consent.
2. Patients diagnosed as having unilateral or bilateral inguinal hernia.
3. Patients with recurrent inguinal hernia, following open repair in which repair is done through anterior approach. Eg: Modified Bassini's, shouldice, lichensteins repair.

EXCLUSION CRITERIA

1. Patients with complicated inguinal hernia and who require emergency exploration for complications of hernia like , bowel obstruction, strangulation, gangrene etc
2. Patients with failed laparoscopic repair of inguinal hernia.
3. Patients are not medically fit to tolerate co2 insufflation..
4. Patients with recurrent inguinal hernia, following open preperitoneal mesh repair.

All the patients were admitted and a detailed history and clinical examination was carried out as per written proforma. Preoperatively the patients were allotted alternatively into laparoscopic TEP and laparoscopic TAPP repair for inguinal hernia, and will be educated about the advantages, disadvantages, type of anaesthesia. Patients were discharged within the next day or within 48 hours after surgery. At discharge they were advised to come for stitch removal on 7th/8th day (1st follow up), and then after 1 month of surgery, (2nd follow up). Later on after 3 months of surgery (3rd follow up) and after 6 months after surgery (4th follow up).

ANALYSIS OF RESULTS

AGE DISTRIBUTION OF PATIENTS

Age in yrs	TEP (n=15)		TAPP (n=15)	
	No.	%	No.	%
< 20	0	0.00%	2	13.33%
21-30	6	40%	5	33.33%
31-40	3	20%	4	26.66%
41-50	4	26.66%	1	6.66%
51-60	2	13.33%	3	20%
>61	0	0.00%	0	0.00%
Total	15	100.00%	15	100.00%
Mean	36.93 + 11.07		33.8 + 13.91	

OPERATIVE TIME

Operative time (mins)	TEP (n=15)	TAPP (n=15)
Min - Max	45 - 120	60 - 120
Mean + SD	76.47 + 20.44	93.33 + 15.43

COMPARISON OF POST OPERATIVE PAIN BETWEEN TEP AND TAPP GROUPS

Pain score (VAS)	TEP	TAPP
Mean + SD	2.7 + 0.73	2.56 + 0.7

POST OPERATIVE HOSPITAL STAY

Post-operative hospital stay (days)	TEP(n=15)	TAPP(n=15)
Min-Max	2-3	1-8
Mean+ SD	2.33 + 0.46	2.66 + 1.49

COMPARISON OF RETURN TO NORMAL WORK BETWEEN TWO GROUPS

Return to normal work(days)	TEP (n=15)	TAPP(n=15)
Min - Max	7-15	8-20
Mean + SD	11.59 + 2.21	12.17 + 3.01

COMPARISON OF COMPLICATIONS

Complications	TEP (n=15)		TAPP (n=15)	
	No.	%	No.	%
Major	-	-	-	-
Minor	2	13.3%	3	20%

COMPARISON OF RECURRENCE

RECURRENCE	TEP (n=15)	TAPP(n=15)
YES	0	0
NO	15 (100%)	15 (100%)

Patient Satisfaction

	TEP	TAPP
Patient satisfaction	2.23 + 0.56	2.11 + 0.47

DISCUSSION

A Comparative study with 15 patients undergoing Laparoscopic TEP procedure and 15 patients undergoing Laparoscopic TAPP procedure is undertaken to study the efficacy based on post operative pain, duration of operation, post operative complication and resumption to normal work and also to study the efficacy of mesh repair of inguinal hernia. Descriptive statistical analysis has been carried out in the present study. Samples are age matched with $p=0.58$ Patients were aged bet 23 – 60 yrs in laparoscopic TEP group with mean age being 36.93 yrs.

Patients were aged bet 18 – 60 yrs in laparoscopic TAPP group with mean age being 33.8 yrs. operative time is significantly less in TEP with $p=0.01$.

Mean operative time is calculated from the time of incision till the time of wound closure. Post operative pain is statistically similar between the two groups with $p=0.46$. In our study the mean length of post operative hospital stay in TEP group was 2.33 and in laparoscopic TAPP group it was 2.66 days with $p=0.32$.

Return to normal work is less in TEP group compared to TAPP group with $p=0.52$ There were NO MAJOR complications, but there were 3 patients with minor complications.

There was 2 patient with minor complication in TEP group (13.3%). There were 3 patients with minor complication in TAPP group (20%). The incidence of minor complications were more in TEP, with $p>0.99$.

The complications observed in our study were as follows.

1. Port site infection - 1 case (TEP)
2. Right shoulder pain – 1 case (TAPP)
3. Scrotal hematoma – 1 case (TAPP)
4. Early transient groin pain – 2 cases (one in TEP group, one in TAPP group).

The recurrence in either laparoscopic TEP repair group or in laparoscopic TAPP rapair group was zero when followed up for a minimum of 6 mths and with maximum follow up duration being 23 mths. Patient satisfaction score on the surgery and on the scar were done using Verbal Rating Scale (VRS), with

- 0 = not satisfied,
 1 = partially satisfied,
 2 = satisfied,
 3 = very satisfied.

Majority of patients in TEP group were very satisfied with the procedure interms of early recovery, return to normal activities.

The mean satisfaction scores were 2.23 + 0.56 in TEP group and 2.11 + 0.47 in TAPP group and the difference was statistically not significant ($p=0.49$). Over all laparoscopic TEP is statistically better procedure when compared to TAPP in terms of operative time.

CONCLUSION

Laparoscopic TAPP repair required more time compared to laparoscopic TEP repair.

No statistically significant difference between these two methods of laparoscopic hernioplasty in terms post-op pain, duration of hospital stay, complication rate, return to normal work.

Though TEP has certain advantages over TAPP, TAPP forms an integral part of initial learning curve of laparoscopic inguinal hernia repair making it imperative to master it, before venturing into TEP repair.

Laparoscopic TEP and laparoscopic TAPP repair both are choice for laparoscopic inguinal hernioplasty.

This study also supports that laparoscopic TEP and laparoscopic TAPP methods of inguinal hernioplasty are safe and efficacious.

Long term Randomized Control Trials with enhanced sample size and reduced confounding factors are still required to establish the absolute superiority of TEP over TAPP.

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