ORIGINAL ARTICLE

OUR EXPERIENCE IN LAPAROSCOPIC (TAPP) INGUINAL HERNIA REPAIR

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ABSTRACT: BACKGROUND: Inguinal hernia repair is the most frequently performed operation in general surgery. The standard method for inguinal hernia repair had changed little over a hundred years until the introduction of synthetic mesh. This mesh can be placed by either using an open approach or by using a minimal access laparoscopic technique. **METHODS:** This is a prospective study. Patients having inguinal hernias undergoing TAPP under Surgical 1st Unit of Bowring and Lady Curzon Hospital (affiliated to Bangalore medical college and research institute) from February 2012 to September 2014 are included in the study. During this period, a total of 30 patients participated. **RESULTS:** Average duration of procedure was 96.56min. None were converted to open. No patient developed haematoma. 1 patient developed seroma postoperatively and he was managed conservatively. No patient developed recurrence for 12 months of follow up. None developed wound infections, port site, hernia, vascular or visceral injuries. Average duration of hospital stay was 48 hrs. Time to return to normal activities was 1 week. None developed persistent pain nor persistent numbness. **CONCLUSION:** Laparoscopic hernia repair is as good as open repair with relative advantages and disadvantages.

KEYWORDS: Laparoscopic hernia repair, TAPP, open hernia repair, Mesh.

INTRODUCTION: Inguinal hernia repair is the most frequently performed operation in general surgery. The standard method for inguinal hernia repair had changed little over a hundred years until the introduction of synthetic mesh. This mesh can be placed by either using an open approach or by using a minimal access laparoscopic technique.^[1] Laparoscopic inguinal hernia repair was first performed using a trans abdominal approach.

Advantages of the TAPP approach include having a shorter learning curve. Unlike a TEP hernia repair, the TAPP approach requires a familiar laparoscopic access technique. The trans abdominal approach also allows for a better initial view of the inguinal anatomy. Potential disadvantages of the TAPP approach include the theoretical increased rate of injury to intra-abdominal organs. The posterior approach requires learning the groin anatomy from a different perspective from the traditional approach.

PROCEDURE^[2]: The aim of surgery is to reduce the hernia and hernia sac within the abdomen and then place a 10 × 15 cm mesh just deep to the abdominal wall, extending across the midline into the retropubic space and 5 cm lateral to the deep inguinal ring. The mesh covers Hasselbach's triangle, the deep inguinal ring and the femoral canal. In TEP, the surgeon is able to create a space just deep to the abdominal muscles without entering the peritoneal cavity whereas, in TAPP, the surgeon enters the peritoneal cavity then incises the peritoneum above the hernia defects and reflects it away from the muscles, essentially entering the same space as in TEP. Once the hernia is reduced, an identical mesh is inserted and the peritoneum closed over the mesh.

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We now share our experiences in placing mesh by TAPP technique.

AIMS AND OBJECTIVES:

- To evaluate the clinical effectiveness (advantages and complications) of laparoscopic hernia repair[TAPP].

PATIENTS AND METHODS:

- This is a prospective study. Patients having inguinal hernias undergoing TAPP under Surgical 1st Unit of Bowring and Lady Curzon Hospital from February 2012 to September 2014 are included in the study.

INCLUSION CRITERIA:

- All uncomplicated inguinal hernias.

EXCLUSION CRITERIA:

- All complicated inguinal hernias.
- Patients who have undergone previous abdominal surgeries.
- Patients with co-morbid conditions (bronchial asthma, IHD etc).

OUTCOME MEASURES:

- Duration of operation (min).
- Conversion (defined as a procedure initiated as laparoscopic but converted to open).
- Seroma.
- Wound/Superficial Infection.
- Mesh/Deep Infection.
- Recurrence.
- Port site hernia.
- Vascular injury.
- Visceral injury.
- Length of hospital stay (Days).
- Time to return to usual activities (Days).
- Persisting pain.
- Persisting numbness.

RESULTS: A total of 30 procedures were performed.18 were direct hernias and remaining 12 were indirect hernias.4 were bilateral and remaining 26 were unilateral. Patients ranged from 28 years to 62 years old. Patients were followed up to 12 months postoperative.

- Average duration of procedure was 96.56min.
- None were converted to open.
- No patient developed haematoma.
- 1 patient developed seroma postoperatively and he was managed conservatively.
- No patient developed recurrence for 12months of follow up.

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- None developed wound infections, port site, hernia, vascular or visceral injuries.
- Average duration of hospital stay was 48 hrs.
- Time to return to normal activities was 1 week.
- None developed persistent pain nor persistent numbness.

REVIEW OF LITERATURE^[3,4,5]: Over 60 randomized trials have compared laparoscopic surgery with the Lichtenstein repair. They show that, although the laparoscopic operation takes longer to perform, proven advantages are reduced pain both following surgery and up to five years later, more rapid return to full activity and reduced incidence of the wound complications of infection, bleeding and seroma.

Laparoscopic surgery is of particular benefit in bilateral cases and in patients with hernia recurrence after open surgery. National statistics show that the proportion of cases performed laparoscopically is slowly rising but all agree that there is a slow learning curve associated with these technically demanding operations.^[2]

		Duration (MINUTES)	Conversion	Haematoma	Seroma
Maastricht 1998	TAPP (42)	79.38	1	10	15
	OPEN(37)	55.7	-	5	7
SCUR 1999	TAPP(207)	65.1	3	5	1
	OPEN(109)	38.01	-	6	3
Riga 1999	TAPP(52)	49.6	1	1	3
	OPEN(52)	33.9	-	2	0
Our study	TAPP(30)	96.56	0	0	1

		Superficial/ mesh infection	Vascular/ visceral injury	Port site hernia	Length of hospital stay (days)
Maastricht 1998	TAPP (42)	0/0	0/0	0	1.1
	OPEN(37)	4/0	0/0	0	1.38
SCUR 1999	TAPP(207)	1/0	0/2	-	0.92
	OPEN(109)	3/0	0/0	-	0.5
Riga 1999	TAPP(52)	-	-	-	2.3
	OPEN(52)	-	-	-	2.2
Our study	TAPP(30)	0	0	0	2.1

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DISCUSSION: Laparoscopic groin hernia repair like most other surgical procedures is technically challenging and performance is likely to improve with experience.^[3] After a laparoscopic repair return to usual activity is faster and lesser hospital stay. However, operation times are longer. There appears to be a higher rate of serious complication rate in respect of visceral (especially bladder) and vascular injuries.^[4]

Laparoscopic repair is more costly than an open mesh repair, and that this is not sufficiently offset by benefits to make it cost-effective.^[5] Limitations of our study are less number of cases and long duration of surgery. With time and experience in laparoscopy, limitations can be overcome.

CONCLUSION: Laparoscopic hernia repair is as good as open repair with relative advantages and disadvantages. Its complications can be reduced with experience.

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TAPP VIEW:

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