



COMPARATIVE STUDY BETWEEN OPEN AND LAPAROSCOPIC HERNIOPLASTY IN PARA UMBILICAL HERNIA.

General Surgery

**Dr Seelam
Srinivasa Reddy***

Department of General Surgery, Katuri Medical College and hospital, Guntur.
*Corresponding Author

**Dr Ravipati Sai
Krishna**

Department of General Surgery, Katuri Medical College and hospital, Guntur.

**Dr Jahnvi
Dondapati**

Department of General Surgery, Katuri Medical College and hospital, Guntur.

ABSTRACT

In this modern surgery era, laparoscopic surgery has gained paramount importance due to its minimally invasive technique, decreased hospital stay, and better cosmesis. Hence the emphasis is on reducing hospital stay and postoperative morbidity with matter to cosmesis. Even though laparoscopic repair has become more popular for long-term outcomes, it needs further evaluation¹. The present study compares the paraumbilical hernia repair in adults by an open and laparoscopic method in view of hospital stay, postoperative complications, and return to normal activities^{2,3}.

KEYWORDS

Laparoscopic mesh repair, Paraumbilical hernia

INTRODUCTION:

An umbilical hernia is a protrusion of viscous or part of viscous through the umbilical ring⁴.

In infants, it is through a weak umbilical scar.

It is a Para umbilical hernia in adults, and it occurs either above or below or side of the umbilicus.

The umbilical hernias are amongst the commonly occurring abdominal wall defects. Much work has not been done to record this incidence.

A paraumbilical hernia occurs in adults due to many risk factors like obesity, ascites, repeated pregnancies, and malignancies⁴.

AIMS AND OBJECTIVES:

The objective of this study is to compare open and laparoscopic Para umbilical hernia repair by hernioplasty with respect to

- 1) Duration of the procedure.
- 2) Blood Loss during surgery.
- 3) Postoperative discomfort of pain.
- 4) Hospital stay.
- 5) Time to return to routine activity and work.
- 6) Complications encountered such as seroma, infection, preservation of umbilicus, umbilical skin necrosis, recurrence during follow up period for six months.

MATERIALS AND METHODS:

Study setting: Katuri Medical College and Hospital-tertiary care hospital.

Study period: January 2019 to January 2021.

Sampling technique: Simple random sampling method.

Study population: 60.

Patient selection criteria:

Inclusion criteria: Healthy patients above 18 years of age and with uncomplicated paraumbilical hernia diagnosed by clinical and radiological investigation such as ultrasound abdomen and pelvis.

EXCLUSION CRITERIA:

- 1) Patients below 18 years of age
- 2) Patients with obstructed/ strangulated/complicated umbilical hernia which needed emergency surgery.

This randomised prospective study compared the effectiveness of laparoscopic paraumbilical hernioplasty to the conventional open technique. Sixty patients with paraumbilical hernia were randomly categorised into two equal groups. G1 treated by open paraumbilical hernioplasty and G2 by laparoscopic paraumbilical hernioplasty.

In group1, 23 of them underwent sub lay type of mesh repair, and 7 of them underwent on lay type of mesh repair.

Postoperative period and complications during follow up period for six months.

RESULTS:

A total of 60 patients were included in this study. Among 60 patients, 30 were in group 1(open repair), 30 were in group 2 (laparoscopic repair).

Table 1 Surgical procedure

Group	FEMALES		MALES		Total
	No	%	No.	%	No.
1.open	20	66.60%	10	33.30%	30
2.laparoscopic	21	70%	9	30%	30
	41	68.33%	19	31.66%	60

Table 2 Open hernioplasty

Type	No of cases	Percentage
On lay	7	23.3
Sub lay	23	76.6

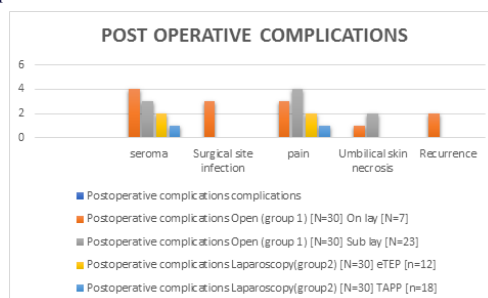
Table 3 Type of laparoscopic repair

Type	No. of cases	Percentage
e TEP	12	40
TAPP	18	60

Table 4 Postoperative complications

Complications	Open on lay (7)	Open sublay (23)	eTEP (12)	TAPP (18)
Seroma	4	3	2	1
Surgical site infection	3	-	-	-
Pain	3	4	2	1
Umbilical skin necrosis	1	2	-	-
Recurrence	2	-	-	-

Graph 1:



OBSERVATION:

In the present study, postoperative complications such as seroma, surgical site infection, post-op pain more in the open repair group than in the laparoscopic group.

DISCUSSION:

In our study, we selected 60 patients. Thirty of them were subjected to open repair in group I, and 30 of them subjected to laparoscopy repair in group 2. In group I, 23 of them underwent sub lay type of mesh repair, and 7 of them underwent on lay type of mesh repair.

In the present study, the mean duration of the surgery in the open repair group was 70.86 mins and 82.50 mins in the laparoscopic group. In the Holzman et al study, the mean operating time is 98 minutes for open repair and 128 minutes for a laparoscopic repair. In Carbajo et al study, the mean operating time for open repair is 112 minutes and 87 minutes for laparoscopic repair.

In the present study, the mean length of hospital stay for open repair is ten days and 4 days for the laparoscopic group. In Holzman et al length of stay for open repair is five days and for laparoscopic repair 2 days. In Carbajo et al study, patients stayed for nine days for open repair and 2.2 days for a laparoscopic repair.

In the present study, the seroma formation rate is 23% in the open repair group, 10% lap repair group. In Holzman et al study, no seroma formation in the lap repair. But in open repairs 3% of the seroma formation have been reported. In Carbajo et al study, the seroma formation rate is 67% in open repairs, and 13% in lap repair.

The laparoscopic approaches to paraumbilical hernia have been shown to be safe and effective.

The benefit of laparoscopy includes the following:

- Reduction in the postoperative pain, no cases complained of pain to the 7 cases of pain in the open repair.
- A short length of stay three days compared to 9 - 14 days.
- Seroma formation 3 cases compared to 7 cases.
- Wound infection no cases compared to 3 cases.
- The cosmesis is good.

CONCLUSION:

Laparoscopic Para umbilical hernia repair has shown promising results and a clear advantage over open repair in regard with:

- Reduced postoperative discomfort,
- Decreased postoperative complications,
- Reduced length of hospital stay,
- Early return to normal activity,
- Better cosmesis.

Laparoscopic mesh repair produced a low recurrence rate with less morbidity compared to open mesh repair for paraumbilical hernia. The evidence available at present suggests that laparoscopic repair is feasible and safe. However, the experience with the new meshes is still limited and less cost-effective.

With the existing data and observations, it would be prudent to recommend laparoscopic repair as the first-line treatment for a paraumbilical hernia, where the facilities and expertise are available. Open mesh repair remains a suitable alternative if the facilities and expertise not available. As the laparoscopic skills improve, it is likely that laparoscopic repair will be more widely performed in the future.

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