

Para-Umbilical Hernias, Mesh versus Non-Mesh Repair

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ABSTRACT

Objectives: To compare the results of different methods of repair (simple suture repair versus mesh repair) in terms of morbidity, complications & recurrence.

Period: 3 years (Jan 2008 to Dec 2010).

Setting: Ch Rehmat Ali Memorial Hospital, Township, Lahore.

Patients & methods: Total number of patients was 50; all were females who were divided into 2 groups. Group A consisted of 25 patients who underwent simple repair/Mayo's Repair. Group B consisted of 25 patients who had on lay mesh repair. Most common early post-operative complication was wound seroma & wound infection. Chronic pain was noted more in Group B patients while recurrence rate was high in Group A.

Conclusion: Overall morbidity was almost same in both groups but recurrence rate was high in Group A. There was no mortality in the study.

Key words: Para-umbilical hernia, simple suture repair, mesh repair

INTRODUCTION

In adults most hernias in the umbilical region occur above or below a patient's umbilicus, through a weak place in the linea alba, rather than directly through the umbilicus itself. It is 3times more common in females than males³.

Para Umbilical hernias are more common in females who are obese & had multiple pregnancies². It is relatively common especially between fourth and sixth decades of life. The defect is almost always acquired with no chance of spontaneous closure¹.

The different surgical options have progressed from simple tissue repair to mesh & recently introduced laparoscopic repair techniques. Different suture repair methods evolved one after the other due to high recurrence rates. Now it is widely accepted that mesh repair is more safe & beneficial to the patient.

PATIENTS & METHODS

Patients were divided into two groups, A & B. Group A included 25 patients, who were operated by using conventional open suture technique (Mayo's Repair or simple suture repair), that basically involved hernia repair under varying degree of tension with continuous, interrupted or combination of both sutures of monofilament, non absorbable suture (Prolene No 1).

Closed suction drains (Redivec type) were used in all patients. Subcutaneous layer was approximated with absorbable suture (2/0 chromic catgut) & the skin was closed with interrupted mattress sutures of Prolene No 2/0 or 3/0. Subcuticular skin closure was not performed in any case.

Group B included 25 patients, who were operated by using on lay mesh technique. The size of mesh used was variable depending upon the size of the defect. Mostly 15*15 cm size was used. The defect was first closed with Prolene 1 suture & then Prolene mesh was placed on the defect & was stitched either continuously or with interrupted sutures. Suction drains were used in all patients & skin was closed in the same way as in Group A.

General anesthesia was employed in all cases. All patients were investigated & examined by Physicians & Anesthetists for fitness prior to surgery. The operative, post operative complications, duration of surgery, duration of hospital stay & quality of life following surgery were all noted. Recurrence was diagnosed during follow up period, which was on average one year after discharge from the hospital.

RESULTS

Total number of patients was 50, all were female. Average age was 40 years (range 25-55 years). 25 patients were included in Group A (50%). 25 patients were included in Group B (50%). Different additional procedures were also carried out during the repairs which are summarized in Table 1.

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Table 1 Additional Procedures

Additional procedure	Group A (n=25)	Group B (n=25)
Cholecystectomy	4(16%)	4(16%)
Bilateral tubal ligation	8(32%)	12(48%)
Appendectomy	3(12%)	0(0%)
Hysterectomy	3(12%)	5(20%)

Mean operation time for Group A was 1 hour (40 min-1 hour 30 min) & that of Group B was 1 hour 30 min (1 hr-2 hr 30 min). Longer period of operation time was observed in patients of Group B (time taken to fix mesh) & in patients with additional procedures. Also longer time was noticed in more obese patients that involved removal of larger panniculus of subcutaneous fat & skin. Immediate & late complications are summarized in Table 2.

Table 2

Post operative complication	Group A (n=25)	Group B (n=25)
Wound seroma	2 (8%)	5 (20%)
Wound infection	2 (8%)	4 (16%)
Wound hematoma	0 (0%)	1(4%)
Iatrogenic small bowel injury	0(0%)	1 (4%)
Post operative respiratory complications	0(0%)	2 (8%)
Chronic pain	1 (4%)	4(16%)
Recurrence	3(12%)	1 (4%)

Commonest early post operative complication seen in both groups was wound seroma & infection. All patients with seroma responded well to aspiration (repeated 3-4 times) & antibiotics. All patients with wound infection & hematoma needed removal of few stitches & antibiotics according to culture & sensitivity of pus taken from the wound. All patients had full recovery except one patient whose mesh had to be taken out because of wound infection after 3 months of aggressive antibiotics treatment.

Iatrogenic small bowel injury occurred in one patient because of extensive adhesions, which was repaired primarily with full recovery. Post operative respiratory complications occurred in 2 patients which responded well to supportive treatment. Chronic pain & feeling of heaviness & foreign body were more common in Group B patients (mesh repair). Recurrence was observed more in Group A (12%) as compared to Group B (4%). Mean hospital stay was 6 days (4-12 days) in Group A while that of Group B was 9 days (6-20 days). There was no mortality in this study.

DISCUSSION

Umbilical hernia in adults is more accurately described as Para Umbilical hernia because the

defect is not through the original umbilical scar but either above or below the umbilicus with no possibility of spontaneous closure¹.

Elective operation is advisable in adults due to recognized risk of incarceration & strangulation^{4,5}. The modern operation of umbilical hernia dates back to 1881 with longitudinal overlapping of layers of fascia by Lucas-Championniere. Mayo in 1894 proposed a transverse rather than a longitudinal overlapping of fascia².

Alternatively repair with simple direct opposition of the fascial defect in a transverse orientation has also been described⁴.

Herniorrhaphy using simple suture or Mayo's technique has remained the most frequently used methods of repair in specialized hernia centers in recent times. However retrospective studies have shown high recurrence rates (10-30%)^{5,6}.

The treatment of Para Umbilical Hernia has changed drastically over the last 20 years. However, there is still some controversy concerning types of mesh, mesh positioning & operation methods. Laparoscopic repair is an increasingly preferred alternative to open surgery at various centers all over the world. However no laparoscopic repair was included in this study.

Although some authors did not find differences in hospital stay in both groups, in our study hospital stay was longer in patients with additional procedure or mesh repair which was because of greater tissue reaction & production of fluid drained in suction drains for a longer period of time. Majority of our patients were discharged from the hospital only after the removal of suction drains.

Contribution: Dr. Imran Saeed contributed in data collection, data analysis and interpretation.

CONCLUSION

The data in our study also confirms that mesh repair is better & safe option in anterior abdominal wall hernias in adults compared with conventional suture repair especially in terms of recurrence & comfort of patients in long term.

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