

Paraumbilical Hernias: A comparison between Mesh Hernioplasty and Simple Suture Repair at Arif Memorial Teaching Hospital Lahore

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ABSTRACT

Aim: To compare the rate of recurrence between mesh hernioplasty and simple suture repair in the management of paraumbilical hernias.

Methods: Total 60 patients were recruited over the period of 02 years from outpatient department of Arif Memorial Teaching Hospital Lahore. They were subdivided into two groups. Group A patients were repaired in traditional way and group B patients underwent mesh repair. Maximum follow up period was one year and a comparison was made between two groups in terms of length of hospital stay, complications and rate of recurrence.

Results: In Group A, 3(10%) patients had recurrence which was quite high compared to the group B which had only one recurrence (3%). Rate of infection was similar in both groups (10%). There were incidences of postoperative hematomas and seromas formation in group A but none in group B.

Conclusion: Mesh hernioplasty significantly reduced the recurrence rate as compared to the traditional suture repair. Unlike results of the other studies, infection rate was not high in mesh group.

Keywords: Paraumbilical hernia, mesh repair, simple suture repair

INTRODUCTION

Umbilical defects are present at birth and supposed to have closed one week later. Any condition which stretches or causes thinning of midline like multiparity, obesity and ascites etc will result in re opening of this hole resulting in adult type of umbilical hernias. Usually these hernias are slightly above or below the umbilicus and hence are referred to as paraumbilical hernias¹. This is three times more common in females than males².

This is traditionally treated by classical Mayo's repair which involves double breasting of rectus sheath. But this method of repair is responsible for very high recurrence rate in range of 20-30%³. Recently this hernia is being repaired by using mesh with promising results as it has significantly reduced the recurrence rates the world over⁴.

The following study draws a comparison between suture repair and mesh hernioplasty in our circumstances and tries to prove the superiority of latter in terms of length of hospital stay, less post-operative complications and reduced recurrence rate.

MATERIAL AND METHODS

This was prospective comparative study and included 60 patients with the diagnosis of paraumbilical hernia, admitted through outpatients department from Jan

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2011 to Jan 2013 at Arif memorial teaching hospital Lahore. Patients were randomly distributed in two groups A & B. Group A patients underwent traditional mayo's repair or simple interrupted closure of hernia defect with prolene no 1 and Group B patients were subjected to mesh hernioplasty in addition to primary repair of the hernia defect. Subcutaneous redivec suction drains were placed selectively depending on the amount of dissection performed and kept as long as the drain output fell below 10ml/24 hours on an average. However in patients with mesh hernioplasty, drains were placed invariably.

Patients who were morbidly obese(BMI >30), those with recurrent hernias, with strangulated hernias and those with hernia defect less than 3 cm were excluded from the study. All other cases with uncomplicated paraumbilical hernias and those with defects larger than 3cm were included in the study. Comparison was made between two groups in terms of length of hospital stay, post operative complications and recurrence at 6 months and one year.

RESULTS

In group A, patients underwent traditional mayo's repair involving double breasting. Age range was 30 to 45 years. We had 28(95%) female patients with only 2(5%) males. Females were all obese and multiparous. We placed redivec suction drains subcutaneously only in selective cases where we felt that there was lots of dissection done. Drain if placed,

was kept for an average of 2-3 days. Mostly patients were discharged on 3rd postoperative day. We found that with the drains placed, postoperative length of hospital stay would increase by 1-2 days.

Patients were called back a week later for routine follow up and to look for any evidence of complications like wound infection, seroma formation and wound hematomas. Later patients were contacted again on telephones after 6 months and one year to find out about the possibility of recurrence. Post operative complications were found in 8 patients including 7 females and 1 male. Wound infection was found in 3(10%) females which was treated with local wound care. Seromas developed in 2(7%) patients, one male and one female which were aspirated. In 3(10%) female patients we found wound hematomas which were managed conservatively. Three of these patients were those who underwent Mayo's repair and it was decided not to place any drain postoperatively. However two of these patients were those who had their wounds drained following Mayo's repair.

After 6 months we found no patient with recurrence but after one year, we found 3(10%) patients with recurrence, one male and 2 female. Two had Mayo's repair done as the original procedure while in one patient, the hernia defect was closed in interrupted fashion with prolene 1 suture. In group B, the age range was 35-50 years. 27(90%) were females and 3(10%) were males. An onlay mesh was placed after closing the hernia defect in an interrupted or continuous fashion with prolene no 1. Mesh was secured with prolene 2/0. Redivac suction drains were placed in all cases. Average length of hospital stay was 4 days and drains also stayed in situ for 2-3 days in such cases.

After 10 days we had one male and 2(10%) female patients develop signs of infection. Initially in all patients skin and subcutaneous stitches had to be removed and wounds were treated with debridement and saline wash outs in addition to antibiotics while conserving mesh. One male and one female patient responded to this strategy and underwent secondary closure of their wounds later on after an average of 7 days. However in one female patient, mesh had to be removed and later wound was secondarily closed after 20 days of local treatment. This patient was later lost to follow up.

Other than wound infection, no complication of note like hematomas or seroma formations was observed in this group. We could find only 1(3%) case with recurrence after one year of follow up. On reexploration, mesh was found to have rather migrated exposing the defective fascia below.

Table: Demographic data and results of the study.

Patients Data	Group A (n=30)	Group B(n=30)
Age	30-45	30-50
Male	2(5%)	3(90%)
Female	28(95%)	27(100%)
Hematoma	3(10%)	Nil
Seroma	2(7%)	Nil
Wound infection	3(10%)	3(10%)
Hospital stay	2-3 days	3-4 days
Recurrence after one year.	3(10%)	1(03%)

DISCUSSION

Mesh is in vogue these days for repair of any hernia and paraumbilical hernias are no exception. We conducted this study to endorse the superiority of mesh repair over traditional suture repair in our circumstances. In one interesting study, Bowley et al did not support the routine use of mesh in repair of paraumbilical hernias⁵.

Traditionally such hernias were repaired by classical Mayo's repair. But this method of repair was attended by very high recurrence rates as stated in various studies. Amin et al⁶ reported a recurrence rate of 24% which is quite higher compared to the rate observed in our study i.e., 10%. Arroyo et al has reported recurrence rate of 11% following simple suture repair⁷. Likewise Daudpoto et al found a recurrence rate of 5.3% and Suhail et al observed 12% recurrence following suture repair^{8,9}.

In our study we could find only 3% recurrence after mesh hernioplasty as was also seen by Suhailanjum et al in their study 4%⁹ while Amin et al has given 8% recurrence rate after using mesh⁶. Only 1% recurrence was reported by Arroyo et al⁷ while 2.3% cases were found to have recurrence by Daudpoto et al after using mesh for repair of these hernias⁸.

Rate of wound infection was similar in both groups that are 10%. Using mesh did not seem to be an independent risk factor for increasing rate of wound infection in our study. This was in contrast to the results shown in studies by Daudpoto et al and Suhail et al who reported wound infection in 11.11% and 20% respectively when they used mesh^{8,9}. However other post-operative complications like hematoma and seroma formation were found in only those patients of group A who were not drained and underwent classical Mayo's repair.

Length of stay was more in group B patients by one day probably because of excessive tissue reaction and resultant prolonged drainage. Likewise average time of operation was also more in group B patients due to extra effort required in fixing the mesh.

CONCLUSION

Mesh hernioplasty is superior to simple suture repair for treating these hernias in terms of significantly reduced recurrence rates. However to further endorse these results; a longer follow up is required. Unlike results of the other studies, infection rate was not high in those patients who were treated with mesh hernioplasty in this study.

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