

Case Report

Comparison between Mesh Hernioplasty and Simple Suture Repair in the treatment of Paraumbilical Hernias at Bahawalpur Hospitals

Kiran Munir^{1*}, Muhammad Khurram Waqqas¹, Irum Batool¹, Shumaila Masood¹, Saman Ayub¹

¹Faculty of Pharmacy & Alternative Medicine, The Islamia University of Bahawalpur, Pakistan

*E-mail of the corresponding author: kiran.munir12@gmail.com

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To compare the rate of recurrence between mesh hernioplasty and simple suture repair in the management of paraumbilical hernias. Total 215 patients were selected in medical ward of Bahawal Victoria Hospital Bahawalpur. They were subdivided into three groups. Group A 112 patients were repaired in traditional way and group B 88 patients underwent mesh repair and the in third group C 15 patients undergone other ways of repair which we did not covered in our study. And the patients who showed the recurrence of hernia were selected and those were subject of interest. A comparison was made between two groups in terms of, complications and rate of recurrence. In Group A, 12(10.71%) patients had recurrence which was quite high compared to the group B which had only 2(2.27%) patients. Rate of infection was higher in group B (12%). There were incidences of postoperative hematomas and seromas formation in group A but none in group B. 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.

1. 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 multiparty, 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 hernias (Williams et al, 2013). This is three times more common in females than males. 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% (Menon and Brown, 2003). Recently this hernia is being repaired by using mesh with promising results as it has significantly reduced the recurrence rates the world over (Sauerland et al, 2005).

The following studies draws a comparison between suture repairs and mesh hernioplasty

in our circumstances and tries to prove the superiority of latter in terms of

- Less post-operative complications.
- Reduced recurrence rate.

2. METHODOLOGY

It was a retrospective study which is also called past or previous data studies. A retrospective cohort study, also called a historic cohort study, generally means to take a look back at events that already have taken place.(Retrospective Cohort Study, 2013) An epidemiologic study in which individuals are classified as either having some outcome (cases) or lacking it (i.e. control). The outcome may be a specific disease and person's histories are examined for specific factors that may be associated with that outcome.

In our retrospective comparative study model a total 215 patients were included with the diagnosis of paraumbilical hernia, admitted through outpatients department of Bahawal

Victoria Hospital Bahawalpur. The patients consist of 180 females & 35 males. Age range was 30 to 50 years. All females were obese and multiparous. Patients were randomly distributed in three groups A, B and C. Group A patients underwent traditional mayo's repair or simple interrupted closure of hernia defect 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. 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. A comparison was made between two groups in terms of post-operative complications, cost effectiveness, male to female ratio and recurrence at 6 months to one year.

3. RESULTS

History of patients, who undergone through surgery was taken, evaluated and compared. A total of 200 patients were evaluated consisting of 173(86.85%) female patients and 27(13.15%) males. In group A, patients underwent traditional mayo's repair involving double breasting. Age range was 30 to 45 years. We had 94 (83.93%) female patients with only 18 (16.07%) males. All females were obese and multiparous. Redivec suction drains were placed subcutaneously only in selective cases. Drain when placed, was kept for an average of 2-3 days. Mostly patients were discharged on 3rd postoperative day.

Patients were called by physicians, a week later for routine follow up and to look for any evidence of complications like wound infection, seroma formation and wound hematomas. Wound infection was found in 11(10%) in group A and 11(12.5%) in group B which was treated with local wound care. Seromas developed in 8(7.14%) patients, 2 males and 6 female which were aspirated. In 12(10.71%) female patients we found wound hematomas which were managed conservatively. After one year, there were 12(10.71%) patients with recurrence, 2 male and 10 female.

In group B, the age range was 35-50 years. 79(99.77%) were females and 9(10.23%) were males. An only mesh was placed after closing the hernia defect in an interrupted or continuous fashion.

After 10 days we had 1(1.13%) male and 11(12.5%) female patients develop signs of infection. Other than wound infection, no complication of note like hematomas or seroma formations was observed in this group. We could find only 2(2.27%) case with recurrence after one year of follow up.

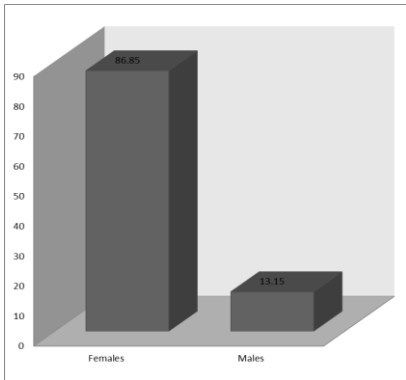
Also we compared the cost observed in both groups A and the group B. And it was concluded that Mesh hernioplasty is more costly than the suture therapy so simple suture technique is more cost effective.

3.1 Demographic Data and Results of the Study

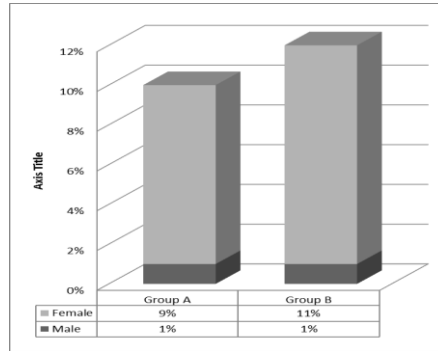
Table 1: Demographic Data and Results of The Study

Patients Data	Group A (n=112)	Group B (n=88)
Age	30-45	30-50
Male	18(16.07%)	9(10.23%)
Female	94 (83.93%)	79(89.77%)
Hematoma	12(10.71%)	Nil
Seroma	8(7.14%)	Nil
Wound infection	11(10%)	11(12.5%)
Recurrence after one year.	12(10.72%)	2(2.27%)

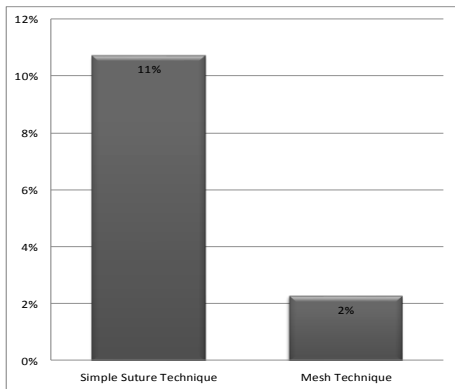
3.2 Occurrence of paraumbilical hernia in male and female



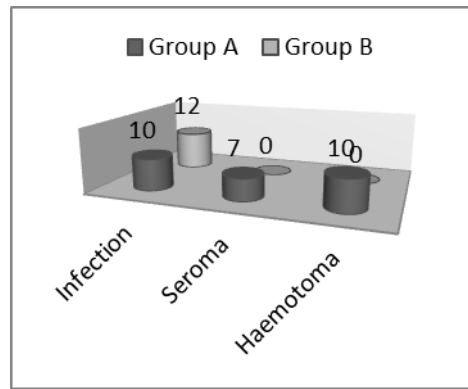
3.4 Comparison of Chances of Infection



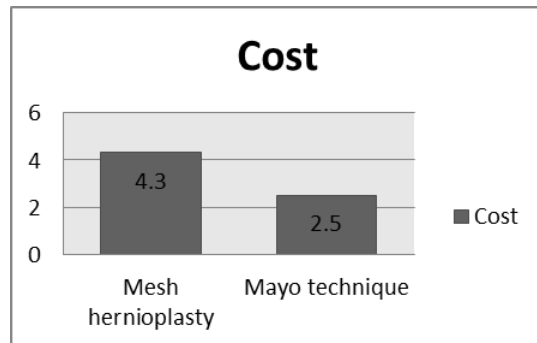
3.3 Comparison of Reoccurrence



3.5 Comparison of Postoperative complication



3.6 Comparison in Term of Cost Effectiveness



4. 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.

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. In our study we could find only 2.27% recurrence after mesh hernioplasty. Rate of wound infection was higher in mesh hernioplasty. Mesh hernioplasty is more costly than simple suture technique.

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. Anjum et al, (2012) reported a recurrence rate of 24% which is quite higher compared to the rate observed in our study i.e., 10%. Arroyo et al, (2001) has reported recurrence rate of 11% following simple suture repair. Likewise Daudpoto et al, (2013) found a recurrence rate of 5.3% and Anjum et al, (2012) observed 12% recurrence following suture repair.

The results shown in studies by Daudpoto et al, (2013) and Anjum et al, (2012) who reported wound infection in 11.11% and 20% respectively when they used mesh. However other post-operative complications like hematoma and seroma formation were found in only patients of group A.

5. 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. Chances of infection are more with Mesh hernioplasty and simple suture technique is more cost effective.

Conflict of Interests

Authors declared no competitive interests for the presented work.

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