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Research Article

**OUTCOMES OF DIFFERENT METHODS OF REPAIR OF  
PARA-UMBILICAL HERNIAS, MESH VERSUS NON-MESH  
REPAIR**<sup>1</sup>Dr Rohina Masood, <sup>2</sup>Dr Khudeja Abid, <sup>3</sup>Dr Aliza Nasir<sup>1</sup>Fatima Jinnah Medical University<sup>2</sup>DG Khan Medical College<sup>3</sup>Fatima Jinnah Medical University**Article Received** November 2020**Accepted:** December 2020**Published:** January 2021**Abstract:**

**Objectives:** To compare the results of different repair methods (simple suture repair and mesh repair) in terms of morbidity, complications and relapses.

**Place and Duration:** In the Surgical Unit-II of Sir Gang ram Hospital, Lahore for one-year duration from July 2019 to July 2020.

**Patients and Methods:** Total number of patients were 50; they were all women divided into 2 groups. Group A consisted of 25 patients who had undergone a simple Mayo repair / simple repair. Group B consisted of 25 patients who underwent mesh repair. The most common early postoperative complication was wound seroma and wound infection. Chronic pain was observed more frequently in patients in group B, while the relapse rate was high in group A.

**Conclusion:** The overall incidence was almost the same in both groups, but the relapse rate was high in group A. There was no mortality in the study.

**Key words:** umbilical hernia, simple suture repair, mesh repair

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**INTRODUCTION:**

In adults, most hernias around the navel occur above or below the patient's belly button, through a weak spot in the alba line rather than directly through the navel itself. It occurs 3 times more often in women than in men. Peri-umbilical hernias are more common in women who are obese and have had multiple pregnancies. It occurs relatively often, especially between the fourth and sixth decade of life. The defect is almost always acquired with no chance of self-closing. Various surgical options have gone from simple tissue repair to mesh and recently introduced laparoscopic repair techniques. Different suture repair methods have evolved one after another due to the large number of relapses. It is now widely accepted that mesh repair is safer and more beneficial for the patient.

**PATIENTS AND METHODS:**

This study was held in the Surgical Unit-II of Sir Gang ram Hospital, Lahore for one-year duration from July 2019 to July 2020. The patients were divided into two groups, A and B. Group A consisted of 25 patients who were operated on with the conventional open suture technique (Mayo repair or simple suture repair) which essentially consisted of variable tension hernia repair with continuous, intermittent or combination of both sutures' monofilament, non-absorbable (Proline nr 1). Closed suction drains (Redivec type) were used in all

patients. The subcutaneous layer was approximated with an absorbable suture (2/0 chromium catgut) and the skin closed with interrupted Proline No. 2/0 or 3/0 mattress sutures. Subcutaneous skin closure was not performed in any case. Group B included 25 patients operated on with the "on lay mesh" method. The size of the mesh used varied depending on the size of the defect. Mostly 15 \* 15 cm size was used. The defect was first closed with a Proline 1 suture, then a Proline mesh was placed over the defect and sutured continuously or intermittently. Suction drains were used in all patients and the skin was closed in the same way as in group A. General anesthesia was applied in all cases. All patients were examined and examined by doctors and anesthesiologists in terms of fitness before surgery. Postoperative and postoperative complications, surgery duration, hospital stay and quality of life after surgery have been reported. Relapse was diagnosed during the observation period, i.e. on average one year after discharge from the hospital.

**RESULTS:**

The total number of patients was 50, all were female. The mean age was 40 years (range 25-55 years). 25 patients were included in group A (50%). 25 patients were included in group B (50%). Various additional procedures were also carried out during the repairs, as summarized in Table 1.

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%)
Appendicectomy	3(12%)	0(0%)
Hysterectomy	3(12%)	5(20%)

The average working time for group A was 1 hour (40 min-1 hour 30 min), and for group B 1 hour 30 min (1 h-2 h 30 min). Longer operation time was observed in patients in group B (time needed to attach the mesh) and in patients with additional procedures. A longer time was also observed in the more obese patients, which included the removal of the larger pannus of the subcutaneous fat and skin. Immediate and 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%)

The most common early postoperative complication observed in both groups was wound seroma and infection. All serous patients responded well to aspiration (repeated 3-4 times) and antibiotics. All patients with wound infection

and hematoma required removal of several sutures and antibiotics depending on the culture and sensitivity of the wound pus. All patients fully recovered excepting one patient whose mesh had to be removed due to wound infection after 3 months of aggressive antibiotic treatment. One patient experienced iatrogenic trauma to the small bowel due to extensive adhesions, which was mostly repaired with complete recovery. Postoperative respiratory complications occurred in 2 patients who responded well to supportive care. Chronic pain and a feeling of heaviness and a foreign body feeling were more common in patients in group B (mesh repair). Relapse was observed more often in group A (12%) than in group B (4%). The mean stay in the hospital was 6 days (4-12 days) in group A, while in group B it was 9 days (6-20 days). There was no mortality in this study.

### DISCUSSION:

An umbilical hernia in adults is more accurately described as a peri-umbilical hernia because the defect does not occur through the primary umbilical scar but above or below the navel without the possibility of spontaneous closure. In adults, elective surgery is indicated due to the recognized risk of entrapment and suffocation. Modern umbilical hernia surgery dates back to 1881, when the fascia layers overlap longitudinally. Mayo in 1894 proposed transverse rather than longitudinal fascia overlap. An alternative repair using the simple direct counteraction of the fascia defect in transverse orientation has also been described<sup>4</sup>. Herniorrhaphy with the use of straight sutures or the Mayo technique has recently remained the most frequently used repair method in specialized hernia centers. However, retrospective studies found high rates of relapse (10-30%). Treatment for a peri-umbilical hernia has changed drastically in the last 20 years. However, there is still some controversy about the types of grids, their positioning and methods of operation. Laparoscopic repair is an increasingly preferred alternative to open surgery in various centers around the world. However, laparoscopic repair was not addressed in this study. Although some authors found no difference in hospital stays between the two groups, in our study, hospital stays were longer for patients with additional surgery or mesh repair, which was due to a greater tissue response and drainage fluid production over an extended period of time. Most of our patients were discharged from the hospital only after the suction tubes were removed. Contribution: Dr. Imran Saeed contributed to data collection, data analysis and interpretation.

### CONCLUSION:

Data from our study also confirm that mesh repair is a better and safer option for anterior abdominal wall hernias compared to conventional suture repair, especially in terms of relapse and long-term patient comfort.

### REFERENCES:

1. Shrestha, Donna, Alice Shrestha, and Badri Shrestha. "Open mesh versus suture repair of umbilical hernia: meta-analysis of randomized

controlled trials." *International Journal of Surgery* 62 (2019): 62-66.

2. Blonk, L., Y. A. Civil, R. Kaufmann, J. C. F. Ket, and S. van der Velde. "A systematic review on surgical treatment of primary epigastric hernias." *Hernia* (2019): 1-11.
3. AFZAL, HURRIAT, ANDLEEB KHANAM, and MARIAM FATIMA. "Factors Associated with Paraumbilical Hernia and its repair by Mesh Hernioplasty Technique." *Age (years)* 18, no. 44: 45-60.
4. Bisgaard, Thue, R. Kaufmann, M. W. Christoffersen, P. Strandfelt, and L. L. Gluud. "Lower risk of recurrence after mesh repair versus non-mesh sutured repair in open umbilical hernia repair: a systematic review and meta-analysis of randomized controlled trials." *Scandinavian Journal of Surgery* 108, no. 3 (2019): 187-193.
5. Aiolfi, A., M. Cavalli, G. Micheletto, P. G. Bruni, F. Lombardo, A. Morlacchi, G. Bonitta, G. Campanelli, and D. Bona. "Open mesh vs. suture umbilical hernia repair: systematic review and updated trial sequential meta-analysis of randomized controlled trials." *Hernia* (2020): 1-9.
6. Khattab, Ahmed M., Abdallah S. Abdallah, Mohammed A. Elbalshy, and Ayman A. Albatanoney. "Comparative study between herniorrhaphy alone versus hernioplasty in small-sized paraumbilical hernia." *International Surgery Journal* 7, no. 1 (2019): 31-35.
7. MAQBOOL, ANSAR LATIF1 JUNAID, and MARIA YOUNAS. "Surgery for Paraumbilical Hernia at Allama Iqbal Memorial Teaching Hospital, Sialkot-Analysis of 200 patients."
8. Bilezikian, J. A., P. L. Tenzel, F. E. Eckhauser, and W. W. Hope. "Primary non-complicated midline ventral hernia: overview of approaches and controversies." *Hernia* 23, no. 5 (2019): 885-890.
9. Holzheimer, René G., and Nikolai Gaschütz. "Trocar umbilical hernia repair by open suture repair and open suture-mesh repair in an ambulatory setting in comparison to recurrent and primary umbilical hernia repair." *Journal of*

- Surgical Case Reports* 2020, no. 9 (2020): tjaa270.
10. Henriksen, N. A., A. Montgomery, R. Kaufmann, Frederik Berrevoet, B. East, J. Fischer, W. Hope et al. "Guidelines for treatment of umbilical and epigastric hernias from the European Hernia Society and Americas Hernia Society." (2020).
  11. Lin, Yu-Te, Tzu-Yu Weng, and Ka-Wai Tam. "Effectiveness and Safety of Mesh Repair for Incarcerated or Strangulated Hernias: A Systematic Review and Meta-Analysis." *World Journal of Surgery* (2020): 1-9.
  12. Cunningham, H. B., J. J. Weis, L. R. Taveras, and S. Huerta. "Mesh migration following abdominal hernia repair: a comprehensive review." *Hernia* 23, no. 2 (2019): 235-243.
  13. Kamran, Ch Mohammad, Balakh Sher Zaman, and Maryam Wahid. "Comprehensive Outcome of Repair of Small Paraumbilical Hernias by Onlay Mesh Hernioplasty under Local Anesthesia."
  14. Liu, Jing, Zhiwei Zhai, and Jie Chen. "The use of prosthetic mesh in the emergency management of acute incarcerated inguinal hernias." *Surgical innovation* 26, no. 3 (2019): 344-349.
  15. Shah, Tapan A., Yogendra S. Modi, Mukesh S. Suvera, Rajesh H. Parmar, Khyati C. Vaja, Jemish B. Patel, Shireesh M. Ninama, and Sachi P. Sankhala. "A comparative study of onlay and pre-peritoneal mesh repair in the management of ventral hernias in our hospital." *J Indian Med Assoc* 117 (2019): 25-8.