Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 12, 2024

ORIGINAL RESEARCH ARTICLE

A STUDY ON THE INCIDENCE OF EARLY POSTOPERATIVE COMPLICATIONS IN SUBLAY MESHPLASTY OF UNCOMPLICATED VENTRAL HERNIA

Dr. Karthikeyan Sridevi[1], Dr. A.K. Kalpana Devi[2], Dr. D. Arun[3], Dr. Ra. Shivaraman[4*]

[1]Associate Professor, Department of General Surgery, Govt.Kilpauk Medical College, India.
[2]Associate Professor, Institute of General Surgery, Madras Medical College, India.
[3]Associate Professor, Department of General Surgery, Govt Medical College, Omandurar Govt Estate, Chennai, India.
[4]Senior Resident Plastic Surgery, Thanjavur Medical College, India.

Corresponding Author: Dr Ra. Shivaraman, Senior Resident Plastic Surgery, Thanjavur Medical College, India.
Email: shivaraman19@gmail.com

ABSTRACT

Background: Ventral hernias are one of the commonly encountered diseases in surgical outpatient department. There are various types of ventral hernias from epigastric hernia, umbilical hernia, spigelian hernia and even incisional hernia. Such patients need careful evaluation. The repair ranges from tissue repair to laparoscopic surgery. There are multiple surgeries available for ventral hernia but the Rives Stoppa is now considered the gold standard of ventral hernia repair which is the sublay meshplasty.

Methods: This study was conducted in Government Kilpauk medical college for a period of two years. 50 Patients meeting the inclusion criteria were selected and enrolled after they have given consent for the procedure. The occurrence of events like wound seroma, surgical site infection, flap necrosis, mesh infection was studied and documented.

Results: In this study there was equal representation from both sexes. Hernia occurrence was most common in the middle age group. The commonest type of hernia encountered was supraumbilical hernia followed closely by incisional hernia. Complications like Seroma, Surgical site infection and flap necrosis were 6%, 4%, and 4% respectively among the patients.

Conclusion: Study results indicates that sublay meshplasty should be considered the preferred choice of midline ventral hernia repair.

Keywords: Ventral hernia, Sublay meshplasty, Seroma, Flap necrosis, Supraumbilical hernia

INTRODUCTION

Ventral hernias are one of the commonly encountered diseases in surgical outpatient department. There are various types of ventral hernias from epigastric hernia, umbilical hernia, spigelian hernia and even incisional hernia. Such patients need careful evaluation. There are range of repair from tissue repair to laparoscopic surgery. Each procedure has its own advantages and disadvantages depending upon multiple factors from the location of hernia defect, type of repair, type of mesh, type of anchoring the mesh, location of the mesh. The quality of the repair as well as patient satisfaction following the procedure is directly dependent on the patients early

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 12, 2024

return to normal activity which in turn is dependent on the absence of complications in the postoperative period. The complications of surgery range from simple postoperative pain, wound seroma to mesh infection and recurrence, etc. depending upon the nature of mesh and location of mesh. Patient comorbidities, hernia characteristics, and skin/soft tissue factors will impact the technique chosen for the repair. In addition, intra-operative findings should guide the reconstructive approach to optimize outcomes. It is critical to perform the first hernia repair with the proper approach, technique, and mesh selection to avoid even higher failure rates with subsequent repairs. There are multiple surgeries available for ventral hernia but the Rives Stoppa is now considered the gold standard of ventral hernia repair which is the sublay meshplasty.[1]

Aims of Study

To establish the rate of occurrence of complications like wound seroma, wound hematoma, surgical site infections and mesh infection in the postoperative period following sublay meshplasty in patients with uncomplicated ventral hernia.

MATERIALS & METHOD

Type of Study: Retrospective study

Study Place: General Surgery department, Kilpauk medical college

Study Population: Patients operated by retro rectus meshplasty in general surgery department in Government Kilpauk medical college

Study Duration: 2 years from September 2017 to 2019

Inclusion Criteria: All patients who underwent retrorectus meshplasty for uncomplicated ventral hernia in general surgery department, KMC

Exclusion Criteria

- Below 18 and above 70 years
- Infraumblical hernias or recurrence
- Planned other gastrointestinal surgery
- Patients with Immunosuppression disorders like diabetes, HIV, currently treated malignancies
- Renal or hepatic failure
- Advanced stage of malignancies

Methodology

Institutional Ethical Committee approval was obtained and 50 patients were included in the study after getting informed consent for surgery. Admitted patients were taken for elective surgery with antibiotic cover of second generation cephalosporins given till 5th postoperative day. Abdomen opened in layers. Sac dissected and reduced. Plane developed along the posterior rectus sheath retracting the rectus muscle. Mesh placed and anchored with 2-0 prolene sutures. Anterior rectus sheath closed with prolene after checking hemostasis and suction drain was kept. Abdomen wound closed with 3- ethilon. Drain removed after the drain output was less than 30 ml for two consecutive days. Patients were followed up for the presence of complications like wound seroma, surgical site infection, flap necrosis, mesh infection.

Seroma is a pocket of clear serous fluid draining from the postoperative site which is usually seen in on lay meshplasty because of extensive dissection along the subcutaneous plane and usually sterile.

Flap necrosis is usually due to accidental injury to the vessels supplying the skin resulting in vascular compromise and skin discolouration.

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 12, 2024

Surgical site infection is any purulent discharge from the postoperative wound associated with induration, redness, tenderness may be associated with systemic symptoms.

RESULTS

The study included a total of 50 patients. The distribution of patients across different age groups is depicted in table -1. The results indicate that most patients were 36-45 & 46-55 years old, comprising 32% and 30 % respectively. In Gender distribution, 25 were female patients (50%) and 25 were male patients (50%) so the gender is equally distributed as depicted in figure -1.

Table 1: Age distribution of patients

Age	Frequency	Percentage
Up to 35 years	11	22 %
36 – 45 years	16	32 %
46 – 55 years	15	30 %
Above 55 years	8	16 %

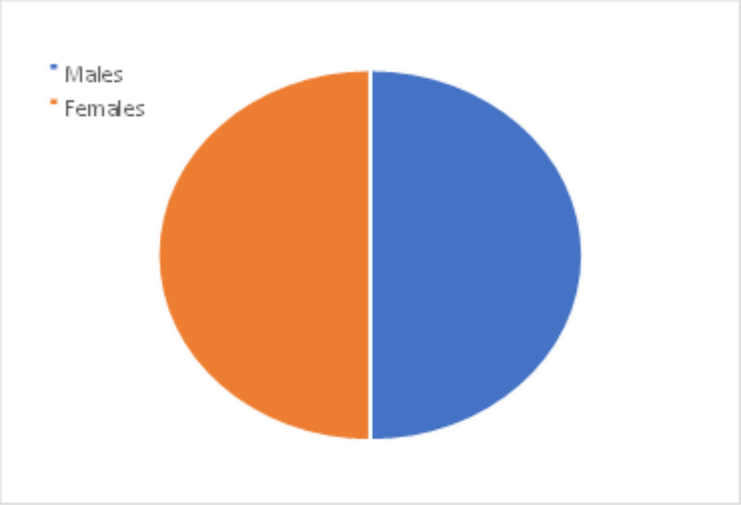

Figure – 1 Gender distribution

Among the various hernias, epigastric hernia accounts for 10%, Supra umbilical hernia 48 % and Incisional hernia 42 % in this 50 patients as shown in Figure-2.

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 12, 2024

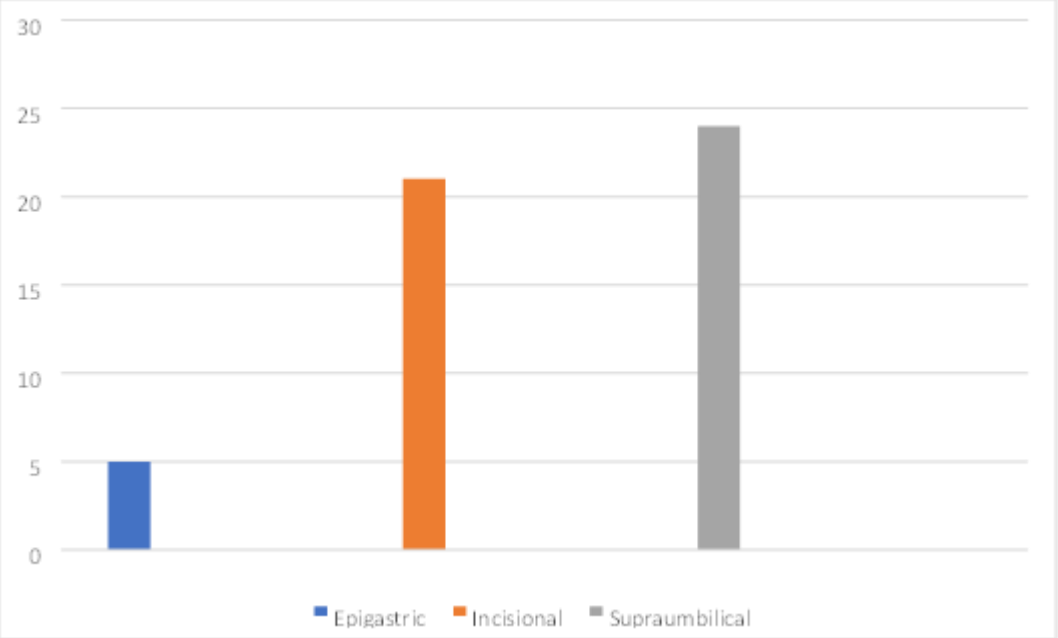

Figure – 2 Types of Hernia

Incidence of Complications

Table -3 Incidence of complications

Complications		Number of Patients	Percentage
Seroma	Absent	47	94%
	Present	3	6 %
Surgical site infection (SSI)	Absent	48	96 %
	Present	2	4%
Flap necrosis	Absent	48	96 %
	Present	2	4%

Out of 50 patients who underwent surgery seroma was noted in 6% patients, surgical site infection was present in 4% patients which needed drainage. Flap necrosis was noted in 4%

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 12, 2024

patients in supraumbilical hernias as shown in Table-3. The average stay during the postoperative period was 4 days. No case of acute mesh infection was noted.

DISCUSSION

In the study there was equal representation from both sexes. Hernia occurrence was most common in the middle age group. The commonest type of hernia encountered was supraumbilical hernia followed closely by incisional hernia.In a study conducted by Issa et al, the mean age of presentation was 44.8 years, the female to male ratio was 5:1 , but in this study its in equal distribution[(2)]. The incidence of seroma following the procedure was noted in 3 patients which resolved with continuous compressive dressing. Other studies give an incidence rate of 4% which is close to our incidence rate of 6%. In a study conducted, Ileus, intestinal damage, persistent seroma, mesh infection, and haematoma were documented complications in 3%, 2.6%, 1.7%, 0.7%, and 0.4% of patients, respectively, by Heniford et al[(3)]. In a prospective study by Aloibadi et al sublay group seroma formation was found in two patients (3.33%) while 12 (20%) in onlay group. Wound infection was found in one patient (1.66%) in sublay group while 6 (10%) in onlay group. As the location of the mesh is deep to the muscular plane, we expect a low incidence of Surgical site infection, which in this study is 4%. No patient required mesh removal following SSI. The incidence of flap necrosis following the procedure is 4% which occurred only in supraumbilical hernia and was manged conservatively. No cases of mesh rejection or mesh infection were noted. Similar findings noted in a study by Mohammed et al.[(4)] The average duration of hospital stay following sublay meshplasty was 4 days which is an indirect indicator of morbidity. In a study done by Shakeel et al, the mean duration of hospital stay for sublay mesh repair was 6.14 days and onlay group was 6.94 days[(5)] Out of the 52 patients in the study done by Jani et al, 32 patients in Group A had paraumbilical hernia and were subjected to laparoscopic retrorectus sublay mesh (RRSM) repair the duration of stay was only 2 days[(6)].

CONCLUSION

Thus, by the study results it is concluded that sublay meshplasty can be the ideal surgery if it is a midline hernia with less incidence of seroma as well as least incidence of flap necrosis and SSI. There is no incidence of any mesh infection. Hence sublay meshplasty should be considered the preferred choice of midline ventral hernia repair.

REFERENCES

1. Rhemtulla IA, Fischer JP. Retromuscular Sublay Technique for Ventral Hernia Repair. Semin Plast Surg. 2018 Jul 24;32(3):120.
2. Issa M, Noureldin K, Elgadi A, Abdelaziz A, Badawi M, Makram M. Evaluation of the Sublay Mesh Repair Outcomes in Different Types of Ventral Hernia. Cureus. 2021 Dec 21;13(12):e20590.
3. Heniford BT, Park A, Ramshaw BJ, Voeller G. Laparoscopic repair of ventral hernias: nine years' experience with 850 consecutive hernias. Ann Surg. 2003 Sep;238(3):391–9; discussion 399-400.
4. Mohamed RM, Rabie OM. Comparative study between onlay and sublay repair of ventral hernia. Al-Azhar Assiut Med J. 2019 Mar;17(1):96.
5. Sudani R, Shakeel Md, Kashyap V. A comparative study of onlay & sublay mesh repair of ventral wall hernias in a tertiary care research centre. IP Indian J Anat Surg Head Neck Brain. 2019 Aug 28;5(2):55–8.
6. Jani K, Contractor S. Retrorectus sublay mesh repair using polypropylene mesh: Cost-effective approach for laparoscopic treatment of ventral abdominal wall hernias. J Minimal Access Surg. 2019 Dec;15(4):287.