IJBPAS, November, 2021, 10(11): 4193-4195

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

A COMPARATIVE STUDY ON SELF GRIPPING MESH VS POLYPROPYLENE MESH IN VENTRAL HERNIA REPAIR

D. HEMASUPRAJA[1], RAGHURAM[2] AND K.P.BASKARAN[3]

1: Senior resident, Department of General Surgery, Sree Balaji Medical College & Hospital, Chrompet

2: Professor, Department of General Surgery, Sree Balaji Medical College & Hospital, Chrompet

3: Junior Resident, Department of General Surgery, Sree Balaji Medical College & Hospital, Chrompet

***Corresponding Author: Dr. D. Hemasupraja: E Mail: suprajahema@gmail.com**

Received 22nd Feb. 2021; Revised 20th April 2021; Accepted 6th May 2021; Available online 1st Nov. 2021

https://doi.org/10.31032/IJBPAS/2021/10.11.57443

ABSTRACT

Aim of the present study was Comparative Study on Self Gripping Mesh Vs Polypropylene Mesh in Ventral Hernia Repair. This was a study conducted at the Department of General Surgery in Sree Balaji Medical College & Hospital, Chrompet. This prospective observational study involved 20 patients. The preliminary results of this study show advantages of self-gripping mesh in regards to post-operative pain and duration of surgery as compared to the polypropylene mesh.

Keywords: Ventral Hernia, 15 x 15 cm polypropylene mesh, 2-0 prolene for anchoring the polypropylene mesh, 15 x 15 cm Self gripping polyester mesh

INTRODUCTION

Ventral abdominal wall hernia surgery is a common procedure amongst the surgeons. Primary open ventral hernia repair surgery is based on suture approximation of the aponeurosis on each side of the hernia defect and fixation of the mesh potential risk of associated pain is always of surgical concern **[1, 2]**. The most commonly used

biomaterial is a monofilament polypropylene mesh. To address the concerns regarding postoperative pain and suture fixation of these meshes, a low density, macroporous polypropylene mesh with self-gripping properties were developed.

Objective

Prospective study

Comparing the clinical outcome of suture less self-gripping mesh vs polypropylene mesh secured with sutures in ventral hernia repair.

METHODS

Conducted in the department of general surgery. Two groups included 20 patients each, with one group undergoing polypropylene mesh fixation using suture and other with self gripping mesh. All uncomplicated ventral hernia patients >20 years of age and a defect <5cm were included. Patients adhering to inclusion criteria were operated upon and followed up postoperatively for a period of 90 days. Pain was measured using visual analog scale.

Control group – Polypropylene mesh used with suture fixation

Study group – Sutureless self gripping Polyester mesh.

Inclusion criteria

All uncomlicated ventral hernia patients above the age group of 20

Ventral hernia defects <5cms.

Exclusion criteria

Recurrent hernia

Comlicated hernia (Obstruction, Strangulation)

Ventral hernia defect >5cm

Postop Pain – On the day of surgery, 24 hrs and 48 hrs postop.

Wound infection – Until they were discharged.

3 months followup for pain and recurrence.

RESULTS

With regards to pain and duration of surgery, significant differences were reported on POD-0, after 24 hrs and 48 hrs with values being the same during follow up. Wound infection and recurrence rates showed no statistical difference.

On pod 0, p value 0.007

Pain score at 24 hours, p value 0.008

Pain score at 48 hours, p value 0.035

There is incidence of wound infection, mesh rejection or foreign body sensation in our study.

Duration of surgery, <60 mins: control-10 study-20,

>60 mins: control-18 study-10. Statistical significance with p-value of 0.035

DISCUSSION

The preliminary results show the advantages of the self-gripping mesh. Duration of

surgery is significantly shorter, the time necessary to spread the mesh and fix is less than 1 minute. The shorter time needed for fixation reduces the time of mesh exposure. The immediate postop pain and pain at discharge was reduced relative to the control group. The lack of tension during mesh positioning and closure can reduce pain generated by tension created on surrounding tissues **[3, 4]**.

CONCLUSION

The preliminary results of this study show advantages of self gripping mesh in regards to post operative pain and duration of surgery as compared to the polypropylene mesh. The study shows, reduction in immediate postoperative and pain at discharge, also the lack of need for suturing ensured lesser exposure time for mesh placement and contributed to reducing the overall duration of surgery.

REFERENCES

[1] Amid PK, Shulman AG, Lichtenstein IL. Critical scrutiny of the open “tension-free" hernioplasty. Am J Surg. 1993; 165(3): 369-71.

[2] Campanelli G, Pascual MH, Hoeferlin A, Rosenberg J, Champault G, Kingsnorth A, *et al*. Randomized, controlled, blinded trial of Tisseel/Tissucol for mesh fixation in patients undergoing Lichtenstein technique for primary inguinal hernia repair: results of the TIMELI trial. Ann Surg. 2012; 255(4): 650-7.

[3] Kapischke M, Schulze H, Caliebe A. Self-fixating mesh for the Lichtenstein procedure: a present study. Langenbecks Arch. Surg. 2010; 395: 317.

[4] Kolbe T, Hollinsky C, Walter I, Joachim A, Rulicke T. Influence of a new self-gripping hernia mesh on male fertility in a rat model. SurgEndosc. 2010; 24: 455.