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Original Research Paper

<u>Surgery</u>

Study of Postoperative Complications of Preperitoneal Mesh
Repair in Incisional Hernia.Dr. Bijay Kumar
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ABSTRACT Background: Incisional Hernia is a common surgical condition. Preperitoneal mesh repair technique showed reduced number of postoperative complications and recurrence compared to other techniques. Aims: The aim of the study was to evaluate the technique of preperitoneal mesh repair of incisional hernias. Material and Methods: This prospective study consisting of 33 cases was done from January 2011 to December 2012. Preperitoneal mesh repair was done in all the 33 cases. Follow up of 12 to 24 months was carried in the OPD with regards to postoperative complications and recurrences if any. Results: No recurrence was noticed in the present study. Less number of postoperative complications were noticed in the present study. Conclusion: We conclude that preperitoneal mesh repair is the ideal technique for incisional hernia repair.

KEYWORDS : Incisional hernia, preperitoneal mesh repair, postoperative complication.

INTRODUCTION

Incisional hernia is defined as a defect occurring through the operative scar. It is one of the most common conditions requiring major surgery despite advances in surgical techniques and suture material. The incidence of incisional hernia is 2-11% following all laparotomies ¹ and it is a source of morbidity and requires high health care costs. It is seen more in females, obese and older age group. As a result of high recurrence rate in the repair of incisional hernia, various types of repairs have been used both anatomical and prosthetic. But the results have been disappointing with a high incidence of recurrence-about upto 50% after an anatomical repair and upto 10% following prosthetic mesh repairs^{2,3,4}. The introduction of prosthetics has revolutionized hernia surgery with the concept of tension free repair. The implantation of prosthetic mesh remains the most efficient method of dealing with incisional hernia⁵. The prosthetic mesh can be placed between the subcutaneous tissues of the abdominal wall and the anterior rectus sheath (onlay mesh repair) as well as in the preperitoneal plane. The main advantage of pre peritoneal mesh repair are - Less chance of mesh infection and erosion through skin because the graft lies in preperitoneal plane between posterior rectus sheath and peritoneum, avoids adhesions, bowel obstruction, enterocutaneous fistula and erosion of mesh, minimal morbidity and duration of hospital stay is less compared to other techniques. The main disadvantage is more time consuming, extensive preparation of preperitoneal plane and surgical experience. The present study was undertaken to evaluate the technique of preperitoneal mesh repair of incisional hernias with regards to post operative complications and recurrences.

MATERIAL AND METHODS

This prospective clinical study consists of 33 patients with incisional hernia managed by Preperitoneal mesh repair in Darbhanga Medical College & Hospital during the period from January 2014 to December 2016. The patients who were admitted to surgical wards, diagnosed to have incisional hernia and managed by Preperitoneal mesh repair were included in this study. All patients underwent thorough clinical examination and a detailed history and details of earlier operation were asked for. All patients were evaluated for systemic disease or precipitating cause. Patients who had hypertension, diabetes mellitus or cough were controlled preoperatively. Routine investigations weredone for all patients including chest x-ray and ultrasonography of the abdomen. A day prior to surgery, shaving of the abdomen and genitalia was done. NATIA nasogastric tube and Foley's catheter was passed and broad-spectrum antibiotics was given to all patients before the procedure. Patient was explained about the effects and complications of the procedure. The procedure was done under general anaesthesia, spinal or epidural anaesthesia in supine position. In all cases, old operative scar was excised, generous skin incision were used to permit adequate exposure of hernial sac and defect. The sac was opened and contents were reduced after lysis of the adhesions. The excess sac was excised, peritoneum was closed with absorbable synthetic suture. Adequate preperitoneal plane was prepared between the posterior rectus sheath and peritoneum, mesh was placed and fixed with prolene no. 2-0 or 3-0 sutures. Suction drains were laid on the mesh and brought out through separate stab wounds. Muscular aponeurotic structures were repaired with prolene no.1 suture. Skin was closed after insertion of suction drain in subcutaneous plane. In the postoperative period, nasogastric aspiration was done, every two hourly in first 24 hours. The nasogastric tube was removed once the patient passed flatus. Foley's catheter was removed on postoperative day one. Suction drain was removed once the drainage falls to 25 to 30 cc. Antibiotics were continued for five days. Postoperatively, deep breathing exercises, movement of limbs in bed was advised as soon as patient recovered from anaesthesia. Early limited ambulation was done once the patient was able to bear the pain. Skin sutures removed on 10th day and in few cases after 10th day. At discharge, patients were advised to avoid carrying heavy weights and advised to wear abdominal belt. Patients were reviewed after one month and three months in all cases and few cases upto two years. At review, symptoms were asked for and operative site examined for any recurrence. These cases were then analyzed and results were compared with existing literature.

RESULTS

Study Design: A prospective clinical study consisting of 33 patients with Incisional hernia who were managed by preperitoneal mesh repair is undertaken to investigate the role of preperitoneal mesh repair and its postoperative complications. Fifty-three patients underwent preperitoneal mesh repair of incisional hernia during two year study from January 2014 to December 2016. The youngest patient was 26 years old and the oldest was 70 years old. 25 patients were females which outnumbered the 8 male patients. The female to male ratio was showing that incidence of incisional hernia is higher in females. In all the 33 patients, hernia appeared within two years after surgery,

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The main presenting complaint in all the 33 patients (100%) was swelling of abdomen in the vicinity of the previous operative scar. This was associated with dragging pain at the site of hernia in thirtysix patients and irreducibility in 2 patients . None of the patients had obstruction or strangulation. 25 patients had midlines incision causing the incisional hernia. This was followed by Pfannensteil incision in 5 and paramedian incision in 3 patients

Postoperative Complications of Preperitoneal Mesh repair in Incisional Hernia.

Wound Infection 05 (15%) Seroma formation 6 (18%), Recurrence 00, Sinus 00, Mesh removal 00, No Complain 22 (66%) Drains were used in all the patients. The period of drainage ranged from 3-8 days with the average period being 4-6 days. Followup was carried out for minimum 12 months and maximum 2 years. No recuurence was encountered in the followup group.

Complications	Patients (%)
Wound Infection	05 (15%)
Seroma formation	06 (18%)
Recurrence	00
Sinus	00
Mesh removal	00
No Complain	22 (66%)

DISCUSSION

Comparison of postoperative complications in preperitoneal mesh repair (Present study) and other mesh repairs (Other Studies)

Post operative complications

Post operative complications	Present study (n=33)	Hameed et al (n=52)	Manohar et al (n=50)
Wound Infection	05 (15%)	02 (4%)	1(2%)
Seroma	06 (18%)	02 (2%)	5(10%)
Deep vein thrombosis			1(2%)
Sinus			
Recurrence			

CONCLUSION

Less number of postoperative complications noticed in present study. No recurrence noticed in this study. In the present study, preperitoneal mesh repair had excellent longterm results with minimal morbidity.

REFERENCES

- Da-silva al; Patroiaanu. A. Incisional hernias;factor influencing development. South Med. J. 1991; 84:1500-155. 1.
- Cassar K, Munro A. Surgical treatment of incisional hernia. B J Surg 2002; 2. 89:534-545
- George CD, Ellis H. The results of Incisional hernia repair. A twelve year 3. review. Ann R Coll Surg Engl 1986; 68: 185-7.
- Bauer JJ, Harris MT, Gorfine SR, Kreel I. Rives stoppa repair of giant incisional 4. hernias. Experience with 57 patients. Hernia 2002; 6: 120-3.
- I. Ahmed; D. Mahmood; J.Khan. Use of Mesh in the management of recurrent 5. incisional hernias.Pak. J. Surg. 1995: 11: 101-2.
- 6. Berry MF, Paisley S, Low DW et al. Repair of large complex recurrent incisional hernias with retromuscular mesh and panniculectomy Am J Ssurg 2007;194: 199-204
- Iqbal CW, Pham TH, Joseph A et al. Long term outcome of 254 complex 7. incisional hernia repairs using modified Rives-Stoppa technique World J Surg 2007; 31: 2398-2404. NATIONAL JOURNAL OF MEDICAL RESEARCH print ISSN: 2249 4995 eISSN: 2277 8810 Volume 3 Issue 4 Oct - Dec 2013 Page 331
- 8. Martin-Duce A, Noguerales F, Villet AR et al. Modifications to Rives technique for midline incisional hernia repair. Hernia 2001; 5: 70-72.
- 9. Langer C. Schaper A. Liersch T et al. Prognosis factors in incisional hernia surgery:25 years of experience. Hernia 2005; 9: 16-21. 10.
- 10. Michael Zinner, Seymour I. Schwartz, Harold Ellis. Maingot's: Abdominal operations. 10th ed, Vol. 1, 423-425 and 548-572.
- 11. Bhutia WT, Chandra SS, Srinivasan K, Ananthakrishna N. Factors predisposing to incisional hernia after laparotomy and influencing recurrences rate after different methods of repair: A prospective study of 220 patients. IJS 1993; 55 (11): 535-543.

- Richard J, Sanders S, Didementi D. Principles of abdominal wall closure, 12. prevention of wound dehiscence. Arch Surg. 1977; 112: 1188-91
- 13 Manohar C S, Ramdev K. Management of Incisional Hernia by Peritoneal Mesh Repair.International Journal Of Basic Medical Sciences; Volume 1 issue 3June2010
- Ponka JL. Hernias of the abdominal wall. Philadelphia, W. B. Saunders, 1981 15. Bucknell TE, Cox PJ. Burst abdomen and incisional hernia: A prospective
- 16
- study of 1129 major laparotomy. Br Med J 1982; 284: 931. Antoine Hamy, Patrick Pessaux, Tephanie S, Serge Radriamananjo et al. Surgical treatment of large incisional hemia by an intraperitoneal Dacron mesh and an aponeurotic graft. J Am Coll Surg 2003 Apr; 196 (4): 531-534.
- Fakhar Hameed , Bashir Ahmed, Asrar Ahmed, Riaz Hussain Dab, Dilawaiz. Incisional Hernia Repair by Preperitoneal (Sublay) Mesh Implantation. A.P.M.C Vol: 3 No.1 January-June 2009
- Leber Geoffrey E, Garb Jane L, Alexander Albert I, Reed WP. Long-term 18. complications associated with prosthetic repair of incisional hernia. Arch Surg 1998 Apr; 133 (4): 378-382.
- 19. deVries Reilingh TS, Van Geldere D, Langenhurst B, Dejong D, van der wilt GJ, van GH. Repair of large midline incisional hernias with polypropylene mesh: Comparison of three operative techniques. Hernia 2004 Feb; 8 (1): 56-59.