

Our Experience with Incisional Hernia Repair by Open Preperitoneal Hernioplasty

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I. Introduction

Incisional hernia is defined as a hernia occurring through defect in the operative scar. The incidence of incisional hernia in literature is 2- 11% following all laparotomies and it is a source of morbidity and requires high healthcare costs.

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 high recurrence in anatomical repair⁽²⁾. So, there is introduction of prosthetics(mesh) in hernia surgery with the concept of tension free hernia repair.

The implantation of mesh remains the most efficient method of incisional hernia repair, various types of repairs have been used. The prosthetic mesh can be placed above abdominal rectus sheath layer in the subcutaneous tissues of the abdominal wall and the anterior rectus sheath (onlay mesh repair). In inlay mesh repair mesh placed in plan of rectus sheath. In underlay mesh repair mesh placed below musculofascial layer, it include preperitoneal,retrorectus,intraperitoneal mesh repair.

In preperitoneal mesh repair mesh placed in preperitoneal plane between posterior rectus sheath and peritoneum plane. The main advantage of pre peritoneal mesh repair are Less chance of mesh infection and erosion through skin because the mesh 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. This technique is considered by many surgeons to be the gold standard for the open repair of abdominal incisional hernia.

The present analysis is undertaken to evaluate the technique of preperitoneal mesh repair of incisional hernias with regards to post operative complications and recurrences.

II. Material And Methods

In this study patients with incisional hernia managed by Preperitoneal mesh repair in General Surgery Department, Civil Hospital, Ahmedabad during the period from January 2013 to December 2014 are reviewed and analysed. All patients related details such as a detailed history, clinical findings, operative detail and complications are collected through patients case paper records and patient's interview and all information analysed.

In all cases standard preperitoneal hernioplasty were used after proper evaluation and adequate preoperative preparation. Old operative scar was excised. The sac was dissected, opened whenever necessary, the redundant 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 sutures. Aponeurotic structures were repaired with prolene no.1 suture. Skin was closed after insertion of suction drain in subcutaneous plane.

III. Observation And Result

A Total 34 patients managed by preperitoneal mesh repair for incisional hernia during two year study from January 2013 to December 2014 reviewed and analysed.

Table 1: Age & Sex wise Distribution of Patients with Incisional Hernia

AGE(YEARS)	MALE	FEMALE	TOTAL(n=34)
15-30	2	1	3(8.82%)
31-50	4	16	20(58.82%)
51-70	3	8	11(32.35%)

The youngest patient was 26 years old and the oldest was 70 years old and mean age 44.97 years. 73.53%(n=25) were females and 26.47%(n=9) were male patients, showing that incisional hernia is higher in females.

The main presenting complaint in all patients (100%) was reducible swelling of abdomen in the vicinity of the previous operative scar. This was associated with dragging pain at the site of hernia in 11(32.35%) patients. None of the patients had obstruction or strangulation.

Table 2: Type of Incision causing hernia

TYPE OF INCISION	FREQUENCY(n=34)
Midline	30(88.23%)
Paramedian	2(5.88%)
Pfannensteil	1(2.94%)
Transverse	1(2.94%)

A 88.23%(n=30) patients had midlines incision causing the incisional hernia. This was followed by paramedian incision in 5.88%(n=2), Pfannensteil incision in 2.94%(n=1) and transverse incision in 2.94%(n=1) patients. Patients discharge on post operative day 4th to 12th average 5.32 days.

Table 3: Postoperative Wound Complications

COMPLICATIONS	PATIENTS(n=34)
Seroma	4(11.76%)
Wound Infection	2(5.88%)
Sinus	0
Recurrence	0
Mesh Removal	0

After preperitoneal meshplasty, the postoperative complications such as seroma formation in 11.76%(n=4) and wound infection in One 5.88%(n=2) but the mesh was not removed in any of the patients. There were no postoperative complications in 82.35%(n=28) patients.

IV. Discussion

In present study, age ranged from 26 years to 70 years and with peak incidence in 31 to 50 age group and mean age 44.97 years. As per the Maingot's studies¹, mean age was around 45 years. There is a female preponderance noticed in 73.35%(n=25) patients.

All patients are presented with history of reducible swelling, associated pain was present in 32.35%(n=11) patients.

In this study, 88.23%(n=30) patients developed incisional hernia through midline incision, 5.88%(n=2) through paramedian incision, 2.94%(n=1) through Pfannensteil incision and 2.94%(n=1) through transverse incision.

In the present study 17.65%(n=6) of patients with postoperative complications out of which 11.76%(n=4) had seroma formation and 5.88%(n=2) of patients had postoperative wound infection. There was no recurrence and other postoperative complication in 82.35%(n=28) of patients.

Postoperative complications in present study 17.65% were comparable to other preperitoneal mesh repair studies by Manohar et al⁵ which was 14%, which shows post operative wound seroma in 10% patients, wound infection in 2% patients and no recurrence in any patients.

In study by Vikram kumar et al² show post operative wound seroma in 27.77% patients, wound infection in 11.11% patients and recurrence in 9% patients.

In study by hameed et al⁶ show post operative wound seroma in 2% patients, wound infection in 4% patients and no recurrence in any patients.

V. Conclusion

A Preperitoneal mesh repair considered as gold standard technique for open incisional hernia repair. In the present study, preperitoneal mesh repair had excellent postoperative results with less postoperative complications and minimal morbidity. No recurrence noted in our study, but larger sample size and longer follow up needed to comment on recurrence rate.

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