

ORIGINAL RESEARCH

**TO STUDY THE COMPLICATIONS AND CAUSES OF
INCISIONAL HERNIA REPAIR WITH PREPERITONEAL
MESHPLASTY****Manoj Kumar Sharma**

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ABSTRACT

Aim: The aim of this study to determine the complications and causes of incisional hernia repair with preperitoneal meshplasty.

Material and methods: Fifty patients hospitalised with the diagnosis of incisional hernia to various surgical wards underwent open preperitoneal polypropylene mesh surgery. Six months to one year after surgery, it was reviewed for problems and recurrence, and the findings were recorded. Incisional hernia patients were included in this research if they were between the ages of 14 and 77.

Results: There were 40 female patients and 10 male patients among the 50 total. In terms of defect size, 12 patients had less than 2 cm, 34 patients had between 2.1-4 cm, 2 patients had between 4.1-6 cm, and 2 patients had between 6.1-8 cm. Infraumbilical hernia was found in 39 cases, whereas supraumbilical hernia was found in 11 patients. In terms of post-operative complications, four patients experienced seroma, two had edge necrosis, two had post-op ileus, and two had persistent discomfort. Six patients were followed for six months, twelve for nine months, and thirty-two for a year.

Conclusion: The current research found that open preperitoneal polypropylene mesh repair has much less postoperative problems compared to other mesh repair procedures, and that there was no recurrence among its individuals throughout the follow-up period.

Keywords: Incisional hernia, Polypropylene mesh, Seroma, Recurrence

INTRODUCTION

A protrusion or bulge that develops close to or along the line of a previous abdominal surgical incision is known as an incisional hernia. In most cases, an incisional hernia begins as a painless, partial rupture of the deeper layer of a laparotomy wound in the immediate or early postoperative period, with no outward signs of the condition arising if the skin wound stays undamaged. Incisional hernias are responsible for 15% to 20% of all abdominal wall hernias, according to national operational data. Incisional hernias are among the most frustrating and difficult to treat of all hernia types. The term "incisional hernia" refers to the protrusion of abdominal contents and peritoneum through a weak surgical or accidental scar. Due to improvements in surgical techniques and a rise in the types and numbers of abdominal incisions, the occurrence of incisional hernias in patients after surgery has grown dramatically. Preventative measures are the first step in addressing the incisional hernia epidemic.¹

What's more, an incisional hernia is permanent. Methods of repair that do not result in recurrence or other difficulties should ideally be accessible. When treating an incisional hernia, mesh repair is the method of choice. We find that sublay yields superior outcomes than onlay. Incisional hernias may be traced back to a combination of medical practise issues and patient variables. Hernias may be prevented by using a different kind of suture or incisional closure method during the first procedure, however this has not been shown conclusively.²

The use of prosthetic mesh often cuts recurrence rates in half, from 10 to 50 percent. An on-lay patch, an interposition of prosthetic material across fascial flaws, a sandwich of prosthetic material between tissue planes, or an intraperitoneal position are all viable options for bolstering a tissue restoration. Multiple crucial characteristics of the mesh need to be thought about, depending on its position. The number of reported repair strategies is almost infinite. The outcomes of these operations have been variable not just when performed by various surgeons, but even when performed in the same manner by different surgeons. It is still unclear whether of open surgery and laparoscopic repair is the ideal

procedure for providing a long-lasting correction, and questions remain unanswered about the kind of mesh to be used and where it should be placed. There has not been conclusive evidence to support any of the suggested repair strategies, as seen by the wide variety of methodologies, prosthetic materials for repair, and potential places of mesh installation.^{3,4} The incidence of postoperative complications and recurrence after preperitoneal polypropylene mesh repair for incisional hernias are investigated in this prospective research.

MATERIAL AND METHODS

Fifty patients hospitalised with the diagnosis of incisional hernia to various surgical wards underwent open preperitoneal polypropylene mesh surgery. Six months to one year after surgery, it was reviewed for problems and recurrence, and the findings were recorded, statistically analysed, and compared with other published studies in the literature.

Incisional hernia patients were included in this research if they were between the ages of 14 and 77. Patients with incisional hernia who were not surgical candidates, who had a recurrence of their hernia, who had their hernia strangulated, or who were pregnant were not included in the research.

A custom-made data collection template was used to compile the information. A patient's history, physical, tests, diagnosis, and treatment are documented in a case report form (C. R. P.). Patients' sex, age, presence or absence of obesity, cough, constipation, prostatism, diabetes mellitus, glucocorticoid medication, smoking status, and abdominal surgery history were documented. Variables associated with the procedure were examined for causes of complications such as hematoma, dehiscence, and infection. Our guide personally oversaw all of the surgical operations, medical treatment, and investigations. Each participant provided written, informed permission in the patient's native language before the research began.

The information was gathered with the use of preformatted forms and then imported into Excel. In this study, data were presented as a frequency distribution and a percentage.

RESULTS

There were 40 female patients and 10 male patients among the 50 total.

Table 1: Gender distribution

Gender	Number	%
Male	10	20
Female	40	80

According to age, 16 patients were under the age of 45, 17 were between the ages of 45 -55, 11 were between the ages of 55 - 65, and 6 were beyond the age of 65.

Table 2: Age distribution

Age (years)	Number	%
Below 45	16	32
45-55	17	34
55-65	11	22
Above 65	6	12

In terms of defect size, 12 patients had less than 2 cm, 34 patients had between 2.1-4 cm, 2 patients had between 4.1-6 cm, and 2 patients had between 6.1-8 cm.

Table 3: Size of the defect

Size of the defect (cm)	Number	%
Below 2	12	24
2.1-4	34	68
4.1-6	2	4
6.1-8	2	4

Infraumbilical hernia was found in 39 cases, whereas supraumbilical hernia was found in 11 patients.

Table 4: Type of hernia

Type of hernia	Number	%
Supraumbilical	11	22
Infraumbilical	39	78

In terms of post-operative complications, four patients experienced seroma, two had edge necrosis, two had post-op ileus, and two had persistent discomfort.

Table 5: Post-operative complications

Post-operative complication	Number	%
Seroma	4	8
Wound infection	0	0
Hematoma	0	0
Edge necrosis	2	4
Wound dehiscence	0	0
Post op ileus	2	4
DVT	0	0
Mesh removal	0	0
Recurrence	0	0
Chronic pain	2	4

Six patients were followed for six months, twelve for nine months, and thirty-two for a year.

Table 6: Follow-up among subjects.

Follow-up (months)	Number	%
6	6	12
9	12	24
12	32	64

DISCUSSION

The most prevalent reason for a second laparotomy is the development of an incisional hernia, which may occur anywhere from 11 percent to 20 percent of the time. Fifty people participated in the current research, with the youngest being 23 and the oldest 69. Average age was 47.58. Patients between the ages of 45 -55 made up the largest age group (28%). In Maingot's study, the median age was calculated to be 45 years old, but in Ellis et al's survey of incisional hernia patients, it was 49.4 years old.^{5,6} With a female majority of 80% (40/60), the male to female ratio was 1:4.6.

Results from the research by Regnad et al. showed a similar male to female ratio (1:5.7). The precise ratio of men to women varies from study to study. Only 48% of patients complained only of swelling, while 52% also had pain, described as mild aching to dragging in character.⁷

Seventy percent of the 50 patients developed incisional hernias as a result of elective procedures, whereas the other thirty percent were treated during emergency index operations. According to research conducted by Parekh et al. in, the majority (72%) of surgical procedures were elective while just 28% were deemed to be emergencies.⁸

The current research found that 78% of instances had an infra umbilical lesion, whereas 22% involved a fault further up. The most common location for incisional hernias, as highlighted by Goel and Dubey, is the lower abdominal region.⁹ Milbourne found a prevalence of 28.7% among gynaecological procedures, while Ponka's research found a 36.0% prevalence.^{10,11} After 1129 abdominal surgeries, Bucknall et al. found that 48.8% of patients developed an infection in the surgical site after the index operation.¹²

Four patients had seroma, two developed edge necrosis, two developed post-operative ileus, and two developed persistent discomfort after surgery. Infection rates among wounds were 35.85 percent in Ellis et al's research.⁶ The overall incidence of complications is 20%, which is consistent with the survey on preperitoneal mesh repair by Manohar et al (14%). However, just one subject in Manohar et al's research reported experiencing persistent pain or discomfort, whereas two patients did so in Hamy

et al's study.¹¹⁻¹³ When compared to previous research on suture methods by Langer and George et al, we found no evidence of recurrence.^{13,14}

CONCLUSION

The current research found that open preperitoneal polypropylene mesh repair has much less postoperative problems compared to other mesh repair procedures, and that there was no recurrence among its individuals throughout the follow-up period. A longer period of observation is needed before any firm conclusions can be drawn.

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