

A Study on Laparoscopic Hernioplasty for Incisional Hernia

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Abstract: Introduction: Incisional hernias are one of the most common complications of open abdominal surgeries, presents as herniation or protrusion occurring along a prior abdominal scar. This study was undertaken to study the incidence and various risk factors leading to incisional hernia. Aims and Objectives: - To assess sexual predisposition, age, to assess obesity as contributing risk factor. Results: The incidence is around 18.5%. Patients in the age group of 30-50 years found to have highest incidence of incisional hernia. Females outnumbered the males with the ratio of 6:1. Conclusion: Incisional hernias incidence can be reduced by limiting the length of midline incisions, especially in the infra umbilical region. Laparoscopic mesh repair results in less post-operative complications provided drains are used.

Keywords: Incisional hernia, meshplasty, abdominal surgeries

1. Introduction

The Incisional abdominal wall hernia is a type of hernia in which abdominal tissue or organs protrude through the incompletely healed fascia or muscularis of an abdominal Incisional area due to intra-abdominal pressure. A common complication after abdominal surgery with an incidence rate of approximately 2–18%. Its occurrence is associated with wound infection, surgical mishandling, increased intra-abdominal pressure and other systemic factors such as smoking, malnutrition, jaundice, obesity, steroid use and depressed immunity. The probability of an abdominal incisional hernia occurring is significantly higher for longitudinal incisions than transverse incisions.

2. Aims and Objectives

Retrospective study of incisional hernia to know the incidence. To define the risk factors and comorbidities

3. Materials and Methods

Study Design: Retrospective study

Study Period: June 2017 to June 2019

Sample Size: 120

Inclusion Criteria:

- Patients above 18yrs of age to 65 yrs of age.
- Persons who underwent previous abdominal surgery.

Exclusion Criteria

- Persons with malignancies, bleeding disorders, strangulated hernias.
- Persons with congestive heart failure, severe COPD
- Infections of skin or surrounding structures.

4. Methodology

- All the cases were analyzed in various aspects like age, sex, relative incidence, clinical presentation, site of previous scar, precipitating factors like obesity, wound infection, and subsequently underwent laparoscopic meshplasty
- Between June 2017 to June 2019, a total of 120 patients, 44 -male and 76- female underwent laparoscopic hernia repair for incisional hernia.
- They were assessed for the risk factors- chronic cough, urinary tract obstruction symptoms, lifting heavy weight, and other factors increasing intra abdominal pressure etc.
- The effect of age, gender, obesity, previous abdominal surgeries, and size of the scar was also analyzed retrospectively.

5. Results

A total of 120 patients underwent the procedure in the duration of 2 years. Females (n - 76) outnumbered the males (n - 44). The females presented at a younger age (mean 32.8 yr) compared to the male patients (mean 51.8 yr).

Approximately 25% of the males presented with irreducible hernias. 15% of females also had irreducible hernias. None of the patients had any features of obstruction or strangulation

Demographic profile of patients

	Males	Females
Total patients	44	76
Age at 1 st presentation	51.8 (32-76)	38.8(32-61)
Irreducible hernia	25%	15%
Multiple hernia defects	10%	25%

Volume 9 Issue 2, February 2020

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- The average operating time was 61.4 min (48-102 min).
- The average size of the defects was 10.2 cm (6.6-24.8 cms).
- The mesh used was composite mesh depending on the size of the defect 3'*6' to 10'*15' mesh was used.
- 85% of the patients (n -102) were discharged within 48h of the surgery. The rest of the patients had a longer hospital stay.
- The prolonged hospital stay was either due to the tedious dissection process and bleeding during the surgery or due to the slow return of bowel functions in the post-operative period.
- Prolonged ileus over one day was encountered in 12 patients.
- Antibiotics were continued for 72 h after surgery. Analgesics were continued for 48 h in majority of the patients.

Surgeries performed that led to incisional hernias:

Males	Females
Midline laparotomy	Hysterectomy (vertical)
Recurrent incisional hernia	LSCS (vertical)
Hydatid cyst excision	Recurrent incisional hernia
Open cholecystectomy	Exploratory laporotomy
Umbilical hernia	Ruptured ectopic
Para – umbilical hernia	Open cholecystectomy
	Umbilical hernia
	Para – umbilical hernia

6. Discussion

Laparoscopic surgery of the abdominal wall is popular due to its good results, better quality of repair, low morbidity and recurrences.

Females in had a higher tendency to incisional hernia formation. The females had an early presentation while males presented in their early 50's.

The age of the females coincided with the peak of their reproductive period, which could be one of the predisposing factors. Caesarian sections were one of the commonest surgeries predisposing to incisional hernias. 1/4th of the patients in our series had multiple defects. In these cases, special precaution was taken to define all the defects. The suture in the case of multiple defects was passed through the centrally lying defect.

The size of the mesh was such that all the defects could be adequately covered.

All the patients with irreducibility had omentum and dense adhesions were encountered between the omentum and the sac.

Immediate post-operative complications viz., prolonged ileus, pain and fever was managed conservatively.

Incidence of seroma formation has been reported to be 2-13% after the surgery, managed conservatively without any intervention.

By strapping the abdomen after surgery an attempt is made to eliminate dead spaces and prevent seroma formation.

All the collections resolved without any intervention within a period of 6 weeks, documented by ultrasonography.

Prolonged pain in the port sites was seen in 2.6% cases, which is comparable to rates reported in literature treated routinely used pain killers.

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