



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2019; 5(4): 80-82
www.allresearchjournal.com
Received: 07-02-2019
Accepted: 08-03-2019

Akash Karan
Department of General
Surgery, IMS & SUM hospital,
Siksha O Anusandhan
University, K8, Kalinga
Nagar, Bhubaneswar, Odisha,
India

Biren Prasad Padhy
Department of General
Surgery, IMS & SUM hospital,
Siksha O Anusandhan
University, K8, Kalinga
Nagar, Bhubaneswar, Odisha,
India

Krishnendu Maiti
Department of General
Surgery, IMS & SUM hospital,
Siksha O Anusandhan
University, K8, Kalinga
Nagar, Bhubaneswar, Odisha,
India

Correspondence
Biren Prasad Padhy
Department of General
Surgery, IMS & SUM hospital,
Siksha O Anusandhan
University, K8, Kalinga
Nagar, Bhubaneswar, Odisha,
India

A prospective randomised study of incisional hernia with special reference to etiopathogenesis, clinical features and management

Akash Karan, Biren Prasad Padhy and Krishnendu Maiti

Abstract

Incisional hernia is a typical surgical condition experienced in everyday practice. Of all hernias experienced, incisional hernias can be the most disappointing and hard to treat. There is no convincing proof that shows that the kind of suture or method of incisional conclusion at the essential task influences hernia development. Keeping in view all the distinctive investigations performed for incisional hernia, this examination was taken up to know diverse etiopathogenesis in charge of the advancement of incisional hernia alongside clinical highlights. This investigation additionally centers around various treatment modalities for incisional hernia in IMS and SUM emergency clinic, Bhubaneswar. The sex frequency of incisional hernia among the cases contemplated (Female: Male) is discovered 2.1:1. 26% of the patients gave hauling nature of agony related with the swelling. 12% of the patients gave incisional hernia inside a time of past medical procedure, and 66% inside 2 years of medical procedure. Just 12% of patients created hernia following 4 years of medical procedure. This examination is a push to assess the etiopathogenesis, clinical highlights and the board of Incisional hernia.

Keywords: Incisional hernia, Swelling, Etiopathogenesis

1. Introduction

Incisional hernias are a type of ventral hernia, and by definition, these develop at sites where an incision was made for some prior abdominal procedure. Incisional hernias occur as a result of excessive tension and inadequate healing of a previous incision, which is often associated with surgical site infection. As many factors contribute to formation of incisional hernia^[1], which can occur at the site of any type of abdominal surgery previously performed on a wide range of individuals, there is no outstanding profile of an individual most likely to have an incisional hernia. Men, women, and children of all ages and ethnic backgrounds may develop an incisional hernia after abdominal surgery. Primary repair of incisional hernias can be done when the defect is small (≤ 2 cm in diameter) and there is viable surrounding tissue. Larger defects ($>2-3$ cm in diameter) have a high recurrence rate if closed primarily and are repaired with a prosthesis^[2]. These large abdominal wall defects also can result from the inability to close the abdomen primarily because of bowel edema, abdominal packing, peritonitis, and repeat laparotomy. With loss of domain, the natural rigidity of the abdominal wall becomes compromised, and the abdominal musculature is often retracted. Respiratory dysfunction can occur because these large ventral defects cause paradoxical respiratory abdominal motion. Loss of abdominal domain also can result in bowel edema, stasis of the splanchnic venous system, urinary retention, and constipation^[3]. Incisional hernia is a common surgical condition encountered in day to day practice. Of all hernias encountered, incisional hernias can be the most frustrating and difficult to treat. Keeping in view all the different studies performed for incisional hernia, this study was taken up to know different etiopathogenesis responsible for the development of incisional hernia along with clinical features. This study also focuses on different treatment modalities for incisional hernia in IMS and SUM hospital, Bhubaneswar.

2. Materials and Methods

All the materials for this study has been taken from 100 patients who got admitted to IMS

and SUM hospital, Bhubaneswar for the treatment of incisional hernia from June 2016 to July 2018.

Inclusion and exclusion criteria

A detailed clinical study and management of 100 cases of incisional hernia treated with polypropylene onlay mesh repair, laparoscopic hernia repair and primary closure has been personally made. The cases have been selected at random. All patients of primary incisional hernia with previous history of laparotomy are selected at random. Clinical history is taken regarding duration of hernia, progression in size, associated complaints like pain in the

swelling or abdomen, vomiting, reducibility, chronic cough, constipation, difficulty in micturition, abdominal distention history suggestive of ascites and other causes of abdominal distention. History regarding previous surgery with respect to nature of operation, duration, type of incision, type of closure, post-op complications, is enquired. In local examination special attention was given to the position, size, shape, composition, cough impulse, reducibility, and skin over the swelling, and size of the defect and tone of the muscles, position of the previously operated scar.

Results



Fig 1: A. Incisional hernia from lower end of midline incision, B. identification of hernial sac.

The present study was carried out in the Department of General Surgery in IMS and SUM Hospital at Bhubaneswar. Hundred cases of incisional hernia were included in the study after taking consent. They were subjected to either Onlay mesh repair or Laparoscopic Intra-peritoneal Onlay Mesh repair or Primary closure. Evaluation of all the patients included in the study was done regarding the history, physical findings and operative management. The patients were followed up at one month, six months and after a year for any complications or recurrence. Any recurrence of hernia was considered an end point.

Table 1: Age distribution of incisional hernia cases in our study

Age in years	No. of cases	Percentage
21-40	38	38
41-60	46	46
61-80	14	14
>80	2	2

Table 2: Sex incidence of incisional hernia cases in our study and clinical presentation of cases.

Sex	No. of cases	Percentage
Male	32	32
Female	68	68
Only Swelling.	74	74%
Pain with swelling.	26	26%

Table 3: Duration of symptoms of cases in our study

Duration of symptoms	No. of cases	Percentage
<1 year	12	12%
1-2 years	66	66%
3-4 years	10	10%
>4 years	12	12%

Table 4: Post op complications following primary surgery.

Post op complication	No. of cases	Percentage
Superficial Wound Infection	28	28%
Chronic cough	16	16%
Heavy weight lifting	6	6%

Discussion

The sex incidence of incisional hernia among the cases studied (Female: Male) is 2.1:1, which clearly means that females have higher incidence of incisional hernia. The incidence is more in females because of laxity of abdominal muscles due to multiple pregnancies. In males the incidence of incisional hernia is relatively less as most of the surgeries are above the umbilicus, and the strength and integrity of abdominal wall is good because of well-developed muscles and fascia [4]. All the patients under study presented with swelling in the abdomen. 26% of the patients presented with dragging nature of pain associated with the swelling. In this study 46 percent of the incisional hernia have occurred through midline infra umbilical incisions. This can be attributed to the fact that posterior rectus is absent below the arcuate line in the lower abdomen [5]. Vertical incisions are under more stress compared to transverse incisions. Also the intra peritoneal pressure is hydrostatic and in the erect position, the upper abdominal pressure remains at 8 cm of water while the lower abdominal pressure increases to 20 cms of water, with change of posture from recumbency to standing. In this study 12% of the patients presented with incisional hernia within a year of previous surgery, and 66% within 2 years of surgery. Only 12% of patients developed hernia after 4 years of surgery. All the patients received preoperative antibiotic (cephalosporin) and continued up to 6 days post-operative period. None of the patients required

removal of mesh due to wound infection. There were no cases of mesh extrusion.

Conclusion

Incisional hernia is a common surgical condition following laparotomies. Its incidence ranges from 4 to 11%. The incidence of incisional hernia is more common in females than males with Female to Male ratio 2.1:1. Incisional hernia is more prevalent in between 4th and 6th decade with majority of the patients being in the age between 41 years and 60years. Patients who underwent emergency surgical intervention previously were more prone to get incisional hernia. In the study 36 percent of the patients who underwent the previous surgery on an emergency basis had incisional hernia. Over all this study is an effort to evaluate the etiopathogenesis, clinical features & management of Incisional hernia.

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