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A clinical study and management of incisional hernia

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Abstract

Incisional hernia has followed abdominal surgery like a shadow for more than a century. Ian Aird defines incisional hernia as a diffuse extrusion of peritoneum and abdominal contents through a weak scar of an operation or accidental wound. Incisional hernia occurs in 5-11% of patients subjected to abdominal operations. Many factors are associated with incisional hernia like age, sex, obesity, chest infections, type of suture material used and most important wound infection. Laparoscopic techniques of hernia repair have revolutionised the treatment of incisional hernia repair by reducing the morbidity and less hospital stay. This study has been undertaken to assess the magnitude of this problem, various factors leading to development of this condition and the different modalities of treatment practiced in our setup.

Keywords: Incisional hernia, management, clinical

Introduction

Incisional hernias can develop after abdominal surgery. They happen after up to 15 to 20 percent. Trusted Source of abdominal operations involving incisions. Certain factors may increase or decrease your risk for developing an incisional hernia. Incisional hernias happen when the surgical cut in your abdominal wall doesn't close properly after surgery. This can cause your abdominal muscles to weaken, allowing tissue and organs to form a hernia. Several things can prevent the surgical cut from healing properly, including:

- putting too much pressure on your abdomen
- becoming pregnant before the cut fully heals
- getting back into physical activities too soon after surgery

Sometimes, there's no clear reason why a surgical cut doesn't properly heal. Hernias are more likely after emergency surgery or surgery that requires a large incision. If the edges of the wound aren't properly aligned after surgery, the incision may not heal well, increasing the likelihood of a hernia. The sewing technique used to close the incision can also play a part. The most serious complications of incisional hernias are bowel obstruction and strangulation. A strangulated hernia can cause tissue death in your intestine. This condition may be life-threatening if you don't get treatment right away. It's also possible for hernias to rupture, but this is extremely rare. Small hernias that go untreated tend to get larger over time. If a hernia gets too big, it can cause swelling and pain in your abdomen and eventually become irreducible. You'll likely notice quickly if this happens because it tends to cause a lot of discomfort. If a hernia of any size causes significant pain or discomfort or has a negative effect on your quality of life, contact your healthcare provider right away. Complications can be potentially life-threatening, so it's best to have any unusual symptoms looked at just in case.

Incisional hernia has followed abdominal surgery like a shadow for more than a century. Ian Aird defines incisional hernia as a diffuse extrusion of peritoneum and abdominal contents through a weak scar of an operation or accidental wound. Incisional hernia occurs in 5-11% of patients subjected to abdominal operations. Many factors are associated with incisional hernia like age, sex, obesity, chest infections, type of suture material used and most important wound infection.^{1,2} Laparoscopic techniques of hernia repair have revolutionised the treatment of incisional hernia repair by reducing the morbidity and less hospital stay. This study has been undertaken to assess the magnitude of this problem, various factors leading to development of this condition and the different modalities of treatment practiced in our setup.

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Aims and Objectives

To study the clinical and management of incisional hernia.

Materials and Methods

A total of 30 cases were studied. This study was done in MES Medical College.

This study was done from March 2019 to February 2020.

Exclusion criteria

Included patients beyond 70 years of age and incisional hernias associated with other abdominal wall hernias.

A detailed history of all the patients was taken and a thorough clinical examination was done to determine the type and cause of hernia.

Results

Table 1: Age Distribution

30-40 years	04
41-50 years	11
51-60 years	13
61-70 years	02

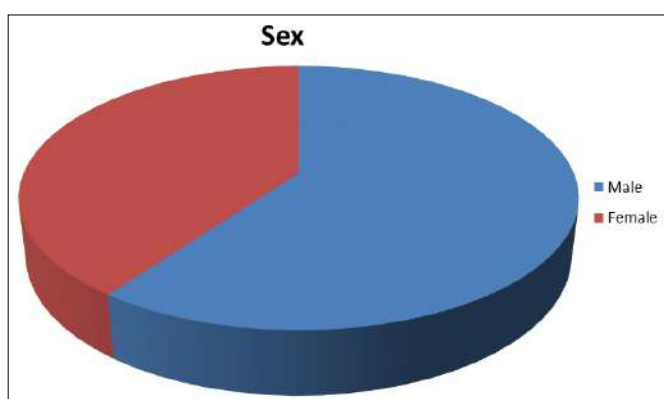


Fig 1: Sex Distribution

Table 2: Previous Surgeries

Appendectomy	07
Hysterectomy	02
Caesarean section	04
Explorative laparotomy	04
Cholecystectomy	01
Miscellaneous	02

Table 3: Signs and Symptoms

Abdominal swelling	30
Pain	17
Obstruction	01
Fever	03

Table 4: Incision

Lower midline	21
Upper midline	02
McBurney	01
Paramedian	01
Oblique lumbar	05

Table 5: Treatment

Anatomical repair	02
Onlay mesh	05
Sublay mesh	21
Underlay mesh	02

Discussion

Agrawal M *et al.* [3] analysed 100 cases of incisional hernia, 42% of patients were in the age group 41-45 years, followed by 51-60 years (30%), 31-40 years (17%) and 21-30 years (11%). In a similar study done by Ellis *et al.* [4] 48% of patients developing incisional hernia belonged to the age group of 31-40 years. The mean age of incisional hernia in the present study was 40.7 years, which was comparable with the study by Ellis *et al.* (49.4 years). In the study by Agrawal *et al.*, female-to-male ratio was 1.6:1. In a similar study done by Ellis and Heddle, female-to-male ratio was 4.8:1. Millbourn *et al.* [5] reported an incidence of 64.6% female population in their study of 383 patients. The reason behind this could be laxity of the abdominal muscles due to multiple pregnancies and increased number of lower abdominal incisions in females. J.B. Shah *et al.* [6] and Goel *et al.* series have male-to-female ratio of 1:1.17 and 1:1.25, respectively. In the present study, male:female ratio was 1:6 being more common in females. On clinical examination in the study by Agrawal *et al.* [3] 86% of cases presented with reducible lump, only three cases had severe pain with strangulation. Incisional hernia occurred between 6 months to 1 year of surgical intervention in 48% of cases. 68% patients had previous surgeries through lower abdominal incisions, 18% patients with upper midline incision, 10% patients with right paramedian incision and 4% with left paramedian incision. In the study by Bucknell *et al.* 42% cases presented with hernia 1-5 years after primary surgery. 68% patients who had lower abdominal incisions developed incisional hernia followed by 18% patients with upper midline incision, 10% patients with right paramedian incision and 4% with left paramedian incision. Millbourn *et al.* and Carlson found that this type of hernia is common in females undergoing gynaecological surgeries in which lower abdominal incisions are made [7]. Some authors believe that incisional hernia rates do not differ by type of incision and incision should be driven by surgeon's preference with respect to the patient's disease and anatomy. Ponka series [8] stated that repeated surgeries (25%) could be one of the risk factors in developing incisional hernia. In various studies [9, 10], wound infection following the surgery was the main factor for the development of incisional hernia. The other common factors were burst abdomen following infection and chronic cough during postoperative period. In a research done by Bose *et al.* [11] in their study documented the common risk factors as wound infection in 53.63% of cases, obesity in 30% and COPD in 20.90%. In the study by Agrawal *et al.* most common cause for incisional hernia was found to be postoperative infection (47%), followed by cough (10%) and early return to work (2%). In the present study risk factors promoting incisional hernias was wound infection accounted for 40%, obesity (30%) and COPD in 8% of cases.

Conclusion

Meticulous aseptic technique and careful closure of the abdominal wound is necessary to prevent incisional hernia. Proper preoperative preparation of the patients with high risk is an important factor in preventing recurrence of incisional hernia.

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