



E-ISSN: 2616-3470
P-ISSN: 2616-3462
© Surgery Science
www.surgeryscience.com
2021; 5(2): 194-197
Received: 22-02-2021
Accepted: 29-03-2021

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A study of surgical management of incisional hernia

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DOI: <https://doi.org/10.33545/surgery.2021.v5.i2d.684>

Abstract

Incisional hernias may occur months or years after an abdominal operation. You can usually only see a small lump or swelling near the site of the scar at first. The lump appears when you cough or strain, and then goes away again. Over time, though, it might get bigger and start hurting. Most incisional hernias don't cause any serious problems. In rare cases, parts of the bowel might get trapped in the opening of the hernia, blocking the passage of stool (obstruction) or cutting off the blood supply (strangulation). Large incisional hernias can also make it difficult for you to breathe or move normally. This study puts in an effort to study the clinical and surgical management of the cases.

Keywords: Incisional hernia, management, clinical

Introduction

Most surgical wounds heal well, leaving the abdominal wall just as strong as it was before the operation. But if the cut that was made in the abdominal wall doesn't grow back together tightly enough, the abdominal wall may be weakened in that area. If the scarred area can then no longer withstand the pressure in the abdomen, tissue or parts of organs might push through the gap that arises and bulge out.

The risk of incisional hernias is influenced by the type of scar and the sewing technique used: Most incisional hernias occur after open abdominal surgery, where a large incision (cut) was made across the middle of the abdomen, older age, other illnesses and wound healing problems, these can increase the risk too, being very overweight: Very overweight people are also more likely to develop incisional hernias because the pressure and strain on the scar tissue is greater. Depending on what kind of operation was done, about 5 to 15 out of 100 people develop an incisional hernia after having abdominal surgery. Most incisional hernias occur in the first year after the surgery.

Many factors that are commonly associated with incisional hernia that have been discussed like age, sex, obesity, chest infections, type of suture material used and most important wound infection. The underlying cause also need to be treated ^[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.

Aims and Objectives

To study the clinical and surgical management of incisional hernia.

Materials and Methods

A total of 30 cases were studied. This study was done in the Department of General Surgery, Sri Devraj Urs Medical College, Kolar.
This study was done from September 2019 to August 2020.

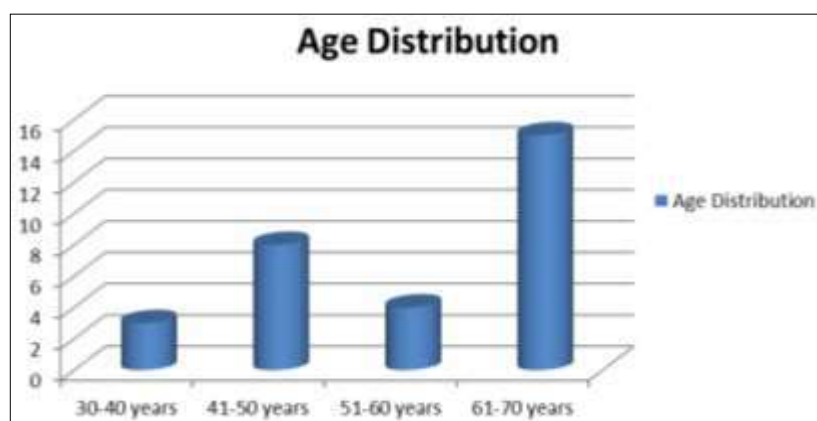
Exclusion criteria

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.

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Results



Graph 1: Age Distribution

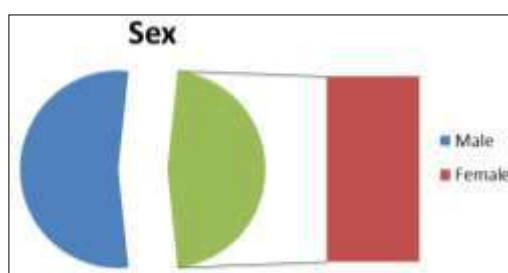
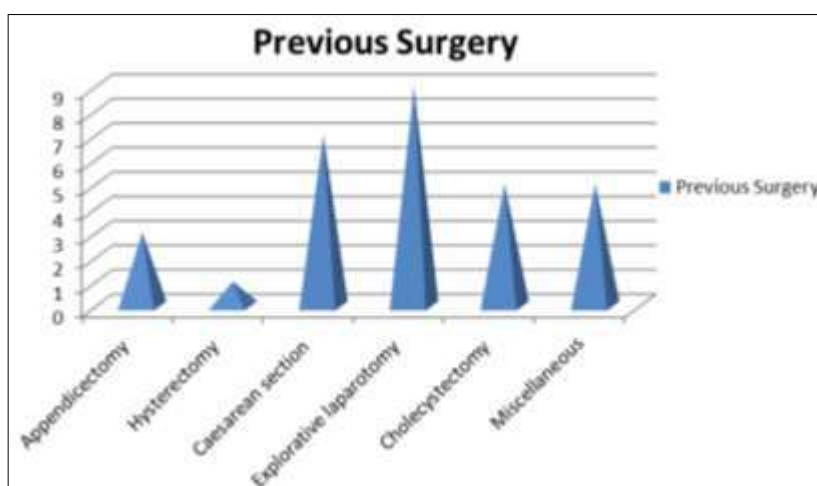
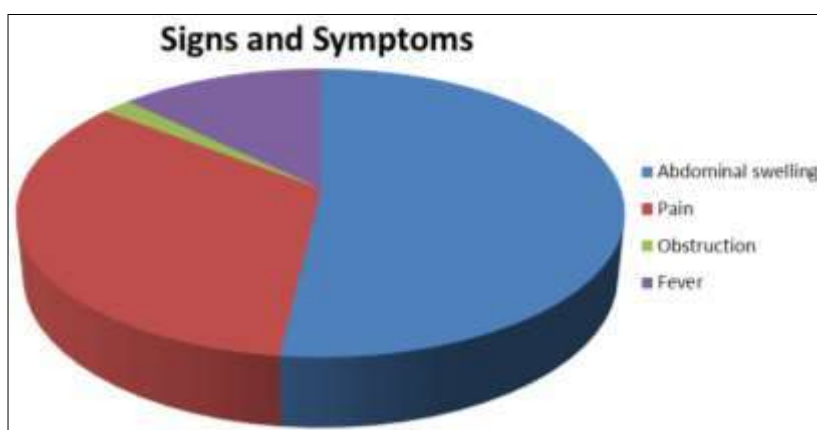


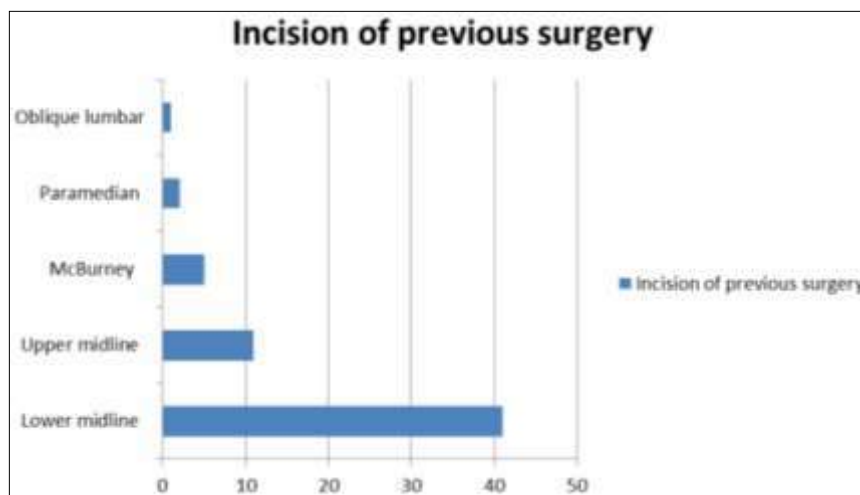
Table 2: Sex Distribution:



Graph 3: Previous Surgeries:



Graph 4: Signs and Symptoms:



Graph 5: Incision of previous surgery.

Table 1: Treatment

Anatomical repair	02
Onlay mesh	01
Sublay mesh	26
Underlay mesh	01

Discussion

Smaller ones can be treated electively [3]. Large incisional hernias are often very unpleasant; many people who have them want to have treatment. If incisional hernias don't cause any problems and there's a low risk of complications, surgery isn't always needed [4, 5]. But this type of hernia often gets bigger over time, and there's a small risk that part of the bowel might become pinched. There is currently not enough good research to be able to say what the pros and cons of not having surgery are. But large hernias are a lot harder to operate on than small hernias [6]. Many people who have large incisional hernias are very overweight, have weak abdominal muscles and also have other medical conditions. This increases the risk of complications after surgery. The most suitable type of surgery will then depend on a range of individual factors. It can be a good idea for people in this situation to make an appointment at a specialized hernia center. Women who would still like to have children are also in a special situation [7, 8]. Their abdominal muscles have to be able to stretch a lot during pregnancy to make room for the growing baby. Because synthetic mesh is less elastic than natural muscle tissue, doctors are concerned that women who become pregnant will have a greater risk of complications. Unfortunately there is very little scientific research in this area. Most women who have an incisional hernia can put off the hernia surgery until they're sure they don't want to have any (more) children. When hernia surgery is necessary in women who might still have children, doctors tend to recommend not using a mesh. But then the hernia often returns during pregnancy [9].

Agrawal M *et al.* [10] 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.* [12] 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.* [13] 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.* [13] and Goel *et al.* series have male-to-female ratio of 1:1.17 and 1:1.25, respectively. 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 [14]. 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 [15] stated that repeated surgeries (25%) could be one of the risk factors in developing incisional hernia. In various studies [16, 17], 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.* [18] 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

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. Complications can be potentially life-threatening, so it's best to have any unusual symptoms looked at just in case. 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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