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## Surgical management of hernia: A retrospective analysis

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### Abstract

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women. Repair of inguinal hernia is one of the most common operations in general surgery, with rates ranging from 10 per 100 000 of the population in the United Kingdom to 28 per 100 000 in the United States. In 2001-2 about 70 000 inguinal hernia repairs (62 969 primary, 4939 recurrent) were done in England, requiring more than 100 000 hospital bed days. Ninety five per cent of patients presenting to primary care are male, and in men the incidence rises from 11 per 10 000 person years aged 16-24 years to 200 per 10 000 person years aged 75 years or above. This study puts in an effort to find the pattern for the clinical presentation and also most common treatment involved for such cases.

**Keywords:** Incisional hernia, management, clinical

### Introduction

Abdominal wall hernias are common, with a prevalence of 1.7% for all ages and 4% for those aged over 45 years. Inguinal hernias account for 75% of abdominal wall hernias, with a lifetime risk of 27% in men and 3% in women <sup>[1]</sup>. Repair of inguinal hernia is one of the most common operations in general surgery, with rates ranging from 10 per 100 000 of the population in the United Kingdom to 28 per 100 000 in the United States <sup>[2]</sup>. In 2001-2 about 70 000 inguinal hernia repairs (62 969 primary, 4939 recurrent) were done in England, requiring more than 100 000 hospital bed days. Ninety five per cent of patients presenting to primary care are male, and in men the incidence rises from 11 per 10 000 person years aged 16-24 years to 200 per 10 000 person years aged 75 years or above <sup>[1, 2]</sup>.

Early in the course of a hernia, the bulge is intermittent, being noticeable when a man strains or when he stands, but not while he's lying down <sup>[3-6]</sup>. The bulge occurs when abdominal contents — a part of the intestine, the fatty tissue that surrounds the bowel, or both — protrude through the opening, pushing on the skin. Hernias that come and go — either spontaneously or as a result of gentle manual pressure on the bulge — are called reducible hernias.

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 <sup>[7]</sup>. 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 <sup>[8]</sup> stated that repeated surgeries (25%) could be one of the risk factors in developing incisional hernia. In various studies <sup>[9, 10]</sup>, 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.* <sup>[11]</sup> 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.

This study puts in an effort to find the pattern for the clinical presentation and also most common treatment involved for such cases.

### Aims and Objectives

To study the clinical features and management of hernia.

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### Materials and Methods

A total of 134 cases were studied. This study was done in Azeezia Institute of Medical Sciences and Research, Meeyannoor, Kollam, Kerala. This study was done from March 2017 to August 2019.

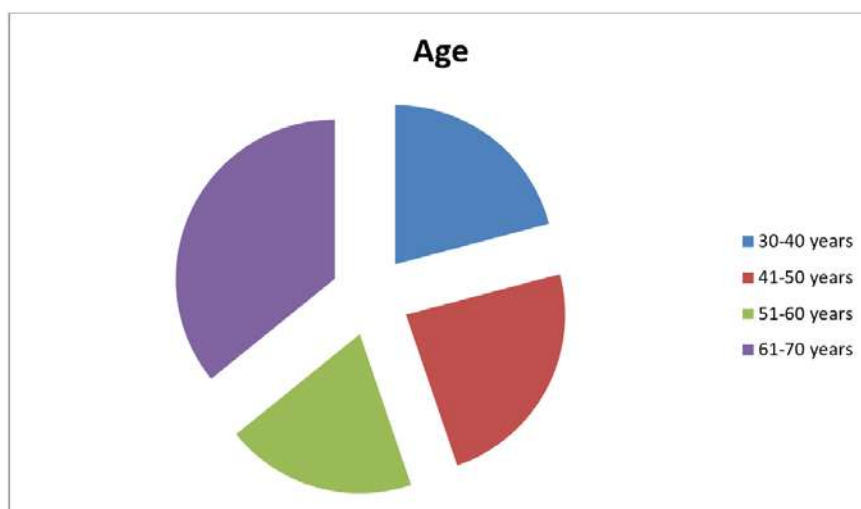
### Exclusion criteria

Included patients beyond 70 years of age and incisional hernias

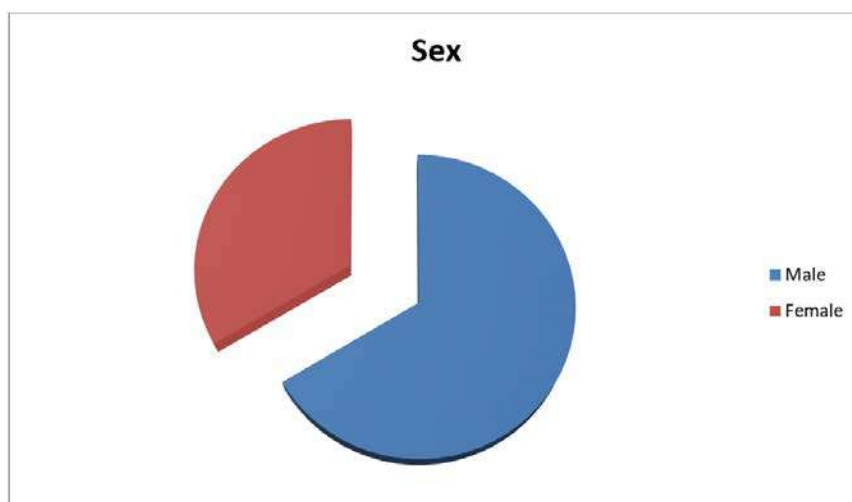
associated with other abdominal wall hernias.

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

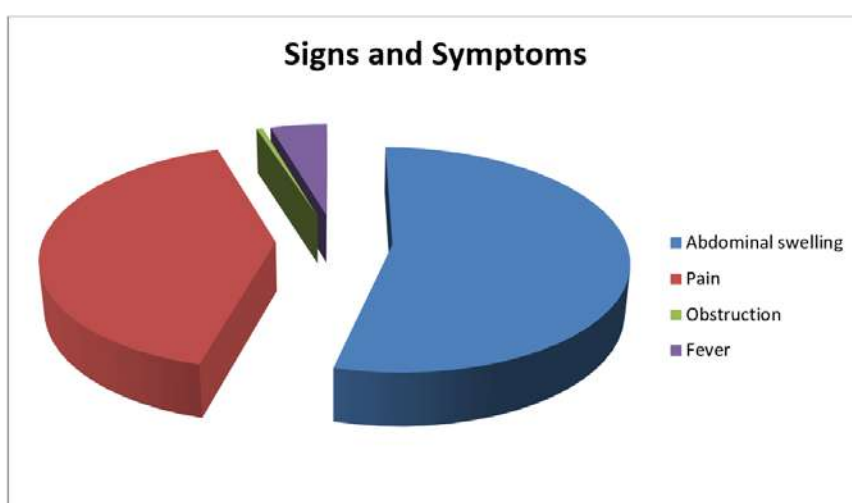
### Results



Graph 1: Age Distribution



Graph 2: Sex Distribution



Graph 3: Signs and Symptoms

**Table 1:** Treatment

Anatomical repair	03
Onlay mesh	03
Sublay mesh	121
Underlay mesh	07

## Discussion

Reducible hernias can be uncomfortable or unsightly, but they're not serious. But hernias that cannot be reduced are another matter. Such incarcerated hernias are more likely to be painful, and they can develop a second complication, strangulation, when pressure interferes with the blood supply of the bowel. All strangulated hernias are painful and tender; in short order, the pain becomes severe and the patient develops nausea, vomiting, abdominal swelling, and fever; prompt surgery is mandatory. Fortunately, these complications are uncommon in indirect inguinal hernias and less common still in direct inguinal hernias. But since only a small minority of inguinal hernias will become incarcerated or strangulated, most men face the luxury (and responsibility) of deciding which treatment is best. Unfortunately, this is not the case with all types of hernias. About 40% of femoral hernias (see box), which occur in the groin near the thigh, require emergency surgery for strangulation or incarceration. All femoral hernias should be repaired promptly.

Femoral hernias. Accounting for only 4% of groin hernias, femoral hernias are actually four times more common in women than men. They typically present as a bulge in the upper thigh, just below the groin. Umbilical hernias. Abdominal contents bulge through a defect in the umbilicus, or belly button. Ventral hernias. Abdominal contents bulge through a separation between the two large rectus muscles that join at the middle of the abdomen to form the abdominal wall. Incisional hernias. Tissues bulge through a surgical incision; usually abdominal contents press through an abdominal scar. One study reported that mesh repairs are superior to conventional suture repairs, even for small incisional hernias. Hiatal hernias. The stomach bulges up through the diaphragm, the large muscle that separates the abdomen from the chest.

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.

## Conclusion

Prompt diagnosis and treatment is the need of the hour for such pathologies.

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