



## A CLINICAL AND SURGICAL STUDY OF INCISIONAL HERNIAS:

## Surgery

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## ABSTRACT

**Background:** The intra-abdominal pressure is considerable, and the surgeon aims at leaving the abdominal wall as strong as possible after Operation, otherwise there exists a very real fear that portions of the abdominal contents may leave the abdominal cavity through the weak area which are caused by a badly placed incision, resulting in a condition known as scar incisional or ventral hernia. Incisions through the abdominal wall are based on anatomical principles. This study is intended to understand the clinical and surgical factors that may have been a contributory factor for the formation of the incisional hernias and also the treatment modality that is commonly employed to correct the discontinuity. This study is intended to help the practicing surgeons and also the young budding surgeons to understand the disease in detail.

## KEYWORDS

Clinical, Surgical, Incision, Hernia, Median, Para – Median.

## Introduction:

Incisional hernia can be defined as protruding out of abdominal organs from the normal boundaries of abdominal cavity which is due to a direct result of previous surgical or accidental abdominal incisions<sup>1</sup>.

Incisions of the abdomen include Median and Paramedian. The direction and the orientation of the Langer lines and its thorough knowledge is the necessity of the hour. Even the directions of the muscle fibres and its orientation are necessary. About fifty percent of the patients come back with incisional hernias after surgeries within the next one to two years<sup>3,3</sup> and about five to ten percent of the total of patients who underwent abdominal surgeries land up with this condition ultimately<sup>4,5,6,7,8</sup>.

Incisions through the abdominal wall are based on anatomical principles. The intra-abdominal pressure is considerable, and the surgeon aims at leaving the abdominal wall as strong as possible after Operation, otherwise there exists a very real fear that portions of the abdominal contents may leave the abdominal cavity through the weak area which are caused by a badly placed incision, resulting in a condition known as scar incisional or ventral hernia. Specific incisions for particular purposes have been included in the consideration of individual organs. More flexible incisions may be required where wider or multipurpose exposure is desired. The rise in the intra - abdominal pressure is one more cause<sup>9</sup>.

This study is intended to understand the clinical and surgical factors that may have been a contributory factor for the formation of the incisional hernias and also the treatment modality that is commonly employed to correct the discontinuity. This study is intended to help the practicing surgeons and also the young budding surgeons to understand the disease in detail.

## Aims and Objectives:

To study and understand the clinical and surgical factors that may have been a contributory factor for the formation of the incisional hernias and also the treatment modality that is commonly employed to correct the discontinuity.

## Materials and Methods:

This study was done in the Department of General Surgery, Department of Surgery, Travancore Medical College, Kollam

Sixty patients who returned after undergoing the surgical procedures were included in the study.

The study included fifteen males and forty five females.

The study was done from Jan 2014 to Dec 2016.

## Inclusion Criteria:

1. The patients with a previous history of surgery was only included in the study.

## Exclusion Criteria:

1. The patients who were on long time steroid therapy and chemotherapy were not taken for the study.

Detailed History was taken. Proper clinical examination was conducted and relevant investigations were done. Only patients who were confirmed were taken up for the study.

After taking proper pre anesthetic evaluation and subjecting the patients to detailed Medical Evaluation the surgical treatment was given.

Medical conditions which are known to increase the intra - abdominal pressure was first given medical line of treatment and then surgery was undertaken.

The Proper pre surgical antibiotic prophylaxis was given before the time of surgery well in advance.

## Result:

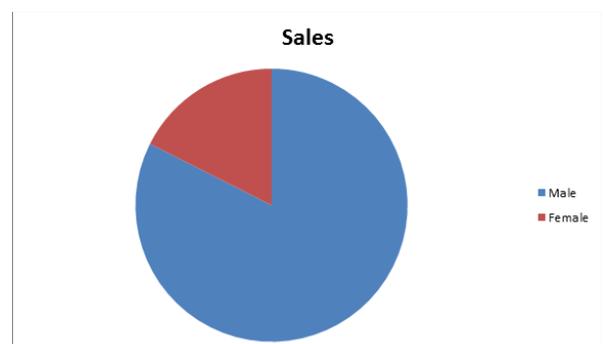
**Table 1: Mean age of the population**

Total	60
Mean age (Total)	48.23 years
Mean age (male)	49.06 years
Mean age (female)	47.4 years

**Table 2: Sex distribution:**

Male	Female	Total
15	45	60

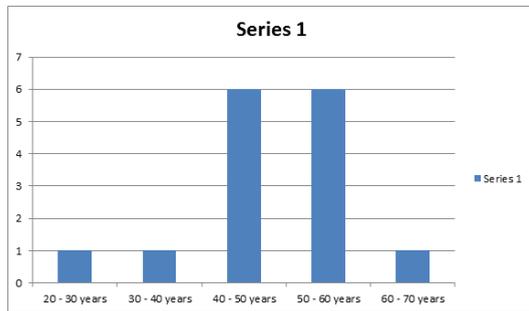
**Image 1: Sex distribution:**



**Table 3: Age Distribution (Male)**

20-30 years	30-40 years	40-50 years	50-60 years	60-70 years	70-80 years
1	1	6	6	1	Nil

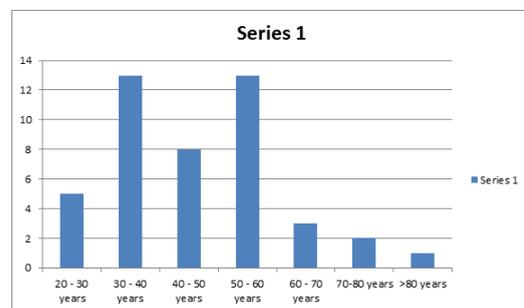
**Image 2: Age Distribution (Male)**



**Table 4: Age Distribution (Female)**

20-30 years	30-40 years	40-50 years	50-60 years	60-70 years	70-80 years	>80 years
5	13	08	13	03	02	01

**Image 2: Age Distribution (Female)**



**Table 5: Common mode of presentation**

Presentation	Number
Pain	44
Reducible mass	52
Non reducible mass	08

**Table 6: Presence of factors which contribute directly to increased intra - abdominal pressure:**

Presentation	Number
Cough more than one month	28
Constipation for more than one month	07
Intra - abdominal mass	01

**Table 7: Time after the previous surgery.**

Time	Number
6 months	38
6 months – 12 months	08
>1 year	14

**Table 8: Locations through which the hernia occurred.**

Locations:	Number
Lower abdominal Incision	28
Mid – Line upper abdomen	19
Right Para median	07
Left para median	06

**Table 9: Size of the Hernial Defect**

Locations:	Number
3 – 5 cms	31
5– 10 cms	27
>10 cms	02

Treatment Modalities: All the one hundred percent of the cases were repaired using Mesh Repair Technique.

Follow Up and Recurrence: None of the cases after one year did not return because of recurrence.

**Discussion:**

In the present study the mean age of the total population was found to be 48.23 years. The male population was 49.06 years and that of females was found to be 47.4 years. The female counterpart was found to be three times higher than that when compared to the males. The highest patients came from the age group of 40 to 60 years in males and in females majority of them came from the age group of 30 – 40 years and 50 – 60 years.

The females are more commonly involved. This might be because of lax female abdominal walls and also the poor nutrition which is protein deficient. The first group of females, which included the age group of 30 – 40 years, shows that it might be because of the fact that they belong to the child bearing age group and faulty c – section incisions may be the culprit. The second group which includes the age group between 50 to 60 years may be due to the menopausal symptoms.

The most common presentation is pain and reducible mass per abdomen. The symptoms that tend to increase the intra - abdominal pressure tends to increase the mishap. The condition is more common in the early stages post – surgery.

When our study is compared to that of the other study conducted by Narayanaswamy T<sup>10</sup> we are in agreement with it.

Midline incisions traverse the abdominal wall in a vertical direction above or below the umbilicus. They are extensively used. The incision divides skin, linea alba, fascia transversalis, extraperitoneal fat and peritoneum. The linea alba above the umbilicus is a dense strong structure 1 cm wide formed by the interlacing fibres of the rectus sheaths. It holds sutures well and it is relatively avascular. The incision may be extended downwards by cutting around the side of the umbilicus. The side chosen is determined by the falciform ligament which travels from the umbilicus upwards and to the right. A midline incision may be extended upwards by cutting or excising the xiphoid process of the sternum and, if necessary, splitting the sternum. In exposing the bladder, the incision may stop short of the peritoneum so that the bladder is dealt with through its anterior surface which is devoid of peritoneum in the region of the space of Retzius (prevesical). The midline lower abdominal incision is occasionally followed by an incisional hernia particularly at the lower end just above the pubis. A major reason for this is that, at the time of closure of the incision. The surgeon sutures the external oblique fascia (Gallaudet's fascia) instead of the linea alba. The external oblique fascia lies on the outside of the external oblique aponeurosis, to which it is adherent. It is given off over the cord as the external spermatic fascia at the external ring, and extends over the pubis, into the perineum. It is not as strong as the linea alba and, unless the lines alba is sutured, a hernia will develop immediately above the pubis. Where a supra-umbilical midline incision gives insufficient access, it may be combined with a second incision carried laterally at right-angles to the first. When more exposure is necessary. An oblique upward extension can be used. This will cut the rectus and the muscles of the lateral abdominal wall in the line of the intercostal nerves which will therefore be preserved, and it will be possible to extend the wound further into an intercostal space.

The flat muscles are cut across and no nerves are divided. If necessary the rectus sheath may be opened and the muscles retracted medially or the muscle may be cut across. In the case of retroperitoneal structures, the peritoneum is not entered, but is displaced medially, and the dissection carried around the periphery of the peritoneum.

**Conclusion:**

In this study the demographic pattern and the most common clinical and surgical factors that is thought to be directly involved with the condition has been reported. Proper treatment at the given time is the necessity of the hour. The patient tends to neglect sometimes and ultimately end up with complications. So the necessary precautions have to be taken by understanding the complications involved.

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