



A STUDY ON VENTRAL HERNIAS AND ITS MANAGEMENT

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ABSTRACT Ventral hernias comprise the second commonest hernia presentations in the Surgical world. This study was undertaken to know the different clinical types, age, incidence, predisposing factors for ventral hernia, and also post operative results of different surgical procedures.

This prospective analysis aims to review the various predisposing factors, clinical features, different surgical procedures and their outcome in 50 cases of ventral hernias admitted to government general hospital Kurnool. (Aug 2020 – Aug 2021)

KEYWORDS : Ventral hernia, Incisional hernia, Surgical management

INTRODUCTION

Hernia: The protrusion of any organ (tissue) as a whole or a part, out of its boundary through an anatomical or acquired weak spot. These hernias are classified into two types, depending upon their visibility¹.

- Ventral Hernia are those hernias that occur through the anterior abdominal wall from xiphisternum to pubic symphysis².
- The anterior abdominal wall is the site of a variety of hernias due to man's erect posture, which renders the anterior abdominal wall weak
- Almost all these hernias protrude through the abdominal wall to form palpable swellings.
- Commonly hernias do not require any special investigations to diagnose them. (clinically diagnosed tomography, ultrasound, and herniography to confirm the diagnosis.

AIMS AND OBJECTIVES OF THE STUDY

The objectives of this study are

- 1) To study ventral hernia concerning the various anatomical sites, clinical presentations such as swelling, pain, etc.; risk factors and complications of different types of surgical procedures.
- 2) The management protocol adopted in our institution.

MATERIALS AND METHODS

Place of study: Government General Hospital, Kurnool

Study design: Prospective study

Study period: 1 year, August 2020 to August 2021

Total number of patients studied: 50 cases

All patients were evaluated by history, clinical examination, radiological examination were managed by operative treatment

OBSERVATIONS

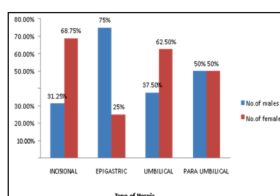
The following observations were noted in the present study.

Clinical Types:

Among the 50 cases of ventral hernia, 32 (64%) were incisional hernia; 8 (16%) were umbilical hernia 8 (16%) were epigastric hernia, and 2 (4%) were Paraumbilical Hernia.

SEX INCIDENCE

The occurrence of ventral hernia in males was 40%, and in females, it was 60%.



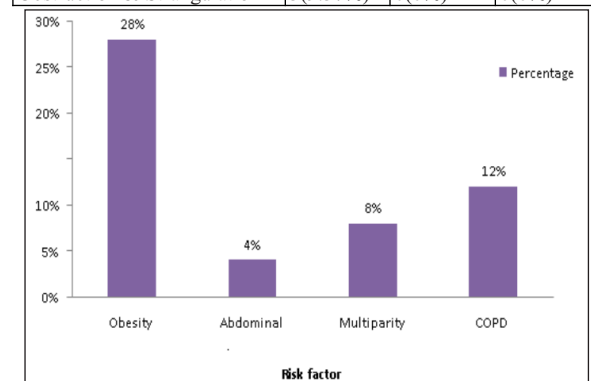
1. Percentage of Clinical types and Sex incidence ratio

AGE DISTRIBUTION OF VARIOUS VENTRAL HERNIA

The highest incidence of ventral hernia was noted in the 4th decade, which is 13 cases, which amounted to 26%, and the lowest rate was in the 8th decade that is 2 cases, which is 4%.

Clinical Features

Clinical Features	Incisional Hernia	Epigastric Hernia	Umbilical Hernia
Swelling	32 (100%)	8 (100%)	8 (100%)
Pain	12 (37.5%)	2 (25%)	3 (37.5%)
Irreducibility	6 (18.75%)	2 (25%)	2 (25%)
Obstruction & Strangulation	3 (9.37%)	0 (0%)	0 (0%)



2. Graph showing predisposing factors for hernia

Treatment Of Ventral Hernias

- In the present series, 17 cases were treated with anatomical closure, 18 cases underwent mesh repair, 4 underwent keel's operation, and 5 cases had Mayo's operation. This can be compared with the Salim Uddin series, where 20 cases underwent anatomical repair, 10 cases underwent mesh repair, 2 cases had keel's operation, and 5 cases had Mayo's surgery.

- All 32 cases were followed for a period ranging from 3 to 18 months. There was no recurrence at the end of the study with any kind of procedure, be it anatomical repair or mesh repair.

A meta-analysis of 11 studies examining the incidence of ventral hernia formation after various types of abdominal incisions has concluded that the risk is 10.5% for midline, 7.5% for transverse incisions. A recently published prospective randomized trial has reported no difference in hernia formation in comparing midline versus transverse incisions after one year but noted a higher wound infection rate in the transverse incisions.

- Among previous surgeries preceding to incisional hernia, cesarian section was the commonest at 11 cases(34.37%) followed by exploratory laparotomy at 7 cases (21.8%), Hysterectomy at 6 cases (18.75%), Tubectomy at 6 cases (18.75%) and appendectomy at 2 cases (6.25%).

Operative methods adopted for all ventral hernias.

Type of repair	Incisional Hernia	Umbilical hernia	Epigastric Hernia
Anatomical repair	8	3	6
Anatomical with mesh repair	16	0	2
Inter positional inlay mesh repair	4	0	0
Keel's operation	4	0	0
Mayo's operation	0	5	Percentage

POST- OPERATIVE COMPLICATIONS

About 6 cases (12%) suffered surgical site infection.6 patients had seroma (12%).5 cases that is about (10%) suffered from lower respiratory tract infection. However, none had mesh infection.

DISCUSSION

Ventral hernias comprise the second commonest hernial presentations in the surgical world. In our study of 50 cases of ventral hernias studied at GGH,Kurnool incisional hernia is most common with maximum incidence in 4 th decade with M :F ratio of 1:2 which is in agreement with studies of CHAVAN3 SS et al series and SALIM UDDIN4 et al series.

Distribution of ventral hernia

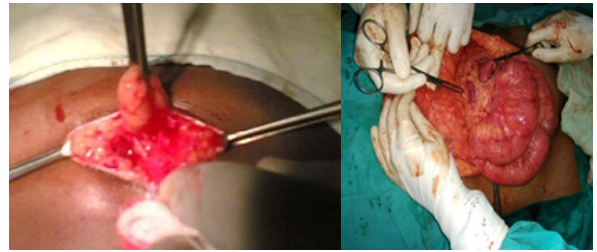
- This present study of 50 cases of ventral hernia had 32/50 cases (64%) of incisional hernia, 8/50 cases (16%) of epigastric hernia, and 8/50 (16%) of umbilical hernia.
- The incidence of Epigastric hernia is 3% to 5%. It is commonly diagnosed in middle-aged individuals.
- The male to female ratio is 3:1. These hernias are located between the xiphoid process and umbilicus and are usually within 5 to 6 cm to the umbilicus. They are multiple up to 20% of patients, and approximately 80% are in midline.
- Umbilical hernias in infants are congenital. Those that persist beyond 5 yrs are repaired surgically. Umbilical hernias in adults are usually acquired.
- Incisional hernias are most found after previous gynecological procedures and may occur as a result of excessive tension and inadequate wound healing. The present series has a maximum incidence of incisional hernias (64%) among all the ventral hernias. Whereas in the case of Chavan et al. series, it is 69.6%. There are no cases of umbilical hernia and Spigelian hernia in Chavan et al. series. In the present study, out of 32 cases of incisional hernias, 10 cases are males, and 22 are females.
- Out of 8 cases of Epigastric hernia, 6 are males, and two patients are females. Out of 8 cases of umbilical hernias, three patients are males, and 5 are females.

AGE DISTRIBUTION AMONG VARIOUS SERIES

- In the present study of 50 cases, the youngest patient(23 yrs) was a female of an incisional hernia group, whereas the oldest patient was a male patient of 73yrs. He also had an incisional hernia following previous exploratory laparotomy.
- Most of them belonged to the 4th decade of life, followed by the 5th and 6th decades.
- Least cases were seen in the 3rd and 8th decade.
- This study can be compared with the survey conducted by Salim Uddin in 2012.
- Among Incisional hernia, most cases were found in the 4th decade (16 cases) and 5th decade (8 cases) out of all 30 cases of incisional hernia.
- In Epigastric hernia, almost all cases were noted in the 3rd decade that is 4 cases.
- One case was reported in the 4th decade.
- The incidence of Umbilical hernia was seen in the 4th and 5th decade of life. In paraumbilical hernia, 2 cases were reported in the 4th decade, and one patient was in others.
- 100% of all cases presented with swelling in the anterior abdominal wall, 34% presented with pain, 20% presented with irreducibility, 6% presented with features of obstruction with strangulation.
- Small asymptomatic umbilical hernias barely detectable on examination need not be repaired. Adults who have symptoms, a

large hernia, incarceration, thinning of overlying skin, or uncontrollable ascites should have a hernia repair. Spontaneous rupture of umbilical hernia in patients with ascites can result in peritonitis and death.

- Incisional hernias occur as a result of excessive tension and inadequate healing of a previous incision, which may be associated with surgical site infection. These hernias enlarge over time, leading to pain, bowel obstruction, incarceration, and strangulation.
- Obesity, advanced age, malnutrition, ascites, pregnancy and conditions that increase intra-abdominal pressures are factors that predispose to the development of incisional hernia.
- Medications such as corticosteroids and chemotherapeutic agents and surgical site infection can contribute to poor wound healing and increase the risk of development of an incisional hernia.
- Respiratory dysfunction can occur because these significant ventral defects cause paradoxical respiratory, abdominal motion. Loss of abdominal domain can also result in bowel edema, stasis of the splanchnic venous system, urinary retention and constipation.



Fat in epigastric hernia

Defects in incisional hernia



Incisional hernia

CONCLUSION

- The most common ventral hernia was incisional hernia and among previous operative procedures, which resulted in incisional hernia were gynecological procedures.
- Proper preoperative evaluation and preparation, sound anatomical knowledge, and meticulous attention to surgical detail are the most critical factors for the prevention of postoperative complications and recurrence of the hernia.
- Complications in ventral hernias were found to be minimal.
- When proper surgical procedures are adopted along with pre-operative correction of co-morbid factors and good post operative care, the outcome is good.

REFERENCES

- 1) Bennet H.D, Kingsworth N.A, Hernias, umbilicus, and abdominal wall: Bailey & love's, Short practice of Surgery, 24th ed. 2004; Arnold publishers, London; 73: 1272 – 1293
- 2) Read RC. The Development of Surgical herniorrhaphy; Surgical Clinics of North America 1984; 64:185 –1
- 3) Clinical study of ventral hernias CHAVAN SS et al. 2017.
- 4) A clinical study of ventral hernia SALIM UDDIN et al. Fat in epigastric hernia