

## A Clinical Study on Ventral Hernias in Tertiary Care Hospital

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### Abstract

**Introduction:** A ventral hernia is defined by a protrusion through the anterior abdominal wall fascia.<sup>1</sup> These defects can be categorized as spontaneous or acquired or by their location on the abdominal wall. Epigastric hernias occur from the xiphoid process to the umbilicus, umbilical hernias occur at the umbilicus, and hypogastric hernias are rare spontaneous hernias that occur below the umbilicus in the midline

**Materials and Methods:** 150 cases of ventral hernias treated in the department of General surgery at a tertiary care hospital, Jamshedpur, Jharkhand from Jan 2017 to December 2017.

Collection of data available in MRD for retrospective study. Collection of data as per the case proforma for prospective study. A patient with a diagnosis of ventral hernia, treated in the department of General Surgery at a tertiary care hospital in Jamshedpur, Jharkhand, during and before the course of the study.

**Results:** 150 cases of ventral hernia 105 (70%) were incisional hernia, 30 (20%) were para-umbilical hernia and 15 (10%) were epigastric hernia.

The occurrence of ventral hernia is more common in females (80.2%). Among incisional hernia, out of 105 cases, 101 were females and 4 were males. Among 15 cases of epigastric hernia, 10 cases studied were male patients and 5 were female patients. Out of 30 cases studied of paraumbilical hernia, 21 were females and 9 were males (Figure 1).

**Conclusion:** Good pre-operative evaluation and preparation; sound anatomical knowledge and meticulous attention to surgical detail are the most important factors for prevention of post-operative complications and recurrence of hernia.

**Key Words:** ventral hernia, incisional hernia, para-umbilical hernia, epigastric hernia.

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### I. Introduction

A ventral hernia is defined by a protrusion through the anterior abdominal wall fascia.<sup>1</sup> These defects can be categorized as spontaneous or acquired or by their location on the abdominal wall. Epigastric hernias occur from the xiphoid process to the umbilicus, umbilical hernias occur at the umbilicus, and hypogastric hernias are rare spontaneous hernias that occur below the umbilicus in the midline. Acquired hernias typically occur after surgical incisions and are therefore termed incisional hernias. Ventral hernias are one of the most common problems confronting general surgeons. Incisional hernia is a common long-term complication of abdominal surgery and is estimated to occur in 3% to 13% of laparotomy incisions.<sup>2</sup> However, its incidence is greater than 23% in patients who have developed an infection in the laparotomy wound.<sup>3</sup>

Few data are available about the natural history of untreated ventral hernias. Because there is no prospective cohort available to determine the natural history of untreated ventral hernias, most surgeons recommend that these hernias should be repaired when discovered.

Ventral hernia is a very common condition presenting to our hospital, so there was a need to study the disease with respect to the various presentations, to gauge the awareness levels of the patients coming to us and also to determine the best modality of treatment in our set-up.

Thus, the study is being done to know the proportion of ventral hernias occurring in both sexes, various age groups, various risk factors and complications of different types of ventral hernias, clinical presentations and their treatment.

### II. Materials And Methods

150 cases of ventral hernias treated in the department of General surgery at a tertiary care hospital, Jamshedpur, Jharkhand from Jan 2017 to December 2017.

Collection of data available in MRD for retrospective study. Collection of data as per the case proforma for prospective study. A patient with a diagnosis of ventral hernia, treated in the department of General Surgery at a tertiary care hospital in Jamshedpur, Jharkhand, during and before the course of the study.

The patients were taken up for surgery after written and informed consent. The findings were then recorded and the patients were monitored post-operatively. The patients were followed up for a period of 3 months after the surgery.

**Inclusion criteria:**

All the patients diagnosed with ventral hernias (epigastric, para-umbilical, incisional, parastomal and Spigelian) treated at tertiary care hospital during the course of study above the age of 18.

**Exclusion criteria:**

Patients diagnosed with inguinal hernias, femoral hernias.

Informed consent was taken from both patients and informants. Confidentiality of all information was assured and maintained. Subjects had the right to withdraw consent at any stage. Participation in the study had no effect on the treatment in any way. Patient was not financially supported for taking part in the study.

**III. Results**

150 cases of ventral hernia 105 (70%) were incisional hernia, 30 (20%) were para-umbilical hernia and 15 (10%) were epigastric hernia.

The occurrence of ventral hernia is more common in females (80.2%). Among incisional hernia, out of 105 cases, 101 were females and 4 were males. Among 15 cases of epigastric hernia, 10 cases studied were male patients and 5 were female patients. Out of 30 cases studied of paraumbilical hernia, 21 were females and 9 were males (Figure 1).

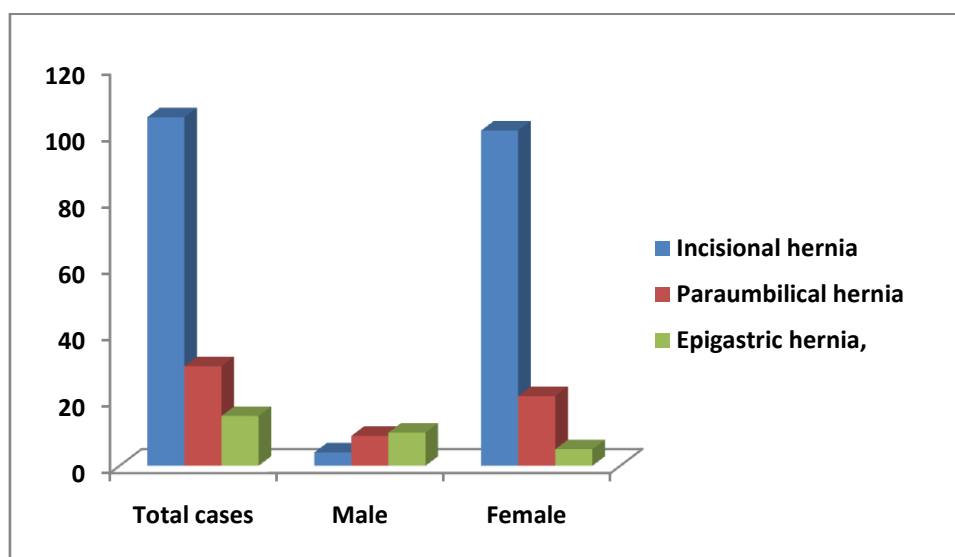


Figure 1: Sex Incidence of ventral hernias

Clinical features	Incisional hernia	Paraumbilical hernia	Epigastric Hernia
Swelling	140(100%)	12(100%)	8(100%)
Pain	32(18%)	5(12)	7(29)
Irreducibility	12(7%)	2(4)	3(12)
Irreducibility and Obstruction	0	2(4)	0
Irreducibility, Obstruction and Strangulation	1(0.57%)	0	0

Table 1: Clinical features of ventral hernia.

Predisposing factor	Number of patients	%
Obesity	50	22
Multiparity	10	4.5
COPD	10	4.7
Past Surgery	120	65.2
DM	14	9.5
HTN	12	10.5

Table 2: Predisposing factors for ventral hernia.

Nature of Surgery	Number and Percentage	Type of incision
Tubectomy	35(20%)	Lower midline
Hysterectomy	10(6%)	Lower midline
Lower segment caesarean section	50(33%)	Lower midline
Lower segment caesarean section	40(27%)	Pfannenstiel
Exploratory laparotomy	20(11%)	Lower midline + upper midline

**Table 3: Type of previous surgery in incisional hernia.**

Complication	Incisional hernia	Paraumbilical hernia	Epigastric Hernia	%
Seroma	10	2	3	6.5
Surgical site infection	6	1	2	4

**Table 4: Complications of ventral hernia surgery.**

Type of Incision	Present series	
	N	%
Lower midline	101	67.33
Pfannenstiel	36	24
Lower + upper midline	13	8.66

**Table 5: Comparison of type of incision through which incisional hernia occurs.**

#### IV. Discussion

The incidence of ventral hernia is higher in females because in multiparous women, the following factors predispose to hernia formation: stretching of anterior abdominal wall, decreased tone of abdominal wall muscles, replacement of collagen with elastic fibers. In our study, incisional hernia was the most common amongst the hernias, this is comparable to another Indian study.<sup>4</sup> However, Dabbas N et al did a retrospective study of 2389 patients and found that umbilical and paraumbilical hernias were the most common anterior abdominal wall hernia.<sup>5</sup> Malik AM et al, found maximum number of paraumbilical hernias (13%) followed by incisional and epigastric hernias.<sup>6</sup>

The incidence of epigastric hernia in the present series is comparable with that of the M. Mohan Rao series and is slightly lower than S.M. Bose series.<sup>4</sup> In this study of 27 cases of epigastric hernia, 25 cases were males (92.59%) and 2 cases (7.41%) were females. The maximum age incidence was between 31-65 that is 100% of all cases were found between 31 and 65 years of age.

#### V. Conclusion

Good pre-operative evaluation and preparation; sound anatomical knowledge and meticulous attention to surgical detail are the most important factors for prevention of post-operative complications and recurrence of hernia. The commonest ventral hernia was incisional hernia and among previous operative procedures which resulted in incisional hernia was gynecological procedures. Complications in ventral hernias were found to be minimal. In view of limited period follow up and a small sample size it was not possible to comment on recurrence rates, but when proper surgical procedures are adopted along with pre-operative correction of co morbid factors, results will always be excellent.

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