

## A Clinical Study of Ventral Hernia and Their Management and Outcome in Department of General Surgery, Gajra Raja Medical College Gwalior

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### Abstract

### Original Research Article

**Aim:** Ventral Hernia most commonly develops in the abdominal wall, where an area weakens and develops a tear or a hole. This may occur as a defect at birth, resulting from closure of part of the abdominal wall which is incomplete, or develop where an incision was made during an abdominal surgery but when the incision didn't heal properly. Abdominal tissue or part of the intestines may push through this weakened area, causing pain and potentially serious complications. This study aims to find out most common causes and complications in their management and their outcomes in their management. **Material Methods:** Prospective descriptive study was conducted on 50 patients admitted in various surgery units at Department of General Surgery, J.A. Group of Hospitals and G.R. Medical College, Gwalior during period January 2017 to March 2018 after taking well and informed consent from the patient. **Results:** Out of 50 cases, 11(22%) were umbilical hernia, 3(6%) paraumbilical hernia 8(16%), epigastric hernia, 27(54%) incisional hernia and 1(2%) spigelian hernia. Incisional hernia was found to be the most common type accounting for 54% of the cases. Next common hernia was umbilical hernia which was 11(22%). Out of 50 patients most common predisposing factors was previous surgery accounted in 27(54%), followed by, obesity 24(48%), multiparity 22(44%), chronic cough 20(40%), anemia 18(36%), diabetes 12(24%), hypertension 8(16%). **Conclusion:** Ventral Hernia is a common surgical problem. It has low mortality but high morbidity. It is more common in females. Incisional hernia is the most common type of Ventral Hernia

**Keywords:** Comparative, Hernia, Heavy, Light, Ventral, Umbilical, Abdominal wall, Incidence, Complications.

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## INTRODUCTION

Ventral Hernia most commonly develops in the abdominal wall, where an area weakens and develops a tear or a hole. This may occur as a defect at birth, resulting from closure of part of the abdominal wall which is incomplete, or Develop where an incision was made during an abdominal surgery but when the incision didn't heal properly. Abdominal tissue or part of the intestines may push through this weakened area, causing pain and potentially serious complications [1].

On the basis of national operative statistics, incisional hernia present as 15% to 20% of all abdominal wall hernia. Umbilicus and epigastric hernia constitute 10% of hernia [2].

While a lot has occurred in the world of herniology in last century, many new techniques are being developed for Ventral Hernia repair, still it remains unclear which technique is superior. Many procedures and techniques were described for repairing

Ventral Hernia; using different suture materials, suture repair, prosthetic repair, combination of different techniques or laparoscopic repair. In spite of the many efforts for reducing the incidence of Incisional Hernia, there is still a lack of consensus regarding the best approach to repair Ventral Hernia and preventing the recurrence, because most of them results in complications.

## MATERIALS AND METHODS

After obtaining approval from ethical committee the present study entitled "A Clinical Study of patient of Ventral Hernia and their management and outcome in Department of General Surgery, Gajra Raja Medical College, Gwalior" was conducted on 50 patients admitted in various surgery units at Department of General Surgery, J.A. Group of Hospitals and G.R. Medical College, Gwalior during period January 2017 to March 2018 after taking well and informed consent from the patient.

**Study type:** Prospective descriptive study

**Inclusion criteria**

Patients with Ventral Hernia admitted to the Department of Surgery, age  $\geq$  12 years.

**Exclusion criteria**

- Debilitated elderly patients with severe COPD& major cardiac disease.
- Morbidly obese (BMI > 35).
- Age < 12 years.

**RESULTS**

50 cases of Ventral Hernia over the period of January 2017 to March 2018 were included in the present study, which was conducted in the Department of Surgery, Gajra Raja Medical College and J.A. Group of Hospitals, Gwalior. All the cases were followed up throughout the study period.

**Incidence of Different Ventral Hernia**

Out of 50 cases, 11(22%) were umbilical hernia, 3(6%) paraumbilical hernia 8(16%), epigastric hernia, 27(54%) incisional hernia and 1(2%) spigelian hernia. Incisional hernia was found to be the most common type accounting for 54% of the cases. Next common hernia was umbilical hernia which was 11(22%).

**Table-1: Incidence of different Ventral Hernia**

Type of hernia	No. of cases	%
Umbilical	11	22
Para umbilical	03	6
Epigastric	8	16
Incisional	27	54
Xiphisternal	0	0
Parastomal	0	0
Spigelian	1	2



**Fig-1: Epigastric hernia**



**Fig-2: Umbilical hernia**

**Age Wise Distribution of Patients**

Out of 50 cases 14% patients were in 18-30 years age group, 32% in 31-40 years age group, 32% in

41-50 years of age group, 4% in 51-60 years age group and 18% in 60-70 years age group.

It shows that maximum numbers of cases were in middle age group of 30 to 50 years (i.e. 32 out of 50 cases), in which youngest case was 22 years old and eldest case was 70 years old and Mean age presentation was 43.79years.

**Sex-wise Distribution of Ventral Hernia Patients**

Out of 50 patients, 16 (32 %) patients were males and 32(64%) patients were females. So incidence of Ventral Hernia was significantly higher in females than in males. The ratio of Male to Female ratio was 1:2.1.

**Distribution of Patients According to Anaesthesia**

Out of 50 patients for 11 patients of umbilical hernia general anaesthesia and spinal anaesthesia used in 4 and 7 patients respectively. For 3 patients of paraumbilical hernia general anaesthesia and spinal anaesthesia used in 2 and 1 patients respectively .For all 8 patients of epigastric hernia general anaesthesia was used. For 27 patients of incisional hernia general anaesthesia and spinal anaesthesia used in 9 and 18 patients respectively. For 1 patient of spigelian hernia general anaesthesia was used.

**Table-2: Distribution of Patients According to Anaesthesia**

Type of hernia	No. of cases	GA	SA
Umbilical	11	4	7
Para umbilical	03	2	1
Epigastric	8	8	0
Incisional	27	9	18
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	1	0
Total	50	24	26



**Fig-3: Intra operative image taken after fixing mesh**

**Post operative complication**

Out of the 50 patients studied, operated for Ventral Hernia 4(8%) patients developed SSI, 8(16%) patients developed seroma at local site and 3 patients developed recurrence in follow up period.

**Seroma formation**

Seroma was mostly formed in incisional hernia and umbilical hernia which were 22.22% and 18.18% respectively. Overall rate of seroma formation in our study was 16%.

**Table-3: Post-Operative Seroma formation**

Type of hernia	No. of cases	Seroma formation	% of Seroma formation
Umbilical	11	2	18.18
Para umbilical	3	0	0
Epigastric	8	0	0
Incisional	27	6	22.22
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	0	0
Total	50	8	16

**Hematoma formation**

Hematoma was mostly formed in incisional hernia and umbilical hernia which were 3.7% and

18.18% respectively. Overall rate of hematoma formation in our study was 6%.

**Table-4: Post-Operative Hematoma Formation**

Type of hernia	No. of cases	Hematoma formation	%
Umbilical	11	2	18.18
Para umbilical	3	0	0
Epigastric	8	0	0
Incisional	27	1	3.7
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	0	0
Total	50	3	6

**Wound Infection**

Wound infection was mostly found in incisional hernia and umbilical hernia which were 11.11% and

18.18% respectively. Overall rate of Wound infection in our study was 8%.

**Table-5: Post-Operative Wound Infection**

Type of hernia	No. of cases	Wound infection	%
Umbilical	11	1	18.18
Para umbilical	3	0	0
Epigastric	8	0	0
Incisional	27	3	11.11
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	0	0
Total	50	4	8

**Table-6: Post-Operative Sinus Formation**

Type of hernia	No. of cases	Sinus formation	%
Umbilical	11	0	0
Para umbilical	3	0	0
Epigastric	8	0	0
Incisional	27	1	3.7
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	0	0
Total	50	1	2

**Table-7: Post-Operative Recurrence of Hernia**

Type of hernia	No. of cases	Recurrence	%
Umbilical	11	2	18.18
Para umbilical	3	0	0
Epigastric	8	0	0
Incisional	27	2	7.4
Xiphisternal	0	0	0
Parastomal	0	0	0
Spigelian	1	0	0
Total	50	4	8

### Sinus Formation

The only case of sinus formation was found in incisional hernia. Overall rate of sinus formation in our study was 3.7% (Table-6).

### Recurrence of Hernia

Recurrence of hernia was mostly found in incisional hernia and umbilical hernia which were 7.4% and 18.18% respectively. Overall rate of recurrence of hernia in our study was 4% (Table-7).

## DISCUSSION

This prospective-descriptive study was carried out on 50 patients of Ventral Hernia which were admitted in the department of General Surgery Gajra Raja Medical College and J.A. Group of Hospital, Gwalior (M.P.) from January 2017 to March 2018.

Out of 50 patients of Ventral Hernia in our study, incidence of incisional hernia was highest (54%). Incidence of umbilical hernia, epigastric hernia, paraumbilical hernia and spigelian hernia was 22%, 16%, 6% and 2% respectively. In our present study incisional hernia (54%) was most common. In study of Sudhir Bhamre *et al.* it was 48% and in study of Jaykar *et al.* it was 42%.

Most common complaint of the patients with Ventral Hernia was abdominal swelling (70%) followed by mild pain (22%). In the study of Sudhir Bhamre *et al.* most common complaints were also abdominal swelling and pain which was accounted for 44% and 56% respectively while in the study of Jaykar *et al.* abdominal swelling and pain were 64% and 20% respectively.

Out of 50 patients of Ventral Hernia in our study, Male and Female ratio was 1:2.1, females were more common which was 68% as compared to study of Sudhir Bhamre *et al.* and the study of Jaykar *et al.* Ventral Hernia was also more common which was 70% and 64% respectively.

Out of 50 patients, 7(14%) patients were of age group 12-30 years, 16(32%) patients were of age group 31-40 years, 16(32%) patients were of age group 41-50 years, 2(4%) patients were of age group 51-60 years and 9(18%) patients were of age group 61-70 years. Mean age of presentation in our study was 43.79 years. In study of Sudhir Bhamre *et al.* where patients were highest in the age group of 51 -60 years (23.2%) and in the study of Jaykar *et al.* patients was highest in the age group of 61-70 years (24%).

In present study the rate of recurrence was 8% which was least as compared to the study of Jacob *et al.* (17.6%), study of John. J. Gleysteen *et al.* (20%), study of de Vries Relingh (23%).

## CONCLUSION

Ventral Hernia is a common surgical problem. It has low mortality but high morbidity. It is more common in females. Incisional hernia is the most common type of Ventral Hernia.

As different surgical techniques are available, which technique is best is still a matter of debate. But open onlay mesh repair technique is a good method for repair of hernia defects. It has considerable good results with less recurrence rate.

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