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Clinical profile of patients with ventral hernia at a tertiary care hospital

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Abstract

Hernias are among the oldest surgical challenges which have confronted the surgical community. The word hernia is derived from the Greek word hernias which means a bud or an offshoot, a budding or a bulge. The study was carried out with ethical clearance by the institutional ethics committee and in conformity with the guidelines for medical research laid out by ICMR and Helsinki declaration. 30 consecutive adult patients with age above 18 years who underwent laparoscopic and 30 consecutive adult patients with age above 18 years who underwent open mesh repair of ventral hernias in Department of Surgery. In the study who underwent open repair it was observed that, in open group 53.3% of subjects had paraumbilical hernia, 30% had umbilical hernia, 13.3% had incisional hernia and 3.3% had Epigastric hernia. In laparoscopic group 40% had Paraumbilical hernia, 30% had Umbilical hernia, 26.7% had Incisional hernia and 3.3% had Epigastric hernia. This observation was statistically not significant (p value – 0.592).

Keywords: Ventral hernia, paraumbilical hernia, umbilical hernia

Introduction

The abdominal wall is a complex musculoaponeurotic structure that is attached to the vertebral column posteriorly, the ribs superiorly, bones of the pelvis inferiorly. The abdominal wall protects and restrains the abdominal viscera, and its musculature acts indirectly to flex the vertebral column. The integrity of the abdominal wall is essential to the prevention of hernias, whether congenital, acquired or iatrogenic ^[1].

Hernias are among the oldest surgical challenges which have confronted the surgical community. The word hernia is derived from the Greek word hernias which means a bud or an offshoot, a budding or a bulge. The earliest recorded reference to hernias appears in the Egyptian papyrus of Ebers (circa 1552 BC). This contains observations on hernias that is “when u judge a swelling” on the surface of a belly... “What comes out... caused by coughing”. Celsus (40 AD), follower of Hippocrates documented roman surgical practice that is taxis was employed for strangulation, trusses could control reducible hernias ^[2].

Epigastric hernias were first described in 1285. The entity of this hernia was first noted by Arnold De Villeneuve in 1285, but it was De Garengot who correlated vague abdominal symptoms to this condition. The term Epigastric hernia was coined by Leveille in 1812. The first successful epigastric hernia repair was performed by Muannior in 1802. Detailed anatomic descriptions related to epigastric hernia were given by Bernitz in 1848. In 2003, Ulrike Muschaweck, reported the advantages of using a mesh in epigastric hernia over the other commonly used methods ^[3, 4].

Hernien, Schumpelick described a classification that divided incisional hernias into *five* classes. The size of the defect, the clinical aspect of the hernia in lying and standing position, the localization of the incision and the number of previous repairs were used for this classification.

Korenkov *et al.* reported on the results of an expert meeting on classification and surgical treatment of incisional hernia, but no detailed classification proposal resulted from this meeting ^[5].

An additional parameter to the Chevrel classification was proposed by Ammaturo and Bassi. The ratio between the anterior abdominal wall surface and the wall defect surface a predictor for a strong abdominal wall tension when closing the defect, with possible abdominal compartment syndrome development, and this might influence the choice of surgical technique ^[6].

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Methodology

Study design: Prospective Study.

Source of Data

Method of Collection of Data

Data was collected from Patients admitted with ventral hernia with the help of a proforma containing relevant history, clinical examination, appropriate investigations and surgical details.

Inclusion Criteria

All adult patients above 18 years presenting with ventral hernias who are managed for ventral hernia in our hospital with mesh repair are included after taking a written consent.

Exclusion criteria

- Children less than 18 years.
- Complicated (Obstructed/strangulated/incarcerated) ventral hernias.
- Pregnancy with ventral hernia.
- Ventral hernia repairs combined with other procedures.
- Laparoscopic repairs converted to open repair.
- Patients Unfit for Surgery.

The study was carried out with ethical clearance by the institutional ethics committee and in conformity with the guidelines for medical research laid out by ICMR and Helsinki declaration.

30 consecutive adult patients with age above 18 years who underwent laparoscopic and 30 consecutive adult patients with age above 18 years who underwent open mesh repair of ventral hernias in Department of Surgery.

Results

Table 1: Comparison of Mean Age between Open and Laparoscopic Surgery groups.

| Variables | Open (n=30) Mean (SD) | Laparoscopic (n=30) Mean (SD) | P Value |
|----------------|-----------------------|-------------------------------|---------|
| Age (in years) | 45.8 (11.0) | 46.8 (12.0) | 0.738 |

Mean age of the subjects in open surgical group was 45.8 +/- 11 and laparoscopy was 46.8 +/-12. There was no significant difference between the two groups with respect to age of the subjects (P value – 0.738).

Table 2: Association between Gender and Surgery (N = 60)

| Gender | Open (n=30) | Laparoscopic (n=30) | P Value |
|--------|-------------|---------------------|---------|
| Male | 7 (23.3) | 11 (36.7) | 0.260 |
| Female | 23 (76.7) | 19 (63.3) | |

In the study it was observed that majority of subjects in both the groups were female (76.7% open and 63.3% laparoscopic). There was no significant difference between two groups with respect to sex distribution (p value 0.260)

Table 3: Association between Complaints and Surgery (N = 60)

| Complaints | Open (n=30) | Laparoscopic (n=30) | P Value |
|-------------|-------------|---------------------|---------|
| Lump | 20 (66.7) | 16 (53.3) | 0.513 |
| Pain | 3 (10.0) | 3 (10.0) | |
| Lump + Pain | 7 (23.3) | 11 (36.7) | |

In the study it was observed that majority of subjects in both the groups presented with complaints of lump (open - 66.7% and

laparoscopy - 53.3%). There was no significant difference between two groups with respect to presenting complaints (p value 0.513).

Table 4: Association between Type of Hernia and Surgery (N = 60)

| Type of Hernia | Open (n=30) | Laparoscopic (n=30) | P Value |
|----------------|-------------|---------------------|---------|
| Umbilical | 9 (30.0) | 9 (30.0) | 0.592 |
| Paraumbilical | 16 (53.3) | 12 (40.0) | |
| Incisional | 4 (13.3) | 8 (26.7) | |
| Epigastric | 1 (3.3) | 1 (3.3) | |

In the study who underwent open repair it was observed that, in open group 53.3% of subjects had paraumbilical hernia, 30% had umbilical hernia, 13.3% had incisional hernia and 3.3% had Epigastric hernia. In laparoscopic group 40% had Paraumbilical hernia, 30% had Umbilical hernia, 26.7% had Incisional hernia and 3.3% had Epigastric hernia. This observation was statistically not significant (p value – 0.592)

Discussion

In our study, mean age of the subjects didn't show any significance, and were comparable between open and laparoscopic groups, 45.8 and 46.8 years respectively. In Lomanto *et al.* [7] study there was no statistically significant difference between the two groups with respect to age of patients, ranging from 30 to 80 years with mean of 55.25 years. In the study conducted by Misra *et al.* [8] the mean age of the patients were 45.2 and 45.96 in open and laparoscopic groups respectively. Also in study by Mc Greevy *et al.* [9] the mean age among two participating groups were comparable. Similarly mean age of subjects in open and laparoscopic groups were 59.6 and 61.2 respectively in Itani *et al.* [10] Study.

In the present study majority of subjects were females, 23 (76.7%) in open and 19 (63.3%) in laparoscopic group. Study conducted by Itani *et al.* [10] had males as majority with 91% males in each group. 82% were male and 18% were female in Lomanto *et al.* [7] study. Similarly gender distribution was comparable between the 2 groups in Mc Greevy *et al.* [9], and around 80% of subjects in both groups were females according to Misra *et al.* [8].

In the present study we observed that lump was the most common presenting complaint, 20(66.7%) in open and 16(53.3%) in laparoscopic group came with painless lump. And 10% of subjects in both the group presented with only pain, whereas remaining subjects presented with painful swelling.

In this study we observed that in patients who underwent open repair, paraumbilical hernia was most common 16(53.3%), 9(30%) were umbilical, 4(13.3%) were incisional and epigastric hernia accounted for only 1(3.3%). Similarly in laparoscopic group paraumbilical hernia 12(40%) were the commonest, the no of umbilical and epigastric hernias were same as the open group, whereas incisional hernias were more 8(26.7%) in laparoscopic group.

Conclusion

- In this study we observed that there was no statistically significant difference between the two groups with respect to age of the subjects. Mean age of the subjects in open surgical and laparoscopic group were 45.8 +/- 11 and 46.8 +/-12 respectively (P value – 0.738).
- In the current study it we observed that sex distribution between the two groups was insignificant, majority of subjects in both the groups were female (76.7% open and 63.3% laparoscopic).

- This study it also showed that, lump was the most common presentation of ventral hernias (total 60%), with majority of subjects in both the groups presenting with complaints of lump (open - 66.7% and laparoscopy - 53.3%).

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