

Study on the Correlation of Spectrum of Abdominal Wall Hernia in Rural Population of India: An Institutional Based Study

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ABSTRACT

Background: The present study was conducted for assessing the correlation of spectrum of abdominal wall hernia in rural population of India in a tertiary level Hospital.

Materials & Methods: A total of 100 patients with abdominal wall hernia were enrolled. Complete demographic details of all the patients were obtained. A Performa was made and complete clinical and medical history of all the patients was recorded separately. Segregation of the patients was done the basis of type of hernia. All the results were compiled and summarized in Microsoft excel sheet and were analysed by SPSS software.

Results: Mean age of the patients was 35.6 years. 81 percent of the patients were males while the remaining were females. 18 percent of the patients were diabetic while 16 percent of the patients were hypertensive. Majority of hernia was of inguinal type (79 percent). Incisional type of hernia was seen in 10 percent of the patients. Umbilical type of hernia and epigastric type of hernia was seen in 5 percent and 3 percent of the patients.

Conclusion: Spectrum of abdominal wall hernias is nearly similar all over the globe in spite of having differences in their geographic status.

Key words: Abdominal wall, Hernia.


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Article History:

Received: 09-08-2017, Revised: 03-09-2017, Accepted: 22-09-2017

Access this article online

Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2017.3.5.092	

INTRODUCTION

Abdominal wall hernias are one of the most common surgically treated medical conditions worldwide. Although the standards for hernia repair have changed greatly over the last few decades and there have been many studies and debates on this issue, the level of evidence currently available makes it impossible to provide recommendations for management of primary ventral or incisional hernias.^{1,2}

The hernia can also be characterized as a rupture in smooth tissue through which an organ protrudes or pushes through. It is mainly common in the abdomen, groin regions, navel area and upper thigh. Common types include inguinal, hiatal and umbilical hernias. The most frequent hernia is the inguinal hernia. The time a hernia takes to develop depends on its causes, which relate to muscle weakness and strain. Common causes include chronic coughing, damage from an injury or through surgery, and the inability of the wall of the abdomen to close properly.³⁻⁵

The most frequent hernia type is inguinal. According to some classical reference books, the frequency of abdominal wall hernias is as follows: inguinal (70%–75%), femoral (6%–17%),

and umbilical (3%–8.5%), followed by rare forms (1%–2%). No changes in the frequencies of different types of abdominal wall hernias have been published in 3 consecutive editions of a well-known surgical textbook between 2004 and 2012. However, a recent UK study found that the frequencies of different types of abdominal wall hernias change with time and that the figures given in the classical books should be subject to scrutiny.⁶⁻⁸ Hence; the present study was conducted for assessing the correlation of spectrum of abdominal wall hernia in rural population of India in a tertiary level Hospital.

MATERIALS & METHODS

The present study was conducted for assessing the correlation of spectrum of abdominal wall hernia in rural population of India in Department of Surgery, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India. A total of 100 patients with abdominal wall hernia were enrolled. Complete demographic details of all the patients were obtained. A Performa was made and complete clinical and medical history of all the patients was recorded

separately. Segregation of the patients was done the basis of type of hernia. All the results were compiled and summarized in Microsoft excel sheet and were analysed by SPSS software.

RESULTS

39 percent of the patients belonged to the age group of 20 to 40 years. 23 percent of the patients belonged to the age group of less than 20 years. Mean age of the patients was 35.6 years. 81 percent of the patients were males while the remaining were females. 18 percent of the patients were diabetic while 16 percent of the patients were hypertensive. Majority of hernia was of inguinal type (79 percent). Incisional type of hernia was seen in 10 percent of the patients. Umbilical type of hernia and epigastric type of hernia was seen in 5 percent and 3 percent of the patients.

Table 1: Age-wise distribution of patients

Age group (years)	Number	Percentage
Less than 20	23	23
20 to 40	39	39
41 to 60	18	18
More than 60	20	20
Total	100	100

Table 2: Gender-wise distribution of patients

Gender	Number	Percentage
Males	81	81
Females	19	19

Table 3: Co-morbidities

Co-morbidities	Number	Percentage
Diabetes	18	18
Hypertension	16	16
Others	11	11

Table 4: Type of Hernia

Type of hernia	Number	Percentage
Inguinal	79	79
Incisional	10	10
Umbilical	5	5
Epigastric	3	3
Femoral	3	3

DISCUSSION

Abdominal herniation is a protrusion of part of its content from the abdominal cavity through a normal or abnormal aperture or from wall weakness. Hernias may be congenital or acquired. The first appear prenatally or in infants and are caused by a congenital defect provoking an opening in the abdominal cavity. The second may be caused by conditions that increase the pressure in the abdominal cavity (obesity, coughing, straining), from previous surgical procedure (incisional hernia) or from trauma.^{6,7}

The introduction of independent treatment centres to produce additional capacity for some elective care (elective hernia repair being a prime example), with the aim of reducing waiting times and support the National Health System in meeting targets adds emphasis to this. Given the common nature of hernias, medical students are taught hernia epidemiology and examination techniques, and surgical trainees are often able to take advantage of their frequency to hone their surgical skills at a relatively early stage in training.⁸⁻¹¹ Hence; the present study was conducted for assessing the correlation of spectrum of abdominal wall hernia in rural population of India in a tertiary level Hospital.

In the present study, 39 percent of the patients belonged to the age group of 20 to 40 years. 23 percent of the patients belonged to the age group of less than 20 years. Mean age of the patients was 35.6 years. 81 percent of the patients were males while the remaining were females. 18 percent of the patients were diabetic while 16 percent of the patients were hypertensive. Similar findings were seen in study by Indrani Basu et al that the peak incidence of inguinal hernia was 42 to 57 years. It is relatively less common in adolescent age groups. This evidence was not supported by many studies in some studies it is shown that age distribution is bimodal peaking at early childhood and old age.^{12,13} In the present study, majority of hernia was of inguinal type (79 percent). Incisional type of hernia was seen in 10 percent of the patients. Umbilical type of hernia and epigastric type of hernia was seen in 5 percent and 3 percent of the patients. In another previous study conducted by Sangwan M et al, authors analysed the spectrum of abdominal wall hernias in a rural population in India. Majority of the patients were of 40 - 70 yrs. Male to female ratio was 7:1. Incidence of groin hernias showed an increasing trend with advancing age. Out of total 320 cases, inguinal hernias were predominating in 77.81% cases. Ventral hernias were present in about 18% cases. However, femoral hernias were rare.¹¹ Ayandipo OO et al, in another pervious study, authors described the clinical profile of anterior abdominal wall hernias. The case records of 1215 (84.7%) patients out of 1435 were retrieved. Elective surgery was done in 981(80.7%) patients while 234 (19.3%) patients had emergency surgery. There were 922 (84.8%) groin hernias and post-operative incisional hernia accounted for 9.1% (111) of the patients. About half (49.1%) of those with incisional hernia were post obstetric and gynaecologic procedure followed by post laparotomy incisional hernias 16 (14%) and others (23.5%). The ratio of inguinal hernia to other types in their study is 3:1.¹⁴ In a study at the King Khalid Hospital in Al-Kharj, Saudi Arabia, it was concluded that repairing incisional hernias remains a challenge for the general surgeon, and surgical management should be specialized to each individual patient.¹⁵ Dabbas N et al investigated the epidemiology of hernia repair (retrospective review) over 30 years to determine whether the relative frequencies of hernias are evolving. Over the three time periods, 2389 patients underwent 2510 hernia repairs (i.e. including bilateral and multiple hernias in a single patient). Inguinal hernia repair was universally the commonest hernia repair, followed by umbilical, epigastric, para-umbilical, incisional and femoral, respectively. Whereas femoral hernia repair was the second commonest in the 1980s, it had become the fifth most common by 2005–2008. While the proportion of groin hernia repairs has decreased over time, the proportion of midline abdominal wall hernias has increased.¹⁰

CONCLUSION

From the above results, the authors concluded that spectrum of abdominal wall hernias is nearly similar all over the globe in spite of having differences in their geographic status.

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Source of Support: Nil. **Conflict of Interest:** None Declared.

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Cite this article as: Krishna Murari, Sandip Kumar. Study on the Correlation of Spectrum of Abdominal Wall Hernia in Rural Population of India: An Institutional Based Study. *Int J Med Res Prof*. 2017 Sept; 3(5):453-55. DOI:10.21276/ijmrp.2017.3.5.092