ISSN 2091-2889 (Online)
ISSN 2091-2412 (Print)

Journal of Chitwan Medical College 2018;8(24):32-36
Available online at: www.jcmc.cmc.edu.np

ORIGINAL RESEARCH ARTICLE

PATTERN OF ABDOMINAL WALL HERNIA ATTENDED IN FISHTAIL HOSPITAL, POKHARA, NEPAL

Pradeep Ghimire[1], Bishowdeep Timilsina[1]

[1]Department of Surgery, Fishtail Hospital and Research Centre, Pokhara, Nepal.

***Correspondence to:** Dr. Pradeep Ghimire, Department of Surgery, Fishtail Hospital and Research Centre, Pokhara Nepal.*

Email: pradeepg757@hotmail.com

ABSTRACT

Introduction: All hernias are caused by a combination of pressure and an opening or weakness of muscle or fascia. The pressures push an organ or tissue through the opening or weak spot. Sometimes muscle weakness is present at birth; more often it occurs later in life. Abdominal wall hernias occur only at sites at which the aponeurosis and fascia are not covered by striated muscle. The aim of the study was to know different pattern of abdominal hernias, to analyze various clonal and demographic profiles of various abdominal wall hernias presenting to the mid-western part of Nepal and to evaluate different types of operation and complication performed in hernias patients. Methods: Hospital based retrospective descriptive study performed in Fishtail Hospital and Research Centre, Pokhara Nepal in October 2012 to July 2017. Ethical clearance was taken from institute and written consent was taken from all the patients who are involved in the study. All sociodemographic data were collected and analyzed by using SPSS 20 statistical software. Results: In this study period, 492 patients of various types of hernias were operated by various methods. Most common type of hernia is indirect inguinal hernia (94.39%) and one rare spigelian hernia was also there. Right inguinal hernia was more common (58.42%). Conclusion: Inguinal Hernia was the commonest type of hernia (394, 90.3%). Among inguinal hernia right side was more common (58.42%). Among inguinal hernias, most of the hernias were found in 0-9 years (38.21%). In this study we found recurrence rate 1.4%.

Key words: Herniotomy, Hernioplasty, Inguinal hernia, Incisional hernia, Ventral hernia, Spigelian hernia

INTRODUCTION

A hernia is the bulging of part of the contents of the abdominal cavity through a weakness in the abdominal wall. Various factors are contributing to cause the different types of hernia. Among them basic design weakness, weakness due to structures entering and leaving the abdomen, developmental failures, genetic weakness of collagen, sharp and blunt trauma, weakness due to aging and pregnancy, primary neurological and muscle diseases and excessive intra-abdominal pressure.[1]

The classic reasons for repair of hernia includes, relief of symptoms, prevention of progression, with further weakening of the interior abdominal wall, preventions of complications such as acute incarceration and strangulation, addressing economic/employment/workers compensation issues and treatment of incarceration and strangulation. Contraindications of repair of hernia includes presence of ascites, skin sepsis or other active infections, pregnancy and reversible causes of increased intra-abdominal pressure (eg: prostatism, acute respiratory exacerbation and severe constipation).[2]

It is estimated that 5% of the population will develop an abdominal wall hernia. About 75% of all hernias occur in the inguinal region, 2/3 of these are indirect inguinal hernias. Femoral hernias comprise only 3% of all groin hernias. Men are 25 times more likely to have groin hernias than women. Indirect inguinal hernia and femoral hernia occur more commonly on the right side. Hernia recurrence are usually caused by technical factors such as excessive tension

on the repair, missed hernias, failure to include an adequate musculo-aponeurotic margin in the repair, improper mesh size and placement. Other factor includes patulous internal ring, chronically elevated intra-abdominal pressure, chronic cough, deep incisional infections and poor collagen formation in the wound.[3]

Inguinal Hernia:

Inguinal hernia repair is the most frequently performed operation by the general surgeons. The recurrence rate is relatively low but difficult to pin down because it is nearly impossible to truly follow these patients long term. The true lifetime recurrence rate is probably around 5%, but may be higher. There are many large series of inguinal hernia repair patients with recurrence rates of 1%-3%. The rate of recurrence after a second repair is definitely higher and may approach 10% in growing hernia.

Basic principles for surgical repair are reduction of the hernia content into the abdominal cavity with removal of any non-viable tissue and bowel repair if necessary, excision and closer of a peritoneal sac if present or replacing it deep to the muscles, re-approximation of the walls of the neck of the hernia if possible and permanent re-enforcement of the abdominal wall defect with suture or mesh.

Among all groin hernias, 10% will present with bilateral inguinal hernias and up-to 20% or more will have an occult contralateral hernia on laparoscopic evaluation. A patient with single hernia has a lifetime 33% risk of developing a hernia on the other side. All hernias are caused by a combination of pressure and an opening or a weakness of muscle or fascia; the pressure pushes an organ or tissue through the opening or weak spot. Sometimes the muscle weakness is present at birth; more often; it occurs later in life.

Inguinal Hernia:

A ventral hernia is defined by a protrusion through the anterior abdominal wall fascia. It includes epigastric, umbilical, hypogastric, and incisional hernia. Incisional hernias account for 15-20% of all abdominal wall hernias; umbilical and epigastric hernias constitute 10% of hernias. Incisional hernias are twice as common in women as in men. Umbilical hernia close spontaneously in most cases by the age of 2 years, those that persist after the age of 5 years are frequently repaired. Approximately 3-5% of the population has epigastric hernias. Epigastric hernias are 2-3 times more common in men. These are located between xiphoid process and umbilical. Of all hernias encountered, incisional hernias can be the most frustrating and difficult to treat.

METHODS

A retrospective study was conducted in between October 2012 and July 2017, including all cases of various abdominal wall hernias performed in Fishtail Hospital and research center, Pokhara, Nepal with an objective to analyze various clonal and demographic profile of various abdominal wall hernia presenting to the mid-western part of Nepal. All the cases were noted from operation register of the hospital and data were retrieved from the medical records department. All ages and both sex were included in the study. Various sociodemographic, clinical and operative data were entered in a preformed chart and were analysed using SPSS 20 statistical software.

RESULTS

In between October 2012 to July 2017, a total of 492 cases were operated for various abdominal wall hernias. Out of these 58 cases were excluded as the records could not be retrieved for 17 cases and the rest 41 cases comprised of congenital hydrocele for which herniotomy had been performed. Thus 475 cases of various abdominal wall hernias were included in this study. There were 87.79% males and 12.21% females (figure 1) and there age distributions are shown in figure 2. Inguinal hernia (90.3%) consisted of majority of the series followed by incisional hernia (4.8%), epigastric (1.4%), umbilical (2.1%), femoral (0.9%) and lumbar and spigelian (0.2% each) (Table 2). Hypertension 96.7%) and Chronic Obstructive Airway Disease (4.6%) consisted of the commonest comorbidities associated with abdominal wall hernias in our series (Table 3).

Table 4 depicts various surgical procedures

performed in this series. Herniotomy (44.7%), hernioplasty (43.8%) and herniorrhaphy (1.6%) were done for various inguinal hernias whereas only mesh repair (9%) was performed for epigastric, lumbar, umbilical, spigelian and incisional hernia. All 4 cases of femoral hernia in our series were approached via Lockwood inferior approach. Overall 6 cases (1.4%) in our series had recurrences and all of these cases consisted of inguinal hernias. Most of the inguinal hernia in our series were indirect inguinal hernia (370, 94.39%). Out of the 392 cases of inguinal hernia, 22 (6.2%) presented with strangulation and 6 (1.4%) presented with features of obstruction and were thus tackled as emergency. Amongst the inguinal hernias 58.42% were right sided, 37.2% were left and 4.34% were bilateral; whereas 50% each of femoral hernia were left and right sided and the only spigelian hernia in our series was left sided (Table5). Amongst the incisional hernias 28.57% had previous history of hysterectomy, 19.05% had cholecystectomies, 14.29% each had intestinal obstruction and exploratory laparotomy for various other reasons and 23.80% had history of perforation peritonitis in the past.

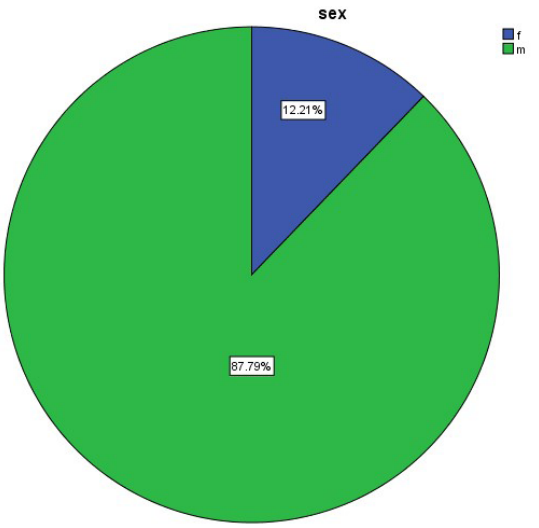

Fig 1: Pie Chart showing Sex distribution

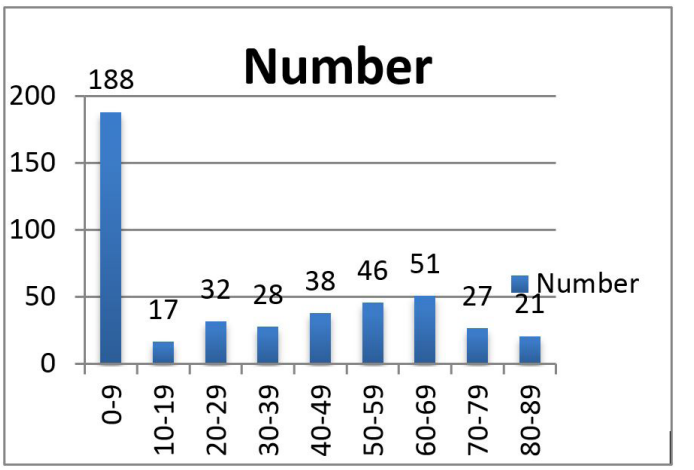

Fig 2: Age distribution

Table 1: Various types of abdominal wall hernia

Type of Hernia	Frequency	Percent
inguinal	392	90.3
incisional	21	4.8
epigastric	6	1.4
umbilical	9	2.1
femoral	4	.9
lumbar	1	.2
spigelian	1	.2
Total	434	100.0

Table 2: Comorbidities associated with Abdominal wall Hernia

Comorbidity	Frequency	Percentage
HTN	29	6.7
DM	14	3.2
COAD	20	4.6
CKD	5	1.2

Table 3: Surgeries performed for various abdominal wall Hernia

Surgery	Frequency	Percent
Hernioplasty	190	43.8
Herniorrhaphy	7	1.6
Herniotomy	194	44.7
Mesh Repair (Incisional/Umbilical/Spigelian/Lumbar/Epigastric)	39	9
Lockwood Low Approach	4	0.9

Table 4: Laterality of various types of hernia

Type	Bilateral (%)	Left (%)	Right (%)
Femoral	0(0)	2 (50)	2 (50)
Inguinal	17(4.34)	146(37.24)	229(58.42)
Spigelian	0(0)	1(100)	0(0)
Total	18	169	248

Table 5: Past surgery in cases of incisional hernia

Previous Surgery	Frequency	Percentage
Hysterectomy	6	28.57
Cholecystectomy	4	19.05
Intestinal Obstruction	3	14.29
Exploratory Laparotomy	3	14.29
Perforation Peritonitis	5	23.80

DISCUSSION

Abdominal wall hernias are one of the commonest surgical procedures performed in most of the centers. The difference in the pelvis between male and female, the musculo-facial structure of the lower abdomen and the descent of the gonads from the retroperitoneal structure determines the common preponderance of abdominal wall hernias amongst males.4 Our study also shows that males are more commonly affected than females (87.7% vs 12.27%). Gupta et al5 reported 96% of male incidence while Charles et al6, in a study from western region of Nepal, reported 93.2% of male preponderance in their studies which is in accordance with our findings. Involvement in more sternous activities by males may be another reason of male preponderance of abdominal wall hernias.

Inguinal hernias are known to be the commonest abdominal wall hernias described in various literature followed by umbilical, epigastric and femoral hernias.[7] In our series inguinal hernias comprised of 90.3% followed by incisional hernia 4.8%.

Inguinal hernias are more common in right than in

left. This may be because of late descent of right testes and late closure of processus vaginalis. In our series 58.42% of patient had right inguinal hernia whereas 37.25% had left and 4.34% had bilateral inguinal hernia. Balram et al[8] also reported 62.3% incidence of right inguinal hernia. Similarly, Saeed et al[9] also reported 70% incidence of right sided hernia.

The incisional of hernia recurrence was up-to 60% in the long term before routine use of mesh prostheses.[10] Another milestone in abdominal wall surgery was the concept of tension free repair which is associated with less postoperative pain and faster recovery, especially after inguinal hernia surgery.[11] Also tension free repair has been associated with a reduction of recurrence rates.[12]

CONCLUSION

Abdominal wall hernia is a common surgical problem among our population. There is a high incidence of right sided inguinal hernia in male population. Inguinal hernia is a considerable cause of morbidity thus requiring the repair. Lichtenstein tension free repair is the best among the open method of repair which has low recurrence.

REFERENCES

1. Schwartz's principles of surgery, 10th edition.
2. Bailey and Love's Short practice of surgery, 27th edition.
3. Sabiston Textbook of Surgery, 19th edition.
4. Alejandro W, SalvadorV, Denzil G, Alfredo B. Epidemiology of hernias in female. In Bendavid R. et al, (ed). Abdominal wall hernias, principles and management.1st Ed. New York: Springer verlag: 2001.613-619
5. Gupta DK. Inguinal hernia in children: an Indian experience. Pediatr Surg Int. 1993;8:466-8.
6. Charles NR. A two year retrospective study of congenital inguinal hernia at western regional hospital, Nepal. J Nep Med Assoc. 2000;39:172-5.
7. Natalie Dabbas K Adams K Pearson GT Royle. Frequency of abdominal wall hernias: Is classical teaching out of date? JRSM short reports. 2011; 2(1):5.
8. Balram. Prevalence of inguinal hernia in Bundelkhand region of India. Ann Int Med Den Res. 2016;2(3):137-8.
9. Saeed BBA. Inguinal hernia repair by darning. Yemen Journal Med Sci. 2009;1(3):1-5.
10. Burger JW, Luijendijk RW, Hop WC, et al. Long term follow up of a randomized controlled trial of a suture versus mesh repair of incisional hernia. Ann Surg 2004;240 (4):578-85.
11. Scott NW, Graham P et al. Open mesh versus non-mesh repair of femoral and inguinal hernia. Cochrane Database syst Rev. 2002;(4):CD002197.
12. Van veen RN, Wijs muller AR, Vrij land WW et al. Long term follow up of a randomized clinical trial of non-mesh versus mesh repair of primary inguinal hernia. Brj Surg. 2007;94 (4):506-10.