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A Study on Symptoms and Etiological Profile of Ventral Hernia Cases

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A B S T R A C T

A hernia is defined as an abnormal protrusion of an organ or tissue through a defect in its surrounding wall. Hernias are among the oldest surgical challenges which have confronted the surgical community. The pre-operative preparation mainly consisted of treatment of anaemia, respiratory infection, and in some patients' diabetes mellitus and hypertensions, had to be controlled. Over-weight patients were instructed about diet control and exercise. Smoking was forbidden in smokers, chest physiotherapy was given to old and over-weight patients and patients with respiratory infection. Incisional hernias were common in 30-60 years age group. Epigastric hernia 20-45 years of age group. Umbilical hernia patients presented in early age, in between 2-10 years and other at the age of 62 years. One new-born baby presented with exomphalos.

Introduction

Ventral hernias comprise the second most common hernia presentations in thesurgical world. Since the beginning of our institute there have been many cases of different types of ventral hernias till date. As ventral hernia is one of the very common conditions presenting to our hospital, there is a need to study the disease to know the various presentation, to gauge the awareness levels of the patients coming to us and also to determine the best modality of treatment in our set-up. The protrusion of any organ (tissue) as a whole or part out of its boundary through an anatomical or acquired week spot (Aridian, 1958). A hernia is defined as an abnormal protrusion of an organ or tissue through a defect in its surrounding wall (Akman, 1974). Hernias are among the oldest surgical challenges which have confronted thesurgical community. The Egyptians (1500 B.C), the Phoenicians (900 B.C), and theancient greeks (Hippocrates 400 B.C) diagnosed hernia during their times. The word Hernia is derived from the latin word for rupture. In Greek word hernia means a bud or an offshoot, a budding or a bulge. Hernia also means tear in Latin literature (Brendon

Devlin, 1988). Celsus (AD 40) an ardent follower of Hippocrates, also known as the Latin Hippocrates documented Roman surgical practice that is taxis was employed for Strangulation. Truss and bandage could control reducible hernia (Boffard, 1992). Are those hernias which occur through the anterior abdominal wall. These defects can be be categorized as spontaneous or acquired or by their anatomical location on the abdominal wall (Akman Pilling, 1974).

Epigastric Hernia

It occurs from the xyphoid process to the umbilicus. Theses hernias are 2 to 3 times more common in men. Epigastric hernias were first described in 1285. The entity of this hernia was first noted by Arnauld de villeneuve in 1285, but it was not until 1743 that De-Garngeot first correlated vague abdominal symptoms to this condition. The term epigastric hernia was introduced by Leveille in 1812. Detailed anatomical descriptions were given by Bernitz in 1848 and Cruveilhier in1849 (Brendon Devlin, 1988).

Umbilical Hernia

Umbilical hernias occur at the umbilical ring and may either be present at birth or develop gradually. Umbilical hernias are present in approximately 10% of all newborns and are more common in premature infants. Omphalocele (Body wall defects) involves herniation of abdominal viscera through an enlarged umbilical ring. The origin of the defect is a failure of the bowel to return to the body cavity from its physiological herniation during the 6^{th} to 10^{th} weeks of gestation.

Spigelian Hernia

Spigelian hernias can occur anywhere along the length of the Spigelian line or zone- an aponeurotic band of variable width at the lateral border of the rectus abdominis.

The semilunar line was described by Adrian van Spiegel.

Methodology

In all patients, history of occupation was taken. In cases of incisional iatrogenic hernias, detail history of previous operation was taken. All the patients were investigated before surgery.

The pre-operative preparation mainly consisted of treatment of anaemia, respiratory infection, and in some patients' diabetes mellitus and hypertensions, had to be controlled. Over-weight patients were instructed about diet control and exercise. Smoking was forbidden in smokers, chest physiotherapy was given to old and over-weight patients and patients with respiratory infection.

In the immediate post-operative period, abdominal distension was prevented by an indwelling nasogastric tube for at least 48 hours, subcutaneous drains were used to prevent serous collection. Chest physiotherapy was continued in post-operative period too. Wound infection was treated with appropriate antibiotics.

The patient was followed up to note the condition of the scar, recurrence, and persistent, post-operative pain. Patients treated with prolene mesh were particularly examined for presence of a sinus.

Results and Discussion

In our series, we have studied 20 cases of ventral hernia. With our small series, we have studied, the clinical profiles and management as shown in the analysis of the

data. In our series acquired, hernia's were commonest 55%, follow by developmental 40%, which include epigastric, umbilical, paraumbilical and exomphalos. In our study, epigastric hernia was 20%, Swinton & Sanderson (1941), gave similar incidence of epigastric hernia.

Umbilical and paraumbilical hernia being 15% in our study, Coley, Hagnat, Sheely, quoted by Zimmerman, gave higher incidence of umbilical hernias than epigastric. These authors do not differentiate between umbilical and paraumbilical hernias, hence we have given our combined percentage.

Examphalos was seen in new-born. In our series, umbilical hernia presents at an earlier age under 10 years and one patient presented at the age of 62 years and he gave history since birth. Alvear & pilling, their series, showed to be common from 15 months to 14 years. According to pilling, about 10% of adults with umbilical hernia have history of infantile umbilical hernia. Infantile umbilical hernia which are small in size are known to undergo spontaneous regression. Hence the patients presenting after 10 years of age are less in number.

Epigastric hernia occurred between the ages of 20-45 years of age. Ponka in his series, found them between 31-60 years of age. Mc-Caughan, mentions this range between 20-50 years of age. Incisional hernias between 30-60 years. This may be due to the fact that certain operations like Caessarian, tubectomy, hysterectomy, which are performed.

Table.1 Aetiological incidence

Aetiology	No. of cases	Percentage
1) Developmental	8	40%
2) Acquired	11	55%
3) Traumatic	1	5%
Total	20	100%

In the present series, incidence of acquired hernias was more.

Table.2 Incidence according to type of Hernia

Type of hernia	No. of cases	Percentage
1) Epigastric	4	20%
2) Umbilical	2	10%
3) Paraumbilical	1	5%
4) Exomphalos	1	5%
5) Incisional	11	55%
6) Secondary to blunt abdominal trauma	1	5%
Total	20	100%

In this study, incisional hernias were commonest followed by epigastric hernia.

Table.3 Age-wise distribution of different types of Hernias

Age Groups in Years	TYPES OF HERNIA						
	Epi-gastric	Umilical	Para-Umiblical	Exomphalos	Incisional	Traumatic	Total
0-1	-	-	-	1	-	-	1
2-10	-	1	-	-	-	-	1
11-20	-	-	-	-	-	-	-
21-30	2	-	-	-	-	-	2
31-40	-	-	1	-	4	-	5
41-50	2	-	-	-	5	1	8
51-60	-	-	-	-	2	-	2
61-70	-	1	-	-	-	-	1
71 & above	-	-	-	-	-	-	-
Total	4	2	1	1	11	1	20

Incisional hernias were common in 30-60 years age group. Epigastric hernia 20-45 years of age group. Umbilical hernia patients presented in early age, in between 2-10 years and other at the age of 62 years. One new-born baby presented with exomphalos.

Table.4 Sex distribution of Hernia

Sex	No. of cases	Percentage (%)
Male	9	45%
Female	11	55%
Total	20	100%

Male to Female ratio = 1 : 1.22

Table.5 Incidence of ventral hernia in relation to occupation and sex

Occupation	Male	Female	Total
Sedentary	2	4	6
Semisedentary	1	2	3
Heavy Work	2	5	7

Infantile umbilical hernia and exomphalos are present from birth, occupation is not related to it.

Table.6 Incidence of ventral in relation to occupation with types of hernia

Types of Hernia	Occupation			
	Sedentary	Semi sedentary	Heavy work	Total
Incisional	6	21	3	11
Epigastric	-	-	3	4
Umbilical	-	-	-	-
Paraumilical	1	-	-	1
Exomphalos	-	-	-	-
Traumatic	1	-	-	1

Epigastric is more common in heavy work occupation. Incisional hernia is more in sedentary occupation.

Grace and Cox, in their study had 79% more than 50 years of age. Viljanto & Vanttien, had more cases of incisional hernia under 40 years of age. Obeny, mentions high

incidence between 40-70 years. Opinion vary as to the importance of the patients age in predisposing to post- operative herniation. Incisional hernia is not unique to elderly patients beyond 60 years.

Paraumbilical hernias in our series, was seen between the age group of 31-40 years, whereas in Ponka's series, 51-60 years of age is observed.

Bailey & Love, finds it between the age group of 35-50 years. In our series, male to female ratio being 1:1.22 whereas in Ponka's series, has male to female ratio of 1:1. In our study, female hernias were more in 31-40 years of age, men had higher incidence between 41-50 years of age. In our study, only one exomphalos case was studied hence it was not possible to study male to female ratio. Atkin, Male to female ratio is 1:1.2.

In our series, 55% had incisional hernia, amongst them 40% were female, majority of them underwent gynaecologic operations and their incidence is rising, (Ponka, 1980). Male to female ratio according to ponka, 3:1, Siedal & Colleagues, found an equal incidence in men and women. Obney and Fischer & Turner, show higher incidence for males. Epigastric hernias being more in male. In Shelly's series, 65% and in Friedenwald's series, 91%, 72% in Ponka's series.

In our series, we had male to female ratio was 3:1.Umbilical hernia in our study, male to female ratio being 1:1, Bailey & Love, gives ratio of 2:1. According to Halpern, shows female preponderance Ponka, shows 58% in male and 42% in female, Crawford, gives male to female as 1:2.

In our series, we had only one paraumbilical hernia seen in female, hence it was not possible to study male, female ratio, however Arid, says it only found in females, Maingot, gives male to female ratio of 1:3.

Men had preponderance in the heavy work group, female more in sedentary or semisedentary group. Epigastric hernias were found to be more in heavy workers in our series.

Conclusion

Swelling is the most common complaint of all most cases, followed by pain and vomiting in obstruction. Over the years and with technological advances prosthetic material is being used more frequently.

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