

all umbilical hernias (33)<sup>10</sup> seen between 1980-1987. Five cases (21.74%)<sup>9</sup> were admitted in emergency as incarcerated hernias, 4 of these exomphalos variety, one presenting with a ruptured sac.

There were 15(65.22%) boys and 8 (34.78%) girls amongst umbilical hernias. Age distribution showed a pattern resembling that of inguinal hernias, 13 occurring in infants, 6 between 1-5 years, 3 between 6-10 years and one between 11-12 years i.e. the incidence declined as age increased.

Fifteen children including 4 exomphalos cases were treated with hernial repairs while 2 underwent additional inguinal herniotomies. Two cases left against medical advise whereas 4 were unfit for operation on medical grounds. Three infants out of the 4 exomphalos cases expired bringing the mortality in this subgroup to 75%.

### Conclusion

Statistics from present series, based on the 'sampling technique'<sup>2</sup>, agree with several figures from the international and local data. However, some of our figures do not corroborate. This can be put down to technical difficulties of data collection, patient non-compliance or geographical and regional variations.

The field of hernia needs more research work as its management continues to strain our surgical resources. There is also a genuine need for Mass Education as regards to the treatment and complications of hernia. This is evident from the fact that many patients refused surgery and left against medical advise. They will probably land in emergency with complications resulting in increased mortality as all the deaths were in the emergency admissions group.

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series.

**Table # 2**  
Incidence of External Hernias in Children

Hernia Types	Nawabshah (n-210)	U.K. <sup>4</sup> (n-229)
Inguinal	90%	86.0%
Umbilical	10%	13.5%
Femoral	—	0.5%

### Inguinal Hernias — 90%

Inguinal hernias dominated the spectrum of external hernias in children at Nawabshah accounting for 191 (23.58%) cases out of the total 810 inguinal hernias<sup>3</sup> seen between 1980-87. This is in conformity with the universal pattern as seen in other series also vide Table 2. However, our figures show a slightly higher incidence.

Sex incidence revealed that there were 183 (95.81%) boys and 8 (4.19%) girls in this series, a male to female ratio of 20:1. Other authors<sup>4,5,6</sup> have also reported similar figures as shown in Table 3. However, our statistics indicate a slightly higher ratio of male children. This could be due to fewer females brought to hospital as a result of the conservative social setup in the rural background of Nawabshah.

**Table # 3**  
Comparison of Sex Incidence in Inguinal Hernias

AUTHOR	REGION	PATIENTS	MALES	FEMALES
Devlin <sup>4</sup>	U.K.	197	89.95%	10.15%
Shaukat et al <sup>5</sup>	Lahore	451	90.24%	9.76%
Attar et al <sup>6</sup>	Karachi	158	91.77%	8.23%
Present Series	Nawabshah	191	95.81%	4.19%

The pattern of age incidence (Table 4) seen in our series is similar to that described by Shaukat et al<sup>5</sup> from Lahore and Bailey & Love<sup>7</sup> from U.K., the maximum incidence is in the infants followed by a decline as age increases.

**Table # 4**  
Age Incidence in Inguinal Hernia Children

STUDY	AGE GROUP			
	1 YEAR	1-5 YRS.	5-10 YRS.	10-12 YRS.
Shaukat et al <sup>5</sup> n-451	144.32 %	246.54 %	49.11 %	12.3 %
Present Study, n-191	38.20 %	86.45 %	41.21 %	26.14 %

Amongst the inguinal hernias 108 (56.54%) had hernias on the right and 63 (32.98%) on the left side while 20 (10.47%) had bilateral hernias. Other series<sup>5,6,8</sup> show similar figures as is evident from Table 5.

**Table # 5**  
Comparison of Site in Inguinal Hernia

SERIES	RIGHT	LEFT	BILATERAL
NWFP Mufti & Khan, n-93	52.69%	37.63%	9.68%
LAHORE <sup>5</sup> Shaukat et al. n-451	46.56%	39.47%	13.97%
KARACHI <sup>6</sup> Attar et al. n-158	58.25%	35.75%	6.00%
NAWABSHAH This series, n-191	56.54%	32.98%	10.48%

Out of the 191 children with inguinal hernias 179 were admitted through Outpatient and 12 through Casualty departments. In the elective group 136 children underwent herniotomy only while 5 had eversion of hydrocoele sac. 2-appendicectomy, 3-orchipexies and 2 umbilical hernia repair in addition. Nineteen patients left against medical advise whereas 12 had to be discharged, with advise to come for operation at a later date, due to medical reasons.

Amongst the 12 (6.98%)<sup>9</sup> emergency admission, 3 infants with incarcerations reduced spontaneously on conservative treatment while the remaining 9 underwent surgery. In comparison to our statistics Attar et al<sup>5</sup> have reported a slightly higher incidence of incarceration viz. around 9%

### Umbilical Hernias — 10%

Twenty three cases of umbilical hernias presented in this study, accounting for 69.70% of

## HERNIAS IN CHILDREN — NAWABSHAH EXPERIENCE

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### Abstract

An eight year (1980-87) review showed that children constituted 21.72% of all external hernias and about 2% of total admissions with a sex incidence of 92.38% males and 7.62% females. Only two types of hernias were seen i.e. Inguinal 90% and Umbilical 10%.

*Key Words:* External hernias, Children, Hernias.

### Introduction

Hernia is a common surgical condition encountered in children. It is difficult to establish its true incidence, even in advanced countries<sup>1</sup>. Hence in a developing country like ours with limited resources and funds, conduction of proper epidemio-logical studies are next to impossible. Hospital admissions under such circumstances can provide a useful basis for assessing the prevalence of any condition in a community<sup>2</sup>. Using this parameter an attempt is being made to bring to light the incidence of hernias and their types in children at Nawabshah, which reflects the rural population of Sind province, and to compare our statistics with those of other studies.

### Patients and Methods

All children, between 0-12 years of age, with external abdominal hernias admitted at Surgical Unit II, Medical College Hospital, Nawabshah from Jan. 1980 to Dec. 1987 are included in this study. Seventeen (8.10%) cases presented in emergency whereas the remainder were elective admissions.

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### Results and Discussion

From 1980 to 1987, 11098 patients were admitted at Surgical Unit II of Medical College Hospital, Nawabshah. Out of these 967 (8.7%) patients had External Hernias<sup>3</sup>, constituting the fourth largest group. Of these 210 (21.72%) were children.

Although the children were 210, the number of hernias were 234 (Table 1). Sex incidence revealed that there were 194 (92.38%) boys and 16 (7.62%) girls in this series.

**Table # 1**  
**Relationship of Children and Hernias**

Types	Children	Hernias
Single Hernia	187	187
Inguinal-168		
Umbilical-19		
Bilateral Inguinal	19	38
Inguinal+Umbilical	3	6
Bil. Ing. + Umbilical	1	3
<b>TOTAL</b>	<b>210</b>	<b>234</b>

Age distribution revealed that 49 cases were seen in the infants, 92 between 1 to 5 years. 43 between 5 to 10 years and 26 between 10-12 years.

As regards to the number and percentage of various types of hernias in this series, there were 187 (89%) patients with inguinal hernia, 19(9%) patients with umbilical hernia whereas 4 (2%) children had both inguinal and umbilical hernias. Table 2. compare our figures with those of other