



## Research Original Article

# Incidence of Congenital Inguinal Hernia in Children: An Observational Study

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## Abstract

**Background:** Inguinal hernia repair represents one of the most common operations performed in children. It is also important to study the factors which are associated with inguinal hernia, especially in children, for its effective management.

**Objective:** To study the incidence of inguinal hernia in children in a general surgery department in a rural medical college

**Patients and Methods:** A retrospective hospital based study was undertaken in the Department of surgery at Fakhruddin Ali Ahmed Medical College, Barpeta, Assam for a period of three years between 2013 to 2015. Children who were aged one year to 12 years were selected for the study. During this period 80 children of uncomplicated congenital inguinal hernia were admitted to the surgery department which constituted the sample. The detail clinical history and physical examination were done, and data collected by using a predesigned proforma. The data which was thus collected was analyzed by using the appropriate statistical tests.

**Results:** The inguinal hernia in the study group was common in the 5-10 years age group. 85% of the study group were males and 15% were females. A swelling in the inguinal region was the commonest symptom. Right sided hernia constituted 52 cases (65%).

**Conclusions:** Present study shall help in understanding incidence of congenital inguinal hernias, anatomical and sex distribution, beside difficulties encountered in their management in a general surgical unit. This study will help in a better management of congenital inguinal hernias by general surgeons.

**Keywords:** Congenital malformations, Inguinal Hernia, children, hernia repair.

## Introduction

An Inguinal hernia is the most common condition requiring operation in the pediatric age group.<sup>1</sup> The incidence of inguinal hernias in children has not been established but is between 10-20:1000

live births.<sup>2</sup> Hernias can be life threatening or can result in the loss of testis or ovary or a portion of the bowel, if incarceration or strangulation occurs<sup>3</sup>. Timely diagnosis and operative therapy are thus important if these complications are to be

avoided. The processus vaginalis, which gives rise to usual pediatric indirect inguinal hernia, is present in the developing foetus at 12 weeks of intra uterine life. The processus is a peritoneal diverticulum that extends through the internal inguinal ring and is dragged into the scrotum with the testis. The portion of peritoneum (processus) enveloping the testis becomes the tunica vaginalis. The remainder of the processus within the inguinal canal eventually obliterates, thus eliminating the communication between the scrotum and the peritoneal cavity. In about 40%, processus vaginalis remains asymptotically patent throughout life.<sup>3</sup> The incidence of indirect inguinal hernia in the general population of infants and children approximates 1-5%.<sup>4</sup> In most series male children with hernias out number female children by 8:1 to 10:1 ratio.<sup>1</sup> Premature infants have a greatly increased risk for development of inguinal hernias. This high risk of inguinal hernia with risk of incarceration that exceeds 60% in the 1st 6 months of life<sup>5</sup> makes surgeons to recommend repair of hernia in infancy. Additional associated diseases have been found to increase both the incidence of hernia and the risk of recurrence after repair. Patients with cystic fibrosis have upto a 15% incidence of inguinal hernia.<sup>6</sup> Direct and femoral hernias in children are extremely rare. The hallmark of an inguinal hernia in a child is a groin bulge extending to the top of the scrotum, which is visible most frequently during periods of increased intra abdominal pressure eg. crying, laughing, straining.<sup>7</sup> In this scenario, the present study evaluates the incidence of inguinal hernia in children in a general surgery department in a rural medical college

### Patients and Methods

A retrospective hospital based study was undertaken in the Department of Surgery at Fakhruddin Ali Ahmed Medical College, Barpeta Assam for a period of three years between 2013 - 2015. Children who were aged one year to 12 years were selected for the study. During this period 80 children of uncomplicated congenital

inguinal hernia were admitted to the surgery department which constituted the sample. The detail clinical history and physical examination were done, and data collected by using a predesigned proforma. The data which was thus collected was analyzed by using the appropriate statistical tests.

### Results

In the present study, the inguinal hernia were more in children of 5-10 years of age group ranging from 29 children between 1-5 years (36%), 41 children between 5-10 years (85%) and 10 children were greater than 10 years (12%). The results were displayed in Table 1.

In this study, the male children were predominant (68; 85%) as that of the females (12; 15 %) The data were shown in Table 2.

Further, regarding the position of hernia 52 children were reported with right side (65%), 27 children were with left side (33%) and 1 children represented as bilateral (Table 3).

**Table 1:** Age distribution in the present study

Age in years	Frequency	Percent
1 - 5 years	29	36.25
5 - 10 years	41	85.00
More than 10 years	10	12.50

**Table 2:** Sex distribution in the present study

Sex	Frequency	Percentage
Male	68	85.00
Female	12	15.00

**Table 3:** Position of hernia in the present study

Side	Frequency	Percentage
Right	52	65.00
Left	27	33.75
Bilateral	1	1.25

### Discussion

In the present study, 70 children were under the age of 10 years. This finding is in line with previous study where the children are under the age of 10 years.<sup>2</sup> The late presentation may be due to lack of awareness of this surgical problem and its potential complication among the parents. 52

right sided hernia accounted for 65% with a Right: Left ratio of about 2:1. This finding corresponds with the observation of congenital inguinal hernias in many series.<sup>1,4,7</sup>

In conclusion, understanding incidence of congenital inguinal hernias, anatomical and sex distribution, beside difficulties encountered in their management in a general surgical unit. Thus, it will help in a better management of congenital inguinal hernias by general surgeons.

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