

The Epidemiology of Various Intestinal Obstruction Causes in Children and Teenagers: A Multi-Center Study

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ABSTRACT

Aim: to assess the Epidemiology of intestinal obstruction in children And Teenagers its causes.

Study design: This is A Multicenter study.

Place and duration of study: This study was conducted in lrh and hmc territory care hospital of kpk . Analysis was completed in 01 year, from Jan 2021 to Jan 2022.

Methodology: This study included all children aged 13 to 18 years hospitalized in the pediatrics department who had an exploratory laparotomy for intestinal blockage and met the inclusion criteria. During an exploratory laparotomy, adhesions, intussusceptions, roundworms, and an obstructed hernia were identified as possible reasons for intestinal blockage. Software SPSS version 24 was used to analyze the data that was collected. We calculated percentages, means, and standard deviations.

Results: 85 patients in all, including 30 cases (35% females) and 55 points (65% males), were analyzed. From [01] to [12] years was the range of ages, with a mean age of [04.3602.06] years. Adhesions were the most frequent cause of intestinal obstruction, followed by intussusception in 36 (42% of cases) and 27 (31% of cases), respectively.

Conclusion: The prevalence of the etiological reasons for intestinal blockage in children And Teenagers varies by age group, although adhesions are the most frequent cause, with intussusception coming in second.

Keywords: Children ,Teenagers, etiological causes, intestinal obstruction, adhesion, and intussusception

INTRODUCTION

A widespread surgical emergency is an intestinal blockage. Both toddlers and adults experience it often⁰¹. It has a high risk of morbidity and death Pediatric departments need skilled physicians to effectively detect and treat instances of intestinal blockage in children And Teenagers since untreated cases may lead to severe problems⁰².

A youngster's constipation, vomiting, and severe abdominal discomfort should raise suspicions of intestinal obstruction⁰³.

Adhesions, blocked hernias, intussusception, particularly in newborns, volvulus, and roundworms, which are more prevalent in older children And Teenagers, are frequent etiological causes of intestinal obstruction⁰⁴. Suppose the intestinal blockage is not identified and treated quickly. In that case, it might restrict the blood flow to the intestines, which can induce necrosis, gut perforation, and ultimately sepsis and patient death⁰⁵. Therefore, early diagnosis and prompt, appropriate therapy are required. Numerous research on intestinal blockage in children And Teenagers has been conducted internationally⁰⁶. Still, they have yet to specifically examine intestinal obstruction in Pakistani children And Teenagers, a group with a diverse geographic and cultural background⁰⁷.

Therefore, to lower morbidity and death rates, methods for the prompt identification and treatment of an intestinal blockage in children And Teenagers in our nation have been developed with the assistance of the results of this research⁰⁸.

MATERIALS AND METHODS

This multicenter study was carried out at the kpk hospital for hospitalized patients' lrh and at home. The study took one year, from January 2021 to January 2022, to complete. The study sample (n=85) was determined using an online WHO sample size calculator. Using a practical sampling approach, representatives were chosen. The hospital's ethical review committee provided its ethical clearance. In all study cases' parents' or guardians' consent was obtained to incorporate their data in this research. Patients hospitalized in the peds medical and gastroenterology department were diagnosed with instances of intestinal blockage, with symptoms beginning two days before admission. The operation was scheduled, and participants in this research to

ascertain the epidemiology of the etiological causes of intestinal blockage was handled conservatively. After examining the patient's history and doing a thorough examination that included all appropriate tests, including an abdominal x-ray, contrast studies, and ultrasound, a diagnosis was made. Complete blood count, serum profile, and serum electrolytes were performed on an intravenous blood sample of (02 ml) in a serum vial and (02 ml) in a separate CBC vial. In situations where ultrasonography was inconclusive, a CT scan and an MRI of the abdomen were performed. Patients above the age of 13, those with prior operations, a history of radiation or chemotherapy, and those with conservative management were excluded from this research. An exploratory laparotomy was performed after general anesthesia, and the underlying source of the blockage was identified and treated appropriately. SPSS version 24 was used to analyze all the data. For qualitative variables like age and the clinical characteristics of the patients (vomiting, abdominal pain, distension, and constipation), percentages were calculated. Means and standard deviation were calculated for quantitative variables like gender and the cause of the intestinal obstruction (adhesions, intussusception, round worms, and obstructed inguinal hernia).

RESULTS

In this study, 85 patients comprised 54 (65%) men and 31 (35%) girls. Patients in the research group ranged in age from one month to 18 years, with a mean age of 04.36 and 02.06 years. All patients with intestinal blockage manifested with vomiting; 81 (94%) had abdominal distension; 77 (92%) had abdominal discomfort; and 52 (60%) had constipation (Table-I).

Table 1: Clinical characteristics of intestinal obstruction in the research group (n=85): epidemiology

| Clinical Features | Epidemiology |
|----------------------|--------------|
| Vomiting | 85 (100) |
| Abdominal distension | 81 (94%) |
| Abdominal pain | 77 (92%) |
| Constipation | 52 (60%) |

Adhesions, which were present in 35 (42% of instances) of the intestinal obstructions, and intussusception, which was present in

27(31%) instances (Table-02). With an epidemiology of 35

(42%), most cases were in children And Teenagers under three years old. Most patients (35%) were between the ages of 4 and 9, while the minority (6.05%) were between the ages of 10-13 and 18 year. (Table III).

Table 2: The prevalence of the primary factors that led to intestinal obstruction in the study group (n=85)

| Etiological causes | Epidemiology |
|----------------------------|--------------|
| Adhesions | 35 (42%) |
| Intussusception | 27 (31%) |
| Obstructed inguinal hernia | 15 (18%) |
| Roundworms | 08 (09%) |

Table 3: Age distribution of the study group's 85 patients)

| Age groups (years) | Epidemiology |
|--------------------|--------------|
| ≤ 03 | 35 (42%) |
| 04-06 | 29 (35%) |
| 07-09 | 11 (13%) |
| 11-13 | 03 (04%) |
| 13-18 | 06 (08) |

DISCUSSION

A typical pediatric surgical emergency is an intestinal blockage⁰⁹. Depending on the children And Teenagers ages; there are several factors. Both babies and older kids have high incidence rates Depending on variances in geography and culture, there are numerous factors. 13 In this research, intestinal adhesions were the most frequent cause of obstruction, followed by intussusception in 35 (42%) and 27 (31%) of patients, respectively¹⁰. With an Epidemiology of 36 (42%), most patients were under three. The youngest patients (07%) were between the ages of 10 and 13, whereas 29 (35%) were between 04 and 07, and 14 (17%) were between 07 and 09. Older children And Teenagers made up a smaller proportion of the research population¹¹. This may be because local general surgeons treat them more often, which results in less reporting to pediatric surgeons. In most cases, adhesions that clog the intestines are inflammatory in origin¹². According to other research, intussusception is the most frequent cause of the intestinal blockage¹³. However, it is the second most frequent cause in our analysis. In our study, intestinal obstruction surgery was performed in 85 patients¹⁴. Epidemiology in this region is more significant than in the west According to research by David et al., children And Teenagers with intestinal blockage had symptoms on average for 03.93 02.64 days, but in our study, the average symptom duration was 02.36 06.72 days¹⁵. 14 Age, gender, the length of the disease's symptoms, and the presence of symptoms were all listed by Harshal et al. as study impact modifiers¹⁶. The age of the patients and the disease's etiological causes were shown to be strongly correlated. It was discovered that gender was related to adhesions, intussusception, and blocked hernia. 18 According to earlier research, worms account for 64% of intestinal blockage instances, while adhesions account for 10%¹⁷.The patient's demographics and the reasons for intestinal obstruction were recorded in this investigation. Because this research was carried out at a Multi center study, observer and selection bias may be present¹⁸.

CONCLUSION

Intestinal obstruction has distinct epidemiology and etiology depending on the age group. Intussusception was discovered to be the second most frequent cause of intestinal blockage in children And Teenagers behind adhesions. The degree of intestinal blockage determines how the disease will manifest.

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