
Analysis of the Causes of Intestinal Obstruction in Children to See the Impact of the Results on Healthy Life

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Abstract: Background: Intestinal obstruction, which affects patients of all ages, is described as a stoppage of the forward passage of contents inside the intestinal lumen.

Aim: This paper aims to analysis of the causes of intestinal obstruction in children to see the impact of the results on healthy life.

Patients and methods: This study was detected the causes of intestinal obstruction and how the effect on children as well as to see the impact of the results on healthy life conducted in different hospitals in Iraq from 14th January 2021 to 7th March 2022 with 42 cases for intestinal obstruction of children patients who under 14 years. The methodology outcomes were designed and analysed by the SPSS program.

Results and discussion: Intestinal obstruction is a prevalent issue in the field of paediatric surgery, affecting children of various age groups. In contrast, previous studies have reported the highest incidence of intestinal obstruction to be under the age of one to two years old; however, our findings indicate that it is predominantly observed in children under the age of 14, with peak occurrence in infancy, consistent with similar reports documented in other regions of the country. Interestingly, only two patients, which accounted for a mere 1.54% of the sample, manifested obstructed umbilical hernia. In this study, a greater frequency of postoperative complications related to sepsis was observed. Predominantly, surgical infection was the most prevalent, followed by Septicemia and postoperative pyrexia as the other common occurrences.



Conclusion: The study found that most impacted of intestinal obstructions are more common and that these acquired causes are mostly upper gastrointestinal in origin. In comparing with the last studies, the pattern and clinical presentation of intestinal obstruction are similar across Iraq. The negative outcomes of complications refer that Surgical infection (20%) and Postoperative fever (16%) got the high impact on children that occur with 36 % of patients after the operation was conducted.

Keywords: Intestinal Obstruction, Adhesive Bowel Obstruction, Surgical Infection, and Malrotation.

1. INTRODUCTION

Intestinal obstruction, which affects patients of all ages, is described as a stoppage of the forward passage of contents inside the intestinal lumen. [1, 2] Intestinal obstruction is one of the most prevalent reasons for emergency hospitalizations in children worldwide [3]. The male-to-female ratio ranges among 1.8 and 3.5:1, along with many patients arrive before the age of 5 years [3-7]. The Etiologies of intestinal blockage in children vary greatly, as shown in various areas of the world, geographical regions, age groups, as well as socioeconomic groups [5, 7, 8]. In investigations conducted in several American nations, Hirschsprung's disease constituted the most prevalent cause in Malawi [4,5]. In other research, intussusception was the leading cause in India, China, and Nepal. [6,11,12] In children, reported death rates vary from 3% up to 11.2% [3, 7,10], with morbidity ranging from 4% to 60%. [7,12] Surgical site infection (SSI), sepsis, fascial dehiscence, stoma-related problems, and interaction fistula are all prevalent morbidities [7,13]. There is a substantial burden of unmet surgical demand in low- and middle-income nations, but especially regarding the paediatric population. [14–17] In Africa, there is just one general surgeon for every million people and 0.26 children's surgeons for every million. [5,18,19] There are a total of 0.53 paediatric surgeons per 100,000 people in East Africa, and most of them live in cities. [20] These variables may all play a role in the late presentation and subsequent bad outcomes. This paper aims to analysis of the causes of intestinal obstruction in children to see the impact of the results on healthy life.

2. PATIENTS AND METHODS

This study was detected on analysis of the causes of intestinal obstruction in children to see the impact of the results on healthy life conducted in different hospitals in Iraq from 14th January 2021 to 7th March 2022 with 42 cases for intestinal obstruction of children patients who under 14 years. The methodology outcomes were designed and analysed by the SPSS program. In progressing of methodology conducting, this study has implemented examinations of children patients who are under 14 years into both sex, males and females, which can be clarified in Table 1 and Table 2. To follow that, outcomes defined the symptoms of children patients that include abdominal pain, vomiting, constipation, abdominal distension, fever, passage of mucoid bloody stool, and diarrhea, where the outcomes can be determined in Table Figure 1. Clinical Features were determined as causes of intestinal obstruction for children's patients which have on duodenal atresia, malrotation, Hirschsprung's disease, imperforate anus,

inguinoscrotal hernia, intussusception, adhesive bowel obstruction, and umbilical Hernia which these parameters found in Table 3. This study was defined operations used of intestinal obstruction for children's patients, which are colostomy, Duodeno-duodenostomy, Entero-enterostomy, herniotomy, Bowel resection and anastomosis, Reduction of Intussusception, Ladd's Operation, and Pull-through operation where these outcomes can be seen in Figure 2. To further of results, post-operative complications were indicated into Surgical infection, Pelvic abscess, Adhesive bowel obstruction, Postoperative fever, Anal stenosis, Prolapsed Colostomy, Septicaemia, and Fecal fistula which the outcomes can be summarized in Table 4.

3. RESULTS

Table 1: Distribution of intestinal obstruction for children patients based on age.

N	V	42
	Mi	0
M		7.5000
Me		7.5000
Mo		1.00 ^a
SD		4.07999
Var		16.646
Sk		.000
SEOS		.365
Min		1.00
Max		14.00
S		315.00

Table 2: Distribution of intestinal obstruction for children patients based on sex.

		F, 42	P (%)	VP (%)	CP (%)
Va	Females	19	45.2	45.2	45.2
	Males	23	54.8	54.8	100.0
	T	42	100.0	100.0	

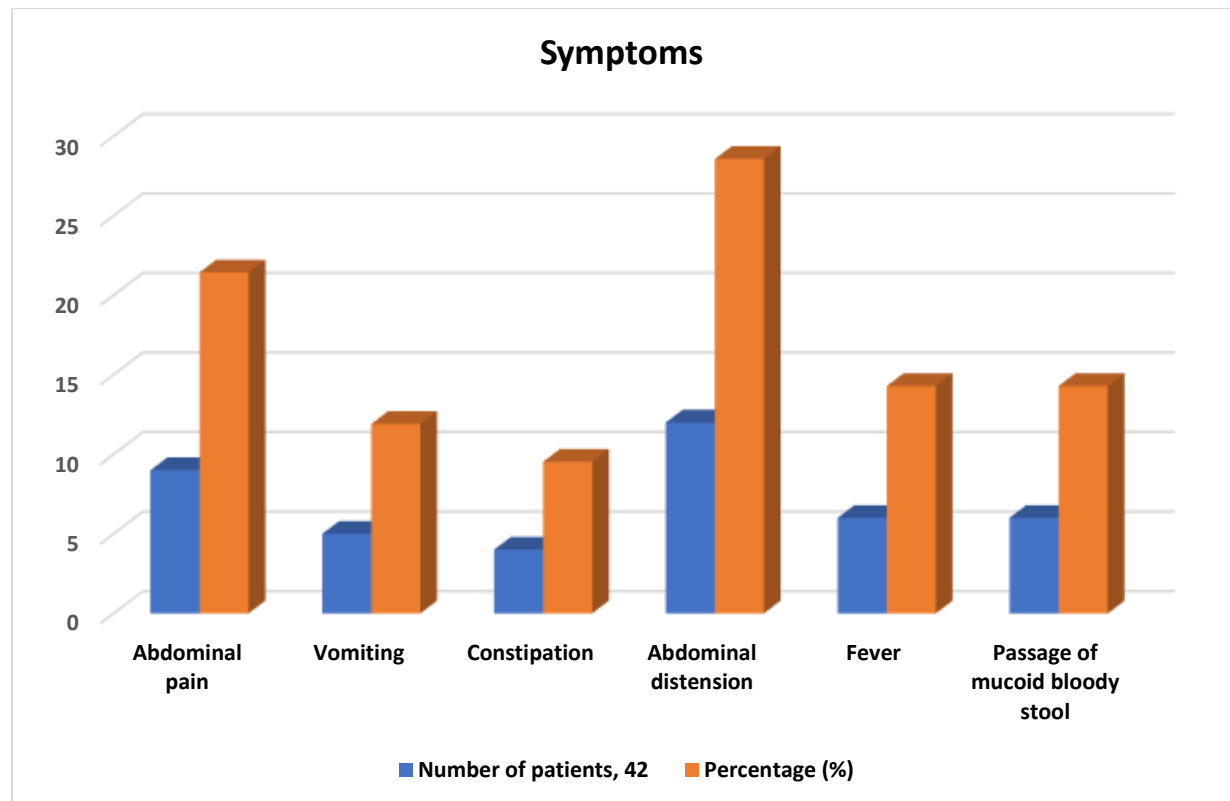


Figure 1: Clinical features of symptoms with intestinal obstruction for children's patients.

Table 3: Determinations of the causes of intestinal obstruction for children's patients.

Causes	Number of patients, 42	Percentage, %
Duodenal atresia	4	8%
Malrotation	9	18%
Hirschsprung's disease	11	22%
Worm impaction	3	6%
Inguinoscrotal hernia	5	10%
Adhesive bowel obstruction	8	16%
Intussusception	4	8%
Umbilical Hernia	6	12%

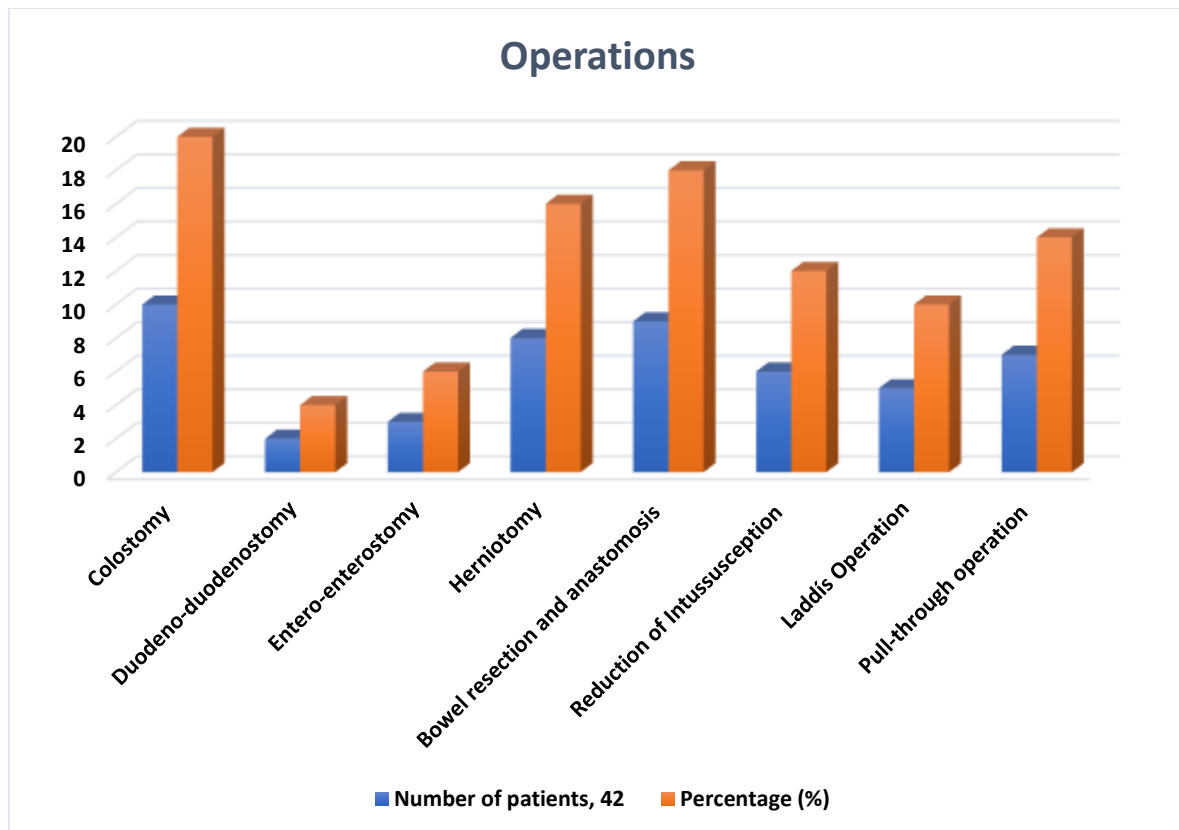


Figure 2: Operations used of intestinal obstruction for children's patients.

Table 4: Clinical outcomes of identifying the complications after surgery.

Complications	Number of patients, 42	Percentage, %
Surgical infection	10	20%
Pelvic abscess	7	14%
Adhesive bowel obstruction	1	2%
Postoperative fever	8	16%
Anal stenosis	2	4%
Prolapsed Colostomy	4	8%



Septicaemia	1	2%
Fecal fistula	2	4%

4. DISCUSSION

Intestinal obstruction is a prevalent issue in the field of paediatric surgery, affecting children of various age groups. Its manifestation in children can be sudden or ongoing. Previous studies have reported the highest incidence of intestinal obstruction to be under the age of one to two years old; however, our findings indicate that it is predominantly observed in children under the age of 14, with peak occurrence in infancy, consistent with similar reports documented in other regions of the country [21]. Due to that, our outcomes noticed that the males (23) were 54.8%. Had suffered of intestinal obstruction more than females (19) at 45.2%. Moreover, all but a single neonate within the current series exhibited congenital causes of intestinal obstruction, with the sole acquired condition being intussusception. The occurrence of perinatal intussusception is infrequent and uncommon as a cause of intestinal obstruction in children [22]. To further of outcomes, this paper conducted on Italian studies has revealed that the inguinoscrotal hernias were predominantly obstructed external hernias, which indicates that obstructed umbilical hernias were more prevalent than groin hernias. In contrast, our study found that causes were have a high impact on intestinal obstruction for children's patients, which are Malrotation (9)18%, Hirschsprung's disease (11%) 22%, and Adhesive bowel obstruction (8)16%. Prior research findings have indicated that an augmentation in the quantity of worms present in a child's body can elevate the likelihood of intestinal obstruction resulting from worm impaction. It has been recommended that this risk can be mitigated by means of repeated and extensive treatment, enhanced sanitation practices, and increased health education. These factors are likely to account for the relatively low incidence of worm impaction causing intestinal obstruction in our report, as compared to previous ones [23]. In compare with the last studies result, our study found that the elevated incidence of adhesive bowel obstruction has been attributed to past peritonitis stemming from perforated typhoid ileitis. In this study, a greater frequency of postoperative complications related to sepsis was observed. Predominantly, surgical infection was the most prevalent with (20%), followed by Postoperative fever (16%) as the other common occurrences.

5. CONCLUSION

The study found that most impacted of intestinal obstructions are more common and that these acquired causes are mostly upper gastrointestinal in origin. In comparing with the last studies, the pattern and clinical presentation of intestinal obstruction are similar across Iraq. The negative outcomes of complications refer that Surgical infection (20%) and Postoperative fever (16%) got the high impact on children that occur with 36 % of patients after the operation was conducted.



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