Original Article

A study of clinical profile of intestinal obstruction in pediatric patients at tertiary health care center

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Abstract

Introduction: Small-bowel obstruction is a common surgical emergency and is a frequently encountered problem in abdominal surgery **Aims and Objectives:** To Study Clinical Profile of intestinal obstruction in Pediatric patients at tertiary health care center. **Methodology:** This was cross-sectional study carried out in pediatric patients admitted to tertiary health care center with intestinal obstruction during the Year March 2014 to March 2015. All the Pediatric Patients diagnosed as intestinal obstruction were included into study while adult patient and those who don't give consent were excluded from the study. The symptomatology in Infants and Children above one yrs. Of age were noted. Total 69 patients were admitted during the same period of study. The all necessary investigations were carried out to diagnose the exact etiology of the disease. **Result:** Peak incidence is seen in age group > 1 year to 6 years (34.78%). Peak incidence in males is in age group of > 1 years (40.9%). Peak incidence in females is in age group of 0 to 1 month (33.33%). Total no of cases was 69 of which 44 were male and 25 were female accounting for 63.76% and 36.23% respectively. Sex ratio male: female= 1.76. The most common symptom in infants was Very loud cry i.e. in 84.21% followed by Fever -76.31%; Bile-like vomiting-65.78%; Grunting-63.15%; were Drowsy in 60.52% and Draws knees up to his or her chest in 47.36%. Red currant jelly stool in 31.57%. Most common symptom above 1 yr. of age were having the symptoms of Severe bloating in 90.32% cases and Abdominal pain in 80.64% ; Decreased appetite in 74.19% ; Nausea in 70.96%; Vomiting in 61.29% ; Constipation in 54.83%; Severe abdominal cramps in 41.93%; Abdominal swelling in 35.48% cases respectively. The majority of the patients were having Intussusceptions i.e. 31.87% followed by; Hirschprung's disease- 14.49% ; Adhesions and bands-13.04%; Obstructed inguinal hernia-11.59%; Low anorectal malformation-11.59%; Intestinal atresia-05.79%; Congenital diaphragmatic hernia-04.34%; ccc-04.34%; High anorectal malformation-02.89%. **Conclusion:** From our study it can be concluded that The most common symptom in infants was Very loud cry, followed by Fever, Bile-like vomiting, Grunting, Red currant jelly stool Most common symptom above 1 yr. of age were having the symptoms of Severe bloating. Abdominal pain, Decreased appetite, Nausea, Vomiting, Abdominal swelling. The majority of the patients were having Intussusception, Hirschprung's disease, Adhesions and bands, Obstructed inguinal hernia, Low anorectal malformation etc.

Keywords: Intestinal obstruction, Intussusceptions, Hirschprung's disease, Obstructed inguinal hernia. High anorectal malformation.

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INTRODUCTION

Small-bowel obstruction is a common surgical emergency and is a frequently encountered problem in abdominal surgery[1]. It constitutes a major cause of morbidity and financial expenditure in hospitals around the world[2]. Intestinal obstruction belongs to the severe conditions requiring a quick diagnosis as well as an immediate rational and effective therapy[3]. Accurate easy recognition of intestinal strangulation in patients with mechanical small-bowel obstruction is important to decide on emergency surgery or to allow safe non-operative management of carefully selected patients. One should embrace the philosophy of "Never Let the Sun Set or Rise" towards the treatment for the patients with small-bowel obstruction. Intestinal obstruction is responsible for approximately 20% of surgical admissions for acute abdominal conditions.[4,5] The small bowel is involved in

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60-80% of cases of intestinal obstructions.[5]In spite of advances in imaging and better understanding of pathophysiology of small bowel, its obstruction is still frequently misdiagnosed[5]. Despite advances in the treatment of this condition, the attendant mortality is still high and remains in the range of 5-11%[6]. Small-bowel obstruction is the commonest surgical emergency encountered in childhood[7]. The usual causes being intussusceptions, volvulus, adhesions or bands, obstructed hernias and worm obstruction. Intussusception[8] ranks high as an acute surgical catastrophe in infancy and early child hood. The pathological leading points are polyps, lymphnodes, Meckel's diverticula and intestinal duplications. Hernias[9]usually give rise to intestinal obstruction when incarcerated. Among hernias in children, inguinal hernias are common and when obstructed there is a high chance of strangulation or gangrene. Ascarislumbricoides is the most common intestinal parasite encountered in India.[10]Worm obstruction due to ascariasis is one of the most common causes of intestinal obstruction in children. Ascariasis remains a formidable problem in India, as a study in India has shown that more than 70% of children have round worm ova in their stool samples.[10]

MATERIAL AND METHODS

This was cross-sectional study carried out in pediatric patients admitted to tertiary health care center with intestinal obstruction during the one year from March 2014 to March 2015. All the Pediatric Patients diagnosed as intestinal obstruction were included into study while adult patient and those who don't give consent were excluded from the study. The symptomatology in Infants and Children above one yrs. Of age were noted. Total 69 patients were admitted during the same period of study. The all necessary investigations were carried out to diagnose the exact etiology of the disease.

RESULT

Table 1: Age and sex distribution

Age Group	Male	Female	Total	%
0-1 month	12	08	20	28.98
>1month-1 year	11	07	18	26.08
>1 year-6 years	18	06	54	34.78
>6 years-12 years	03	04	07	10.14
Total	**44**	**25**	**69**	**100**

Peak incidence is seen in age group > 1 year to 6 years (34.78%). Peak incidence in males is in age group of > 1 years (40.9%). Peak incidence in females is in age group of 0 to 1 month (33.33%). Total no of cases was 69 of which 44 were male and 25 were female accounting for 63.76% and 36.23% respectively. Sex ratio male: female= 1.76

Table 2: Symptoms in Infants (<1 Yrs. Children)

Symptomatology	No. (n=38)	Percentage (%)
Very loud cry	32	84.21%
Fever	29	76.31%
Bile-like vomiting	25	65.78%
Grunting	24	63.15%
Drowsy	23	60.52%
Draws knees up to his or her chest	18	47.36%
Red currant jelly stool	12	31.57%

The majority of the infants have shown symptoms of Very loud cry i.e. in 84.21% followed by Fever -76.31%; Bile-like vomiting-65.78%; Grunting-63.15%; were Drowsy in 60.52% and Draws knees up to his or her chest in 47.36%. Red currant jelly stool in 31.57%

Table 3: Symptoms in Children (>1 Yrs. Up to 12 Yrs.)

Symptomatology	No. (n=31)	Percentage (%)
Severe bloating	28	90.32%
Abdominal pain	25	80.64%
Decreased appetite	23	74.19%
Nausea	22	70.96%
Vomiting	19	61.29%
Constipation	17	54.83%
Severe abdominal cramps	13	41.93%
Abdominal swelling	11	35.48%

Majority of children above 1 yr. of age were having the symptoms of Severe bloating in 90.32% cases and Abdominal pain in 80.64% ; Decreased appetite in 74.19% ; Nausea in 70.96%; Vomiting in 61.29% ; Constipation in 54.83%; Severe abdominal cramps in 41.93%. Abdominal swelling in 35.48% cases respectively.

Table 4: Etiology of obstruction

Etiology	Total	Percentage (%)
Adhesions and bands	09	13.04
High anorectal malformation	02	02.89
Hirschprung,s disease	10	14.49
Congenital diaphragmatic hernia	03	04.34
Intestinal atresia	04	05.79
Intussusceptions	22	31.87
Obstructed inguinal hernia	08	11.59
Intestinal stenosis	00	00.00
Low anorectal malformation	08	11.59
Neoplasm	00	00.00
Midgutmalrotation	03	04.34
Total	**69**	**100**

The majority of the patients were having Intussusceptions i.e. 31.87% followed by; Hirschprung, s disease- 14.49%; Adhesions and bands-13.04%; Obstructed inguinal hernia-11.59%; Low anorectal malformation-11.59%; Intestinal atresia-05.79%; Congenital diaphragmatic hernia-04.34%; Midgut malrotation-04.34%; High anorectal malformation-02.89%.

DISCUSSION

Neonatal intestinal obstruction often manifests itself with a number of cardinal signs including maternal polyhydramnios, bilious emesis, abdominal distention and failure to pass meconium in 24 hours of life. Although, none of these observations are pathognomic of obstruction, all are consistent with an obstructive phenomenon and should be carefully evaluated [11,12,13,14]. Jejunal atresia is associated with maternal polyhydramnios in 24% of cases. The prenatal ultrasound examination has identified small bowel obstruction associated with atresia, volvulus and meconium peritonitis[11]. The lesions can then be anticipated and an organised management plan developed for delivery and treatment of neonate. An accurate history and physical examination corroborated by simple radiological studies usually leads the physician to correct diagnosis. Usually, a plain abdominal radiograph is all that is necessary to make a diagnosis, since gas pattern is distinctive and often will give a clue to site of obstruction. Early diagnosis and treatment leads to better outcome. Failure to recognize neonatal bowel obstruction can result in aspiration of vomit, sepsis, midgut infarction or enterocolitis[15]. Intestinal obstruction occurs in all age groups. Several studies on common causes of intestinal obstruction in adults show diversity of patterns in different geographical regions.[16-17] Even within the same localities, differences have been observed among different social setup.[18,19] In our study we have found that Peak incidence is seen in age group > 1 year to 6 years (34.78%). Peak incidence in males is in age group of > 1 years (40.9%). Peak incidence in females is in age group of 0 to 1 month (33.33%). Total no of cases was 69 of which 44 were male and 25 were female accounting for 63.76% and 36.23% respectively. Sex ratio male: female= 1.76. The most common symptom in infants was Very loud cry i.e. in 84.21% followed by Fever -76.31%; Bile-like vomiting-65.78%; Grunting-63.15%; were Drowsy in 60.52% and Draws knees up to his or her chest in 47.36%. Red currant jelly stool in 31.57%. Most common symptom above 1 yr. of age were having the symptoms of Severe bloating in 90.32% cases and Abdominal pain in 80.64% ; Decreased appetite in 74.19% ; Nausea in 70.96%; Vomiting in 61.29% ; Constipation in 54.83%; Severe abdominal cramps in 41.93%; Abdominal swelling in 35.48% cases respectively. The majority of the patients were having Intussusceptions i.e. 31.87% followed by; Hirschprung's disease- 14.49% ; Adhesions and bands-13.04%; Obstructed inguinal hernia-11.59%; Low anorectal malformation-11.59%; Intestinal atresia-05.79%; Congenital diaphragmatic hernia-04.34%; ccc-04.34%; High anorectal malformation-02.89%.

CONCLUSION

From our study it can be concluded that the most common symptom in infants was Very loud cry, followed by Fever, Bile-like vomiting, Grunting, Red currant jelly stool Most common symptom above 1 yr. of age were having the symptoms of Severe bloating. Abdominal pain, Decreasedappetite, Nausea, Vomiting, Abdominal swelling. The majority of the patients were having Intussusception, Hirschprung's disease, Adhesions and bands, Obstructed inguinal hernia, Low anorectal malformation etc.

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