

## Changing Trend in Intussusception

Agraj Mishra<sup>1</sup>, A.M. Chitale<sup>2</sup>, Nirav Patel<sup>3</sup>

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### Author's Affiliation:

<sup>1</sup>Junior Resident <sup>2</sup>Professor and head  
<sup>3</sup>Junior Resident, Department of General  
Surgery, A.C.P.M. Medical College, Dhule,  
Maharashtra 424001 India.

### Corresponding Author:

**Agraj Mishra**, Junior Resident,  
Department of General Surgery, A.C.P.M.  
Medical College, Dhule, Maharashtra 424001  
India.

E-mail: [mishraagraj37@gmail.com](mailto:mishraagraj37@gmail.com)

Received on 03.03.2018,

Accepted on 14.05.2018

### Abstract

*Background:* The incidence of intussusceptions is common in children from age between 9 months to 11 months, as described in literature. This study aimed to discuss the incidence and occurrence of intussusceptions in children less than 1 year of age. Little information is available on intussusceptions in the young infant. Here, we describe the changing trend in intussusception. *Methods:* The infants (<1 year of age) presenting with intussusceptions were included in the study conducted during the period from march 2012 to april 2017. *Results:* An overall 55 patients were included in our study in which there were 36 boys and 19 girls. The cases were analyzed according to their age of presentation, symptoms of presentation and their duration of presentation. *Conclusion:* As compared to the literature we found a changing trend in the age of presentation.

**Keywords:** Intussusception; 3-6 Months Of Age; Weaning Diet; Rotavirus Infection.

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### Introduction

Neonatal emergency poses a real challenge to the paediatrician because symptoms are not elicitable, history taking which is the backbone of eliciting a diagnosis is not possible. So that's why there are many neonatal emergencies associated with morbidity and mortality, Intussusception being one of them [1, 2 & 3].

Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. Intussusception is among the most common abdominal emergencies among young children [4]. Symptoms include sudden onset of vomiting, abdominal pain, intermittent lethargy and irritability, and rectal bleeding that has been described as "red-currant jelly" [5 & 6]. Reduction is usually accomplished by air or barium enema, and in some cases by surgery, with or without bowel resection [7, 8 & 9]. The causes of intussusception are not fully understood, yet, the most common

cause which is postulated is weaning, which causes changes in intestinal flora, resulting in mesenteric lymph node enlargement and it acts as the lead point for intussusceptions.

There is little evidence linking recent episodes of gastroenteritis and increased risk of intussusceptions in literature but ill defined [10]. Rotavirus is the most common cause of diarrhoeal disease among infants and young children [11]. The virus is transmitted by the faecal-oral route. It infects and damages the cells that line the small intestine and causes gastroenteritis (which is often called "stomach flu" despite having no relation to influenza). The aetiology of intussusceptions is ill-defined, with viruses being incriminated as one of many possible aetiological agents.

Intussusception primarily affects young children, with highest incidence in infants aged 9-11 months [12 & 13]. Here we provide the case based study conducted in our institute showing incidence of intussusceptions in different age group.

**Material and methods**

We included the cases presented in our hospital A.C.P.M. Medical College either in our outpatient department or in emergency department with radiographically proved intussusception who were less than 1 year of age during time period of 5 years from April 2012 to March 2017.

The diagnosis of intussusceptions was based on radiological findings, usually ultrasound and X-ray abdomen. Using a standardized form, demographic and clinical information was collected including age, sex, hospitalization date, maternal and paternal age, birth weight, history of gastroenteritis prior to hospitalization, breastfeeding and significant medical problems.

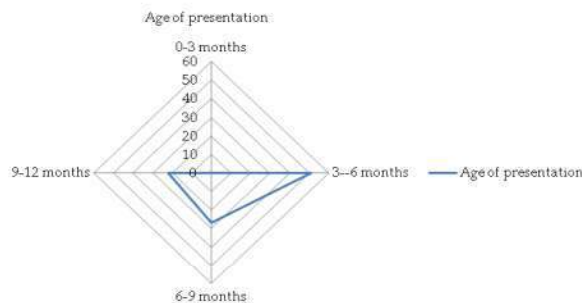
A total of 55 patients were included in the study comprising of 36 boys and 19 girls and their varying incidence along with clinical features on presentation were noted.

**Results**

In our study, a total of 5 year study has been done and 55 cases have been included in which age group wise distribution was done. 51% of all cases belong to the age group of 3 to 6 months, 27% belong to 6-9 months of age, 22% belong to of 9-12 months of age.

Among all cases, we saw the majority of cases approximately 36 of all the cases accounting for 65% are seen in boys and only 35% of cases are seen in girls.

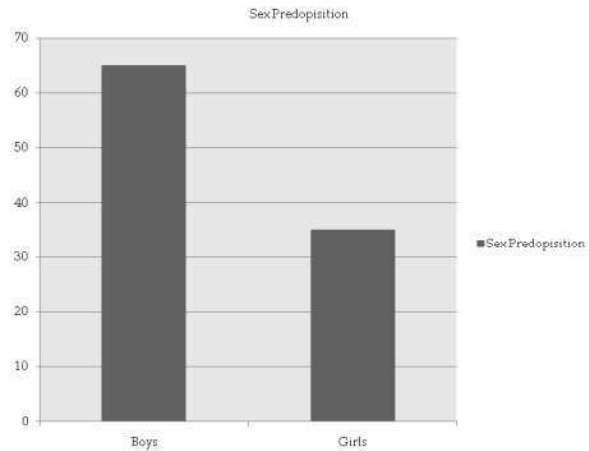
Duration of onset of symptoms with which patient presented to our institute varies. Among all of them, 31% presented within 24 hours of onset of symptoms with maximum presentation at 24 - 48 hours around 51% and some cases 18% presented after 48 hours of onset.



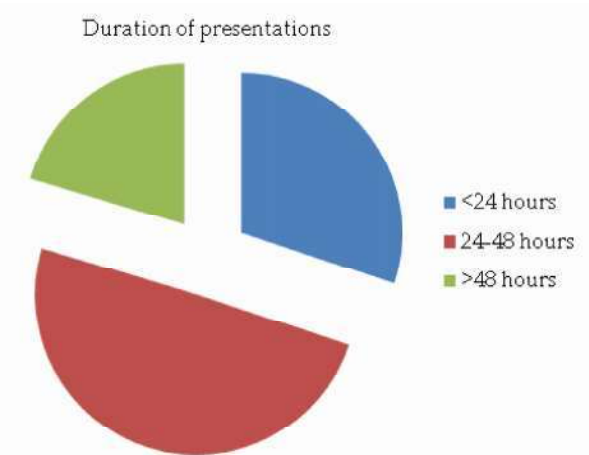
**Fig. 1:** Table showing the presentation of patient in our institute mostly in age group of 3-6 months.

Of all the cases 23 of them accounting for 41% of cases had been previously treated for acute gastroenteritis within 15 days of onset of intussusceptions.

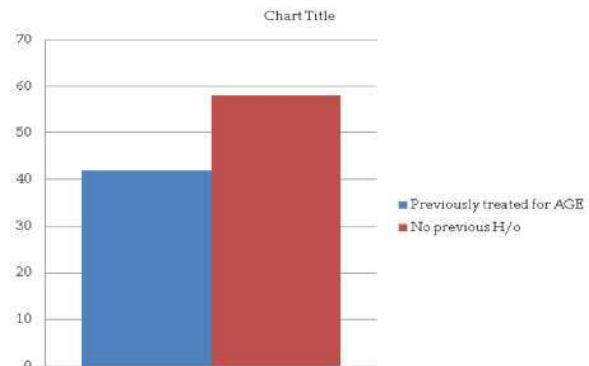
Among the patients presented to us, 36% of the cases were successfully treated with barium enema and others 64% underwent exploratory laprotomy.



**Fig. 2:** All the cases presented to us were most of them boys.



**Fig. 3:** Table showing the presentation of cases within the onset of symptoms.



**Fig. 4:**

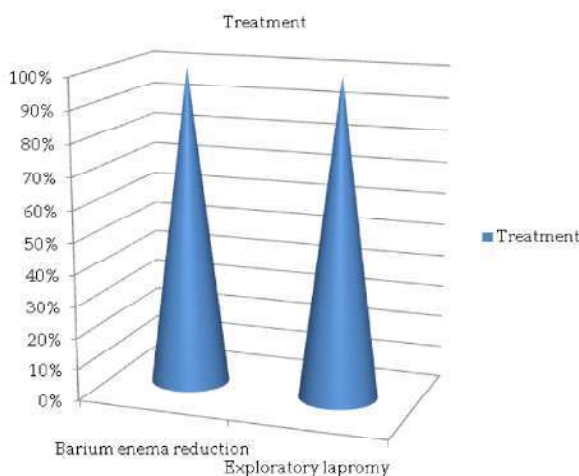


Fig. 5:

### Discussion

Intussusception is not often considered in the first few months of life. A report from the Hospital for Sick Children, Toronto, showed that babies of this age account for about 7% of all cases of intussusception [14]. Our findings show the clinical picture in young infants with intussusception is generally different from that in older children. We find that incidence of intussusceptions to be more common in age group 3-6 months of age than previous studies showing age group of 9-11 months to be more common. Our study shows the occurrence of only 22% of cases in the age group 9-12 months.

The occurrence of intussusceptions is most commonly seen in a male child compared to female showing total of 65% of all cases seen in male child.

As ours is a tertiary centre and most of the population comes from tribal areas, we saw the change in scenario what early postulated that intussusceptions is cause of weaning diet but here all cases presented to us were still on breast feeding.

Generally, intussusceptions presents with pain in abdomen, vomiting and bloody stools. In our study, we saw the cases presented to us which differ in symptoms according to duration of the onset of their symptoms. Within 24 hours their only complaint is pain in abdomen; 24-48 hours pain in abdomen along with abdominal distension and vomiting associated with per rectal bleeds. Dehydration along with other features of shock are common in children presenting later than 48 hours of onset of duration of symptoms.

Earlier it was postulated that rotavirus infection to be one of the causes of intussusceptions and in

our study 23 of all the cases presented had suffered from acute gastroenteritis or diarrhea earlier in their life but there is no proven study showing the relation of intussusceptions with rotavirus. Hence more study needs to be done in this area.

The rate of success of barium enema reduction is thought to be inversely related to the duration of symptoms. Our findings reflect this theory, although even with relatively early diagnosis the barium enema reduction was only successful in 36% of all cases due to late presentation of these children. All other cases, 64% underwent exploratory laprotomy in which 7% of cases were diagnosed with perforation and resection anastomosis was done [15].

### Conclusion

We found that:

1. In earlier studies, the incidence of intussusception was 9-11 months of age. But it is remarkable that, in our study the incidence is 3-6 months of age.
2. We didn't find any correlation of intussusception with weaning.
3. The role of rotavirus in etiology of intussusceptions needs to be studied.

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