Journal of Medical Practice and Review 6:3 (2022)
Everant.in/index.php/jmpr

Journal of Medical Practice and Review
Available online at http://jmpr.info/index.php/jmpr/index

The Prevalence of Intussusception Based On the Chief Complaint in Patients Referred To Amiralmomenin Hospital between Years 2003-13

Mehran Hesaraki

ARTICLE INFO

Corresponding Author:
Mehran Hesaraki

Keywords:- intussusception, chief complaint, zabol

ABSTRACT

Introduction: Intussusception signifies the introduction of part of the intestine into adjacent lumen, resulting in intestinal obstruction. The disease has been reported in all ages and even during fetal development, which subsequently led to the absence of intestinal formation; however, it is the most common abdominal emergency and the second most common cause of intestinal obstruction in children under the age of two.

Method:

The present descriptive, cross-sectional study was conducted on all patients, diagnosed with intussusception, referring to Amiral-Mo'menin Hospital in Zabol city from 2004 up to 2014. The inclusion criteria were definitive diagnosis in the patient's case. The required information was extracted from the patient records and recorded in the information form. At the end of the study, the information obtained from the information form was analyzed by statistical analysis in the form of frequency of mean standard deviation and other descriptive statistical indices.

Introduction:

Intussusception signifies the introduction of part of the intestine into adjacent lumen, resulting in intestinal obstruction. The disease has been reported in all ages and even during fetal development, which subsequently led to the absence of intestinal formation; however, it is the most common abdominal emergency and the second most common cause of intestinal obstruction in children under the age of two (1, 2); more than 90% of these cases lack any sort of pathologic cause, such as polyps, lymphoma or Mecall diverticulum. Spontaneous cases may be secondary to intestinal lymphatic encephalopathy and have a positive association with adenoviral infections. The highest prevalence of the disease is in the middle of the summer and the middle of winter, and in most cases the enlarged plaques have a stimulating role. Mechanical factors such as Mecal diverticulum, polyps, hematemesis of all walls and intestinal lymphoma are prevalent in patients over one year old. The ratio of males to females is 3 to 1. The maximum prevalence is in children aged 5-9 months and 80% of patients are under the age of 2 years, and there is only a minor lesions in particular in children over 5 years of age (4, 5). Most common forms of intussusception include lleocolic, lleoceocolic, and llioilial (6). The most serious consequence of intussusception is intestinal obstruction; additionally, adjacent walls might interfere and there might be inflammation, edema, and ultimately reduced blood flow. Reducing blood supply, perforation, peritoneal inflammation and shock are serious complications of bowel discomfort (7). The correct and rapid diagnosis of who might have intussusception and their immediate referral leads to faster treatment and a reduction in mortality. At first, we need to determine its prevalence in the region, so that we can take the necessary measures accordingly (8). On the other hand, due to the importance of known mechanical factors such as Mecal diverticulum, polyps, hematomas of all walls and intestinal lymphoma, we decided to investigate the prevalence of mechanical factors in the intussusception of the intestine. According to the said articles and given that one of the hypotheses about the cause of intussusception of the intestines is viral agents, this study can be used to determine whether or not this disease is common in the seasons of the spread of viral infections; anyway, collected data can be used to predict the onset of intussusception in children who have been infected with the virus.

Methodology:

The present descriptive, cross-sectional study was conducted on all patients, diagnosed with intussusception, referring to Amiral-Mo'menin Hospital in Zabol city from 2004 up to 2014. The inclusion criteria were definitive diagnosis in the patient's case. The required information was extracted from the patient records and recorded in the information form. At the end of the study, the information obtained from the information form was analyzed by statistical analysis in the form of frequency of mean standard deviation and other descriptive statistical indices.

Findings:

The present study was conducted on 40 patients diagnosed with intussusception referring to Amiral-Mo'menin Hospital in Zabol city from 2004 up to 2014.

Table1. The mean age of patients diagnosed with intussusception:

Age group	Frequency	Percent
Less than one year	17	42.5
1-2 years	5	12.5
2-3 years	9	22.5
Above 3 years	9	22.5
Total	40	100

Out of 40 patients examined in the present study, 12 cases (30%) had associated disease and 28 cases (70%) had no associated illness. Among these 12 cases, 3 cases (25%) had upper respiratory infection, 3 cases (25%) had gastrointestinal inflammation, 2 cases (16.6%) had dysentery, 2 cases (16.6%) had previous history of intussusception, 1 case (8.3%) had previous history of inhumane hernia surgery, and 1 case (8.3%) (16 year old boy) had small intestine tumor.

Table2. The prevalence of intussusception based on associated illness:

Associated illness	Frequency	Percent
Positive	12	30
Negative	28	70
Total	40	100

Out of 40 subjects examined in the present study, there were 20 cases (50%) with abdominal complaints, 2 (5%) with anxiety complaints, 7 cases (17.5%) with diarrhea complaints, 7 cases with vomiting (17.5%), and 4 cases (10%) with other complaints.

Table3. The prevalence of intussusception based on the chief complaint:

Main complaint	Frequency	Percent
Abdominal complaints	20	50
Anxiety	2	5
Diarrhea	7	17.5
Vomiting	7	17.5
Miscellaneous	4	10
Total	40	100

Discussion and conclusion:

Intussusception is one of the common causes of acute intestinal obstruction in infants and young children. The disease is prevalent in developed countries, ranging from 0.5 to 4.3 per 1,000 births, from 1.2 to 1.1% to 66% per 1,000 children under the age of one in South America and 24% in Venezuela and 35% in Brazil, as reported by the World Health Organization (9). Out of 40 cases examined in the present study, it turned out that this disease is more prevalent among boys (62.5%). The results of the present study are consistent with more research conducted formerly (10-13). Based on the results of Chen et al study, which was conducted on 7541 patients in Taiwan in 2007 to examine the epidemiological in intussusception, the ratio of man to women incidence changed from 1.31 in the first year of life to 2.52 in 9 years of life (14). Based on the results of Koranloo et al study, which was conducted on patients referring to educational centers of Ayatollah Taleghani and Mofid children hospital in 2004 in order to examine and investigate intussusception, out of 95 patients, 62 (68.3%) were male and 33 (34.7%) were female (15).

Pezhman Mehr et al study was conducted in 2009 and 2010 in order to investigate the predictive factors in the success of enema barium in order to reduce the intussusception in al-Zahra hospital in Isfahan; 45 patients were examined in 10 cases of females and 35 in males (16). Based on the results of Heydar Ali Davari et al study, which was conducted to assess the predictive value of clinical and radiological findings in the initial diagnosis of intussusception in Hormozgan in 2007, a total of 160 patients were examined, 63.1% male and 36.9% female (17). In a prospective observational study, Wayne Miller provided several clinical criteria for classifying the risk of childhood intussusception; the study concludes that older than 5 months of age, male genital mutilation and drowsiness are the three most important clinical factors that predict in vaginal ingestion (10). Based on the results of Tat et al study conducted in in Singapore in 2009, the incidence of intussusception up to two years after vaccination against rotavirus was investigated, with 39.9 prevalence of intussusception in 2005, 26.4 in 2006, and 63.6 per 100,000 people in 2007; as a result, the prevalence of intussusception did not increased after vaccination (18). In a study by Nemati et al, which was conducted to evaluate the role of color Doppler sonography in predicting the success rate of non-surgical methods for intussusception, it was concluded that ultrasonography is one of the most effective methods for rapid diagnosis of intussusception. Intestinal status can be investigated and by displaying the blood vessels, it is possible to achieve the success of non-surgical methods before any treatment intervention; it also determines the prognosis of the disease in the shortest possible time (19,20). Based on the results of Lonaard et al study, children suspected of intussusception were first evaluated by radiography and then examined by another radiologist by ultrasonography. The results confirmed that simultaneous use of diagnostic methods and ultrasound was quite successful (21). In another study by Pae et al conducted in Hong Kong, lleocolic cases were studied in the formulation, diagnosis and treatment. Twenty-five patients participated in this study, of whom 10 had were diagnosed with lleocolic intussusception. Also, in this study, the frequency of abdominal fluid and intestinal wall thickness were studied in different conditions of intussusception. The results of the present study indicated that the mean thickness of the intosospathome was 8.1 mm in the case of lleolleocolic and 6.9 mm in the case of lleocolic, which was significant (22). In this study, the age range of children less than one year (42.5%) had the highest incidence (18); however, following the injection of a rotavirus vaccine, the prevalence of intussusception has also been reported in the younger age group, because the vaccine causes

Lymphoid enlargement (23, 24). Abdominal discomfort was the most common symptom and complaint (50%) of examined patients in the present study. Abdominal pain was reported in several articles as the most common complaint of patients (25, 26).

Conclusion:

Based on the results of the present study, less than 2 years of age had the highest prevalence of intussusception, which is consistent with the findings of other studies. Therefore, it is necessary to pay more attention to prevention of the causes of intussusception in the age group of less than one year. Providing extensive training for different age groups is, also, helpful, so that we can step up in the near future with scientific, practical and experimental advances with other centers of the world and provide better and more services to our patients.

References:

1. Kitagawa SE, Miqdady M. Intssusception in children. 2003. 21; 4(2): 19.
2. Lui KW, Wong HF, Cheung YC, See LC, Ng KK, Kong MS. Air enema for diagnosis and reduction of intussusception in children: Clinical experience and fluoroscopy time correlation. J Pediatr Surg 2001; 36(3): 479-481.
3. Hsu HY, Chang MH, Ni YH, Wang SM. Familial occurrence of intussusception in two sibling pairs. J Pediatr Gastroentrerol Nutr 1998; 27(1): 94-96.
4. Hwang CS, Chu CC, Chen KC, Chen A. Duodenojejunal intsussusception secondary to hamartomatous polyps of duodenum surrounding the ampulla of vater. J Pediatr Surg 2001 ;36(7):1073-1075.
5. Morgan DR, Mylankal K, Barghouti N, Dixon MF. Small bowel haemangioma with local lymph node involvement presenting as intussuception. J clin Pathol 2000; 53(7): 552-553.
6. Gloria P, Albillos C, Tejedor D. Intussusception in Children Current Concepts in Diagnosis and Enema Reduction. Radio Graphics 1999; 19: 299-319.
7. Chen SC, Wang JD, Hsu HY, Leong MM, Tok TS, Chin YY. Epidemiology of childhood intussusception and determinants of recurrence and operation: analysis of national health insurance data between 1998 and 2007 in Taiwan. Pediatr Neonatol 2010; 51(5): 285-91.
8. Tan. N, Yee-Leong. T, Kong-Boo. P, Seng-Hock. Q, Bee-Wah. L, Harvey James. E. An Update of Paediatric Intussusception Incidence in Singapore: 1997-2007, 11 Years of Intussusception Surveillance. Ann Acad Med Singappore 2009; 38: 690.
9. Report of meeting on future directions for rotavirus vaccine research in developing countries Geneva, 2000.
10. Farshidmehr P, Nazem M, Hoseinpoor M. Predicting Factors of Reducibility of Invagination with Barium Enema in Children. persion. J Isfahan Med Sch 2011; 29: 869-874.
11. Nemati M, Aslanabadi S, Shakeri Bavil A, Alizade Milan A, Elmdoost N. Predictive Value Of Color Doppler Sonography in Assessment of Successfulness of Nonsurgival Reduction of Intestinal Intussusception. Urmia M J. 2011; 22 (3): 255-261.
12. Swischuk LE, John SD, Swischuk PN. Spontaneous reduction of inssusception: Verification with US. Radiology 1994; 192(5): 269-71.
13. Peh WG, Khong PL, Lam C, Chan KL, Saing S, Cheng W. Ileocolic intussusception: Diagnosis and Significance. Br J Radiol 1997; 70(5): 891-6.
14. Carlin JB, Macartney KK, Lee KJ, Quinn HE, Buttery J, Lopert R, et al.Centers of disease control and prevention Intussusception among recipients of rotavirus vaccine United states . Jama 1998; 48: 577-581.
15. Chang H.G, Smith PF, Ackelesberg J, Morse Dl. Intussusception rotavirus vaccine use among children in New York State. Pediatrics 2001; 1: 54-60.
16. Wyllie R, Hyams J. Pediatrics Gastrointestinal disease 1999; 2(14): 169-188.
17. Adejuyigbe D, Jeje EA, Owa J. Childhood Intussusception. In IIe-Ife, 1991; 11: 123-127
18. Hesaraki M. Effect of probiotic supplement (kidilact) on prevention of acute diarrhea in children: a double-blind randomized clinical trial. International Journal of Research in Medical Sciences. 2017 Jun 24;5(7):2861-4.
19. Hesaraki M. A comparison of serum and transcutaneous methods for diagnosis of neonatal hyperbilirubinemia. International Journal of Research in Medical Sciences. 2017 Jun 24;5(7):2887-9.

20. Hesaraki M. Clinical symptoms, paraclinical tests and histopathological results in children with acute appendicitis in Zabol southeast of Iran: a cross-sectional study. International Journal of Research in Medical Sciences. 2017 Jun 24;5(7):2836-40.

21. Hesaraki M. Neonatal jaundice–Review. Int. J. Curr. Res. Med. Sci. 2017;3(12):75-9.

22. Hesaraki M, Amininfard M. Demographic Study of Intussusception in Patients Referring to Amir Al-Mo'menin Hospital of Zabol City from 2003 to 2013. Prensa Med Argent. 2017;103(3):2.

23. Morgan DR, Mylankal K, Barghouti N, Dixon MF. Small bowel haemangioma with local lymph node involvement presenting as intussuception. J clin Pathol 2000; 53(7): 552-553.

24. Gloria P, Albillos C, Tejedor D. Intussusception in Children Current Concepts in Diagnosis and Enema Reduction. Radio Graphics 1999; 19: 299-319.

25. Chen SC, Wang JD, Hsu HY, Leong MM, Tok TS, Chin YY. Epidemiology of childhood intussusception and determinants of recurrence and operation: analysis of national health insurance data between 1998 and 2007 in Taiwan. Pediatr Neonatol 2010; 51(5): 285-91.

26. Tan. N, Yee-Leong. T, Kong-Boo. P, Seng-Hock. Q, Bee-Wah. L, Harvey James. E. An Update of Paediatric Intussusception Incidence in Singapore: 1997-2007, 11 Years of Intussusception Surveillance. Ann Acad Med Singappore 2009; 38: 690.

27. Report of meeting on future directions for rotavirus vaccine research in developing countries Geneva, 2000.