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Case Report

Intussusception in A Neonate: A Rare Clinical Entity

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ABSTRACT

Intussusception is defined as invagination of bowel segment into its distal portion causing intestinal obstruction. It is rarely seen in neonates, accounting for 0.3% among all cases. Classical signs of intussusception are hardly seen in neonatal age group leading to delayed or misdiagnosis. We report a case of intussusception in full term neonate who presented with clinical picture of neonatal sepsis, developed intestinal obstruction secondary to ileocolic intussusception. However, in our case patient succumbed to death due to overt sepsis. Very few publications are found about intussusception in neonates in the last few decades and most of them are case reports, highlighting the scarcity of available data.

Keywords: Intestinal Obstruction, Intussusception, Neonate, Sepsis.

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INTRODUCTION

Intussusception being one of the commonest cause of intestinal obstruction in children aged 6months to 18 months, found rarely in neonatal age group. It comprises of only 3% of cases with intestinal obstruction and accounts for 0.3% of all intussusception cases.[1] It presents mostly with non-specific clinical signs such as feeding intolerance, abdominal distension, and bloody stools.[2] Clinical manifestations mimic necrotizing enterocolitis which may lead to delayed diagnosis.[3] Ultrasonography can help in detecting neonatal intussusception, however high index of suspicion is required in making correct diagnosis.[4] We herein report a case of intussusception in full-term neonate in order to emphasize the difficulties in making an early diagnosis.

CASE REPORT

A term male neonate delivered via spontaneous vaginal delivery with APGAR score of 8 and 9 at 1 and 5 minutes and birth weight of 2600 grams. Baby presented on 11th day of life at pediatric emergency department of Holy Family Hospital, on 16th May 2020 with complaints of abdominal distension for the last 3 days and vomiting for the last 1 day. There was no history of delayed passage of meconium, fever and reluctance to feed before these symptoms. Baby was on breast feeding. On examination, he was sick, dehydrated with respiratory rate of 64 breaths per min, temperature of 98.7 degree Fahrenheit, heart rate of 150 per minute and blood pressure measuring 90/60 mmHg. Abdomen was soft but distended with audible bowel sounds and normal anal tone. Rest of the systemic examination was unremarkable.

Laboratory investigations showed raised total leukocyte count (51x109) with predominant neutrophils (85%) and thrombocytopenia (37x103) but with normal hemoglobulin levels (14.3g/dL). Electrolytes and renal function tests were deranged with the values of potassium (2.7mmol/L), calcium (5.9mg/dl), urea (141mg/dL) and creatinine (2.97 mg/dL). CRP was positive (18) and blood culture was drawn. Baby was managed on the lines of septic ileus and treated with empirical antibiotics (cefotaxime, amikacin and metronidazole), and IV fluids. Hypokalemia and hypocalcemia were also corrected. Baby was kept NPO, nasogastric tube was passed and aspirate was bilious. X-ray abdomen showed dilated gut loops till rectum with no air fluid levels.

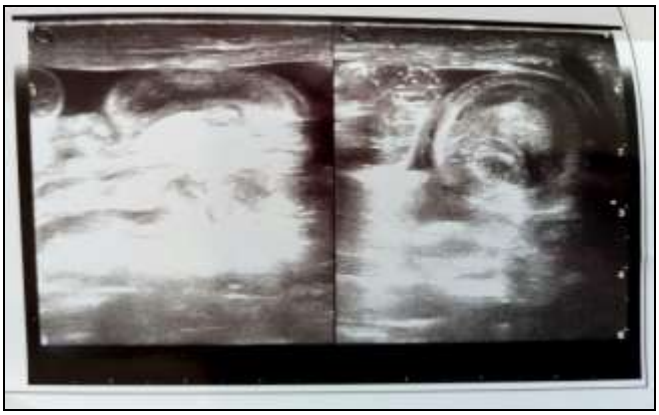

Figure: Ultrasonographic Picture of Intussusception

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Clinical course of the baby remained static and later on clear aspirates were also seen on nasogastric decompression so further investigations were withheld and initiation of enteral feeding was planned but on day 4 of admission, abdominal distension started to get worse along with appearance of bloody stools. Abdomen gradually became tense and shiny. Ultrasound abdomen revealed a large mass with alternating hypo and hyper-echoic concentric lines giving target appearance on transverse and pseudo-kidney appearance on longitudinal view; suggestive of intussusception. Complete blood count showed decreased cell lines(total white cell count: 5.3x109, hemoglobin: 6.7 g/dL and platelet count: 26x103). Baby was optimized for surgery and emergency exploratory laparotomy was performed on day 5 of admission due to hemodynamic instability, which confirmed ileocolic intussusception reaching up to recto-sigmoid junction, gangrenous gut was resected and ileostomy with mucus fistula was made. No lead point was found. Baby was managed postoperatively with blood products and broad-spectrum antibiotics but on 3rd postoperative day, baby succumbed to death due to overt sepsis.

DISCUSSION

Intussusception is defined as invagination of bowel segment into its distal portion causing intestinal obstruction. It is found rarely in neonates and differs in many aspects from infantile intussusception.[1-5]. Incidence of intussusception is 3% of all cases of intestinal obstruction and about 0.3% of all cases were seen in neonatal period.[6] Highest incidence is seen in children between 5-9 months of age with male preponderance.[7] The classical features of intussusception as palpable abdominal mass and pain are rarely seen in neonates and they often present with clinical picture of intestinal obstruction.[5] In the last four decades, very few publications were found and most of them were case reports, highlighting the scarcity of available data.[7]

The etiological factors leading to neonatal intussusception are still unclear. Various inciting factors are identified. Most pertinent of them is a lead point, especially in full term neonates.[5-8] Neonatal infection can be one of the notorious factors causing intussusception[1] as seen in our case. Most of the times, neonatal intussusception is diagnosed intraoperatively or very late that increases the risk of gut ischemia. As in our case, there was a significant period between onset of bilious vomiting and laparotomy, resulted in large portion of gangrenous bowel. Reported similarly in study done by Sadik *et al*.[9]

Many differentials are to be kept in mind in a case of neonatal intestinal obstruction ranging from common medical conditions like sepsis, metabolic ileus to surgical causes like intestinal atresias, malrotation, Hirschsprung disease and many more.[10] Plain radiograph will be helpful in diagnosing intestinal obstruction but ultrasonography is the pertinent investigation for diagnosing intussusception in neonates.[7] Ultrasonography shows, as seen in our case, classical target appearance on transverse view and pseudo-kidney sign on longitudinal view. Ultrasound can help in early diagnosis in few of the cases.[11] However, in most of the cases the diagnosis has been made upon exploration.[1-12] With regards to our patient, initial presentation of sepsis led to delayed diagnosis and also became the cause of mortality. The rarity in this case is septicemia can be a masquerader in diagnosing intussusception in neonates.

Prompt diagnosis and intervention can increase the chance of gut viability and improve outcome of the patient with intussusception. There should be high index of suspicion of intussusception in full term neonates presenting as sepsis.

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Authors' Contribution

Following authors have made substantial contributions to the manuscript as under:

AZ & NR: Data acquisition, data analysis, critical review, approval of the final version to be published.

FN & SSG: Study design, data interpretation, drafting the manuscript, critical review, approval of the final version to be published.

SA: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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