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Case Report

A rare case: ileo-ileal intussusception with acute appendicitis

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ABSTRACT

The occurrence of intussusception and appendicitis in the same patient has seldom been described in the pediatric population. Authors report a case of two- level ileo- ileal intussusception associated with acute appendicitis. A 2-year-old boy presented with colicky abdominal pain, vomiting and non-passage of stools and flatus since 4 hours. On physical examination, he was irritable and restless. Abdomen was distended, borborygmi was heard on auscultation, ultrasound of abdomen suggested ileocolic intussusception. Emergency laparotomy was performed and an ileoileal intussusception was visualized and was reduced manually. After reduction, appendix was visualized, and it was found to be inflamed and elongated. Appendectomy was performed. Authors present this case because of its rarity in occurrence in a toddler in a rural setup as ours.

Keywords: Appendicectomy, Appendicitis, Borborygmi, Flatus, Ileo-colic, Ileo-ileal, Intussuception, Toddler

INTRODUCTION

Intussusception refers to a condition when one portion of the gut invaginates into the lumen of the immediately adjacent segment of the bowel.[1] The condition is encountered most commonly in paediatric population. Intussusception is most commonly an idiopathic condition and treated non-surgically by radiologic reduction.

Appendicitis is the inflammation of the vermiform appendix with or without luminal obstruction. Initial misdiagnosis rates range from 28% to 57% for children 12 years old or younger to nearly 100% for those 2 years or younger despite the multiple diagnostic modalities now available to clinicians. [2-5]

The presence of acute appendicitis together with intussusception in children is very rare. Intussusception and appendicitis manifest similarly with pain and tenderness in right lower quadrant of abdomen.

It is important to distinguish between acute appendicitis and intussusception. Appendicitis is uncommon before the age of 2 years, whereas the median age for intussusception is 18 months. A mass may be palpable in the right lower quadrant, and the preferred treatment of intussusception is reduction by careful barium enema.[6]

Such a condition thus requires urgent attention and careful examination. If it is not detected in the early stages, severe complications like perforation, peritonitis and death may occur. Authors report a case of ileoileal intussusception associated with acute appendicitis treated by manual reduction and appendectomy.

CASE REPORT

A 2-year-old boy presented with history of colicky abdominal pain since 4 hours and non-passage of stools and flatus since 6hours.The parents also gave history of 2 episodes of vomiting, vomitus contained food particles. Vomitus was not blood stained, foul smelling or bilious.

The baby was born at full term through lower segment caesarean section with birth weight of 4.5kg and breast fed up to 1.5 years of age. Patient has been weaned since 6 months of age. Parents give history of left retractile testis since birth. Child is immunized appropriate to age. There was no history of any prior surgeries or medical illnesses.

On examination, child was irritable and restless. His vital signs were pulse rate 92 beats/min; axillary temperature 98 F; respiratory rate 22 breaths/min.

Per-abdomen examination revealed abdomen was uniformly distended with tenderness in right iliac fossa. Hernial orifices were free. Left testis was palpable in the inguinal canal. No free fluid. On auscultation borborygmi was heard. On digital rectal examination, finger was stained with stools, not blood stained.

Laboratory investigations revealed the following: haemoglobin 11.4 g/dL; haematocrit, 39.5%; platelets, 276,000/mm3; white blood cell (WBC) count 9310/mm^3; renal function and serum electrolytes were within normal limits. Ultrasound abdomen and pelvis showed telescoping of one loop of bowel into another loop in the right hypochondrium with sluggish peristalsis and few enlarged lymph nodes Ileo-colic intussusception.

Figure 1: Intussusceptum and intussuscipiens.

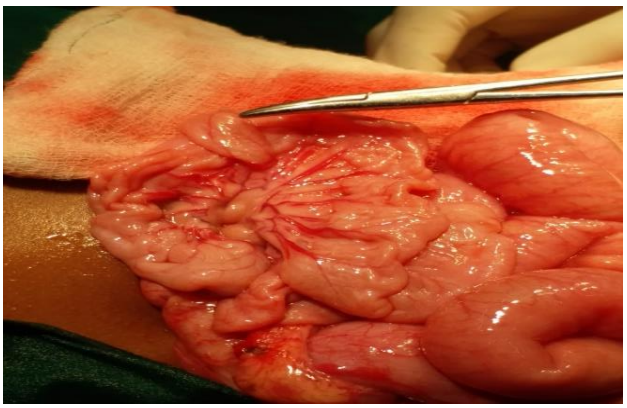

Figure 2: Ileo-ileal intussusception.

The child was taken up for emergency laparotomy. Intra-operatively ilio-ileal intussception was noted at 2 levels (Figure 1, Figure 2) with multiple enlarged mesenteric lymph nodes (Figure 3). The intussceptions were reduced manually. On further exploration of the distal end of bowel, appendix was found to be elongated and inflamed (Figure 4). Appendectomy was done, and the sample sent for histopathological examination.

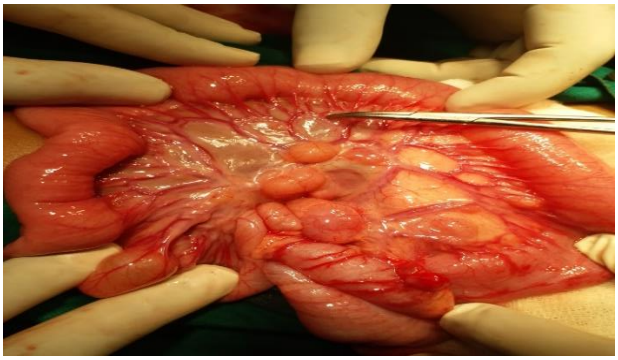

Figure 3: Mesenteric lymphadenitis.

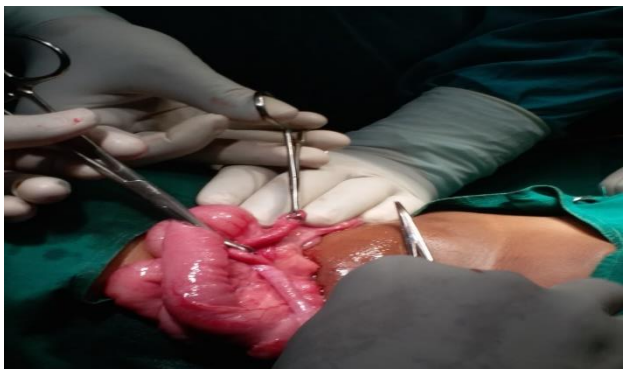

Figure 4: Inflamed and elongated appendix.

Histopathological examination showed an appendectomy specimen measuring 8.5 cm in length with fecolith on cut section. Microscopy was suggestive of recurrent appendicitis.

DISCUSSION

Intussusception occurs when one segment of bowel telescopes into an immediately adjacent segment; almost invariably, proximal segment into the distal. Intussusception is the leading cause of intestinal obstruction in the young child. It is believed that hyperplasia of Peyer's patches in the terminal ileum may be the initiating event .The condition is encountered most commonly in children, with a peak incidence between 6 and 24 months of age [7].

Around 90% of cases are idiopathic. The incidence of intussusceptions with leading points in paediatric cases is approximately 2-12%, with most common causes being Meckel's diverticulum and Henoch- Schönlein purpura. Other causes include lymphoma, duplication,

haemangioma, and polyps of the intestine.[8-10] Intussusception is noted to be a major cause of intestinal obstruction in children.

Appendicitis on the other hand is a major and most frequent surgical emergency in childhood. Appendicitis is the inflammation of the appendix most commonly due to obstruction of the lumen probably fecolith or lymphoid hyperplasia. The lifetime risk of developing appendicitis is 8.6% for males and 6.7% for females, with the highest incidence in the second and third decades.

The peak incidence of the two conditions shows wide variation. Therefore, it is important to consider the possibility that both conditions may co-exist while making a diagnosis. Intussusception is a major cause of intestinal obstruction in children. The most common type of intussusception reported being ileo-colic (77%) whereas ileo-ileal has been reported only in 5% of cases. In general, authorsdo not investigate for the leading points as most cases of ileo-colic intussusception in children are not associated with a leading point. In present case, had authorsnot examined for the presence of an associated disease, authorswould have only performed a simple reduction and missed the diagnosis of appendicitis. Hence, it is necessary to investigate for associated diseases when a patient is diagnosed to have intussusception.

Intussusception with appendicitis, such as in the case reported here is very rare in both paediatric patients and adults. Few cases have been reported since those described by Bevan.[11] Kang et al reported a ceco-colic intussusception caused by appendicitis in a 73-year-old woman, which was diagnosed by abdominal and pelvic CT, and subjected to surgery.[12] The intussusception resolved without manual reduction.

In 1 case description, the appendix itself intussuscepted, leading to a clinical picture indistinguishable from acute appendicitis, complete with cecal and periappendiceal edema on CT scan.[13]

In present case, authors did not find any luminal obstruction of the appendix. The causal relationship was not clear. Authors may consider that the appendicitis was triggered by intestinal obstruction owing to intussusception. Additional investigation is necessary to determine a causal relationship. Current trends in management of appendicitis have greatly improved. Appendicitis has generally been considered relatively easy to diagnose though numerous other diseases mimic appendicitis. Thus, it is very important to always determine the cause and presence of any associated diseases as both are common diseases of paediatric population.

Authors would like to conclude that it is essential to rule out other pathological conditions of intestines such as polyps, adenoma, submucosal lipoma and appendicitis in cases of intussusception.

CONCLUSION

As it is rightly said- Abdomen is the playground of a surgeon, every attempt has hidden surprises to look for. In present patient little did authorsknow that a 2-year-old boy with RIF pain will have so much pathology going on inside- Intussusception+ Appendicitis.

Whenever in doubt, always open and see. Authors were lucky enough to look for the leading points that has helped give the child a healthier and bright future.

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