Intussusception in a 13-year-old with a Congenital Band as the Lead Point

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ABSTRACT

This case is of a 13 year old male who presented to the accident and emergency complaining of recurrent, generalised abdominal pain which is mainly located in the right lower quadrant. The pain is associated with multiple episodes of vomiting and diarrhoea. With high suspicion of acute appendicitis, the emergency physician proceeded with an ultrasonography study of the abdomen, which showed a target sign.

The diagnosis of intussusception was confirmed by an abdominal computed tomography scan. Giving the radiology findings, the decision was made to proceed with a diagnostic laparoscopy and an attempt to reduce the intussusception. Intraoperatively, the intussusception was difficult to reduce, but reduced with ease once the attached mesenteric band was removed.

INTRODUCTION

The incidence of intussusception is most common in the paediatric population aged 3 months to 12 months and peaks at 9 months[1], and it can more rarely present in the adult population with an underlying pathology such as a malignancy. The aetiology, clinical manifestation and treatment differ in either group[2]. This patient is 13 years of age with an atypical presentation of intussusception, and he doesn't lie in either the typical paediatric group nor the adult group. Consequently, making the management plan challenging.

CASE PRESENTATION

A 13-year-old male, known case of asthma who has been off treatment for 2 years, with no previous surgical history, presented to the accidents and emergency with a one-day history of abdominal pain. The pain was generalized but manifesting more in the right lower quadrant and periumbilical regions. The onset of pain was post-prandially, was intermittent and colicky in nature, and aggravated by movement. The pain was associated with nausea and 13 episodes of vomiting which was not associated with food but had food as its content, with no evidence of haematemesis. It was also associated with anorexia and Diarrhoea with no evidence of melaena or haemochezia. The patient had 2 previous episodes of the same pain but did not seek medical advice, as the pain settled spontaneously. The patient denied any history of recent upper respiratory tract infection or gastrointestinal infection.

Abdominal examination revealed generalized tenderness, which was more evident in the periumbilical region, right lumbar region and right iliac fossa, associated with rebound tenderness and voluntary guarding. Bowel sounds were hyperactive. Digital rectal examination was unremarkable.

METHODS - INVESTIGATIONS

The labs were unremarkable, except for a slightly high neutrophils count of 9.15 x 10^9/L and a percentage of 85.2%. Plain erect and supine abdominal x-ray showed dilated small bowel loops with no significant air-fluid levels. Ultrasonography of the abdomen revealed mild to moderate fluid in the pelvis and right iliac fossa, with bowel thickening over the ileo-caecal region and a target sign. To confirm the diagnosis of intussusception a computed tomography study of the abdomen and pelvis with contrast was done, which also showed mild to moderate free fluid in the pelvis and right iliac fossa, dilated ileal loops with air fluid levels proximal to the ileocaecal region, which again showed thickened bowel loops and target sign. Both images were suggestive of the diagnosis of an ileocaecal intussusception.

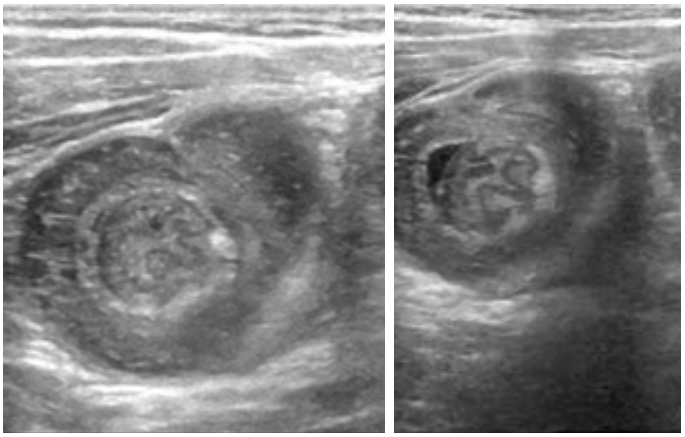

Figure 1 and 2: Showing the target sign on ultrasonography

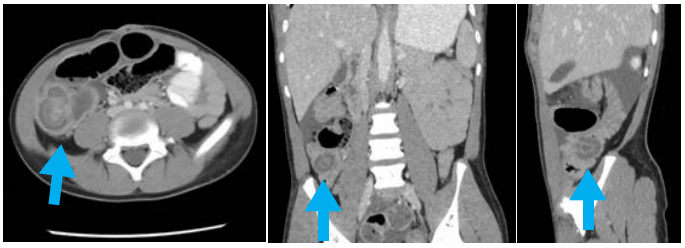

Figure 3, 4 and 5: Showing the target sign on the computed tomography scan (blue arrow)

RESULTS – TREATMENT

The patient was kept NPO, started on intravenous fluids and taken to the operating theatre for an emergency diagnostic laparoscopy and reduction of the intussusception. During the diagnostic laparoscopy it was found that the patient had an ileo-ileal intussusception which

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was only reduced when the mesenteric band attached to the distal part of the terminal ileum was released. The bowel was healthy with no evidence of ischaemia, necrosis or any other pathology, so resection of the affected part was not done.

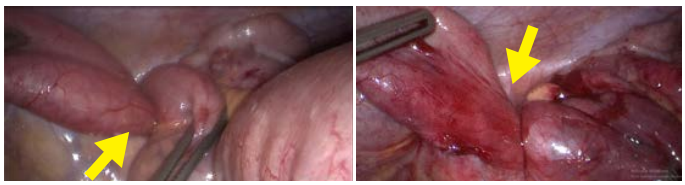

Figure 6 and 7: Showing the intussusception intra-operatively (yellow arrow)

Figure 8 and 9: Showing the attached congenital band

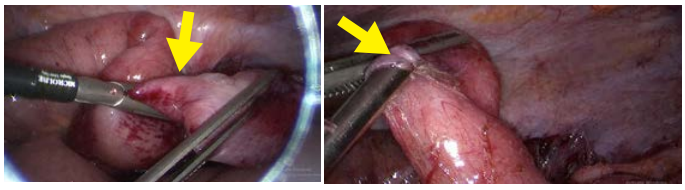

Figure 10: Shows the segment after reduction of the intussusception
Figure 11: shows a remnant of the congenital band on the bowel segment post-reduction

OUTCOME AND FOLLOW UP

Post-operatively the patient was doing well and was tolerating oral feeds. He was discharged home. He was then followed up in the outpatient clinic and showed no further complaints and complete resolution of his recurrent symptoms.

DISCUSSION

Intussusception is defined as the invagination, or telescoping of one part of the intestine, the intussusceptum, into the lumen of an adjoining distal part, the Intussuscipien[3]. The condition is most commonly seen in the paediatric group between the age of 3 to 9 months[3], where they usually present with intestinal obstruction and symptoms of colicky abdominal pain, vomiting and per rectal bleeding which is frequently described as "redcurrant jelly" stool[4]. The aetiology in most paediatric cases is idiopathic, with 50% caused by Peyer's patch enlargement, which acts as a lead point[5]. The treatment is with barium hydrostatic reduction or pneumatic technique, except in specific cases of unstable patients, failed non-operative management attempts and evidence of peritonitis or bowel perforation which would usually mandate a laparotomy[6].

Intussusception would uncommonly present in adults, with an incident of 2-3 cases per 1,000,000 per annum[2]. The presentation is usually atypical, with intermittent abdominal pain and symptoms associated with the underlying pathology or lead point which is causing the intussusception, as idiopathic causes are very rare in this age group. The lead point could be a tumour, either benign or malignant, a Meckel's diverticulum, polyps, lymphoma, Crohn's disease or other causes. The treatment for adults in most cases is operative, which conflicts between reduction and resection, and resection without reduction to avoid seeding of the tumour in case of the presence of a malignancy[7].

In this case the patient is a paediatric patient, yet he is older than the typical paediatric group presenting with intussusception. So, the controversy in this case is in how to proceed with the management of this patient. The first management option which applies to the typical paediatric group is non-operative, hence either with hydrostatic or pneumatic reduction, and that is not an option for this patient for the obvious reason of his much older age. The other option is for resection of the affected segments, which is the treatment of choice in the adult group, giving that there is almost always an underlying pathology which necessitates resection. However, this patient only had a band attached to the terminal ileum, which could have been a coincidental finding, or it could have been the lead point causing the intussusception. Giving that the intussusceptum segment was reduced from the intussuscipiens effortlessly after simply incising the band, makes the band the most likely cause and hence the lead point. Considering that the bowel is healthy, showing no evidence of proceeding complications of intussusception such as perforation, ischaemia or necrosis, and that imaging and diagnostic laparoscopy showed no other cause or lead point to the intussusception, also considering the importance of bowel preservation, resection in this case was unnecessary.

CONCLUSION

Intussusception can present in an atypical way and in an atypical age group, therefore it could be easily mistaken for another diagnosis. The treatment of intussusception should be decided on and tailored to each individual case, as each case presents with a different lead point. Therefore, it is of great significance to take the lead point into consideration, especially in the adult population, as the management plan should not be targeted solely on resolving the intussusception, but needs to be aimed towards the cause of it. The prompt diagnosis, followed by the proper treatment of intussusception is vital, as early diagnosis and treatment can prevent avoidable fatal complications such as bowel ischaemia, necrosis, perforation, peritonitis and sepsis.

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Informed Consent: A written consent from the patient's mother was obtained.

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