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INTUSSUSCEPTION -A RARE SURGICAL OCCURRENCE IN SCHOOL AGE CHILDREN

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ABSTRACT

A case of a 12yr old female student who presented with a week old history of abdominal pain, vomiting, and blood-stained stool and was diagnosed by ultrasonography and barium enema to have intussusception (ileocolo colic variety). Idiopathic cause, a diagnosis of exclusion was made at surgery. She was managed successfully and subsequently followed up at the clinic.

Introduction

Intussusception has been reported as a typical cause of pediatric acute abdomen frequently encountered in routine clinical practice.[1]

The incidence rate has been estimated in children to be 0.2%.2 The common age of presentation on average is 3months to 3yrs with a 2 to 4 male predominance. Nearly one-third of children outside this age range (3-10% of all patients with intussusception) will have a pathological lead point.3 The common location is the ileocolic area (70-90%).[3,4] Common lead points are lymphoma, haemangionma, polyp, meckels diverticulum.[3] The case is a rare presentation of the sex and an idiopathic cause as no underlying organic cause was found in the 12yr old girl.

Case report

F.A is a 12yr old girl who presented to the pediatrics unit of our facility with a 1-week history of intermittent abdominal pain, occasional vomiting, and blood-stained stool with occasional mucus. Findings on examination were that of an acutely-looking ill patient, not pale, afebrile, and anicteric. Abdominal examination revealed a distended abdomen, with slight guarding in the right hypochondal region. A working diagnosis of gastroenteritis was made and investigatory modalities were requested. Laboratory work-up showed occult blood in the stool microscopy. The plain abdominal radiograph showed dilated small/large bowel loops.

Ultrasonography of the abdomen revealed the Doughnut sign of intussusceptions(fig 1).

Barium enema further enhanced the diagnosis with tracing of barium between the dilated bowel segments giving the so-called coil spring appearance (fig 2).

A diagnosis of intussusception was made. Following the diagnosis, the patient underwent exploratory laparatomy which revealed an ileocolo-colic variety with no lead point and was reduced. The patient was classified idiopathic and did well post-surgery and was discharged to be seen in the clinic.

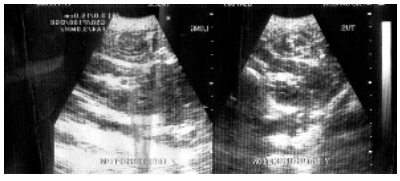

Fig1 A transverse sonogram through the large bowel in the region of the hepatic flexure the "donoughnut sign (a).

Fig 2: A barium enema study showing the "coil spring appearance"at point of intususseception (b).

Discussion

Intussusception is described as the telescoping of proximal segments of the bowel called the intussusceptum into the lumen of a more distal segment of bowel (intussuscepien) via peristalsis and is propelled antegrade.[5]

Various types have been described: the ileoileal, coliocolic, and ileocolic of which the latter type is the commonest.[4]

In children, it is seen commonly in the ages of 3months to 3yrs and has a male predominance but rare in the school-age >

3yrs. In the school-age, 11yrs is the peak of presentation.[1] In this school-age group purported causes are associated with lead points (e.g lymphoma, lymphoid hyperplasia, Meckel's diverticulum).[6,8] However, studies by Ikeda T. et al[3] show that idiopathic cause is now a rising cause in this age group as presented above.

Presenting symptoms commonly encountered are those of a triad: (i) abdominal pain (ii) vomiting (iii) melena. However, (ii) and (iii) may or may not be present.

The presence of abdominal pain makes it a common presentation for an acute abdomen mimicking appendicitis. Given this presenting symptom, it is a cause of acute or chronic bowel obstruction. When acute, it is considered for emergency laparotomy when reduction via other means fails (contrast use or air in suffocation).[7] Complications of intussusception include abdominal obstruction, bowel necrosis, mild haematochizia to massive bleeding. These complications have been linked to associated organic causes.[1] Ultrasonography has become a cheap and readily available means to suggest intussusception by demonstrating the target sign (doughnut sign)[7] as seen in the patient. Barium enema studies further clinch the diagnosis and demonstrate the classical coil spring appearance as seen in this patient at the point where the telescoping of the bowel is seen. Where inflammation at that point sets in, mucosal changes may also be seen.

Computed tomography has also been shown to be of value in the diagnosis of intussusception, especially where organic causes are involved with complications.[6] This was not done in the patient as barium clinched the diagnosis without any suggestion of organic causes further confirmed at surgery.

In complicated cases where bleeding is severe, using Tc99m labeled blood cells and selective artery angiography have been used to locate vessels at the site of bleeding. This has also been employed in detecting Meckel's diverticulum.

Treatment is by reduction of the intussusception. Methods employed are air reduction and contrast reduction (Barium) via hydrostatic pressure.[9,10] However, these methods have been failed with the severe complication of abdominal pain and recurrence as high as 10-20%.[8,11] This is further complicated where the organic cause is implicated. These were not attempted in the patient due to the acute nature of the presentation.

Surgical intervention has become the most definitive treatment to help decrease complications and confirm the possible cause of intussusception "idiopathic". A diagnosis of exclusion was seen in this patient. The recurrence rate post-surgery is as low as 0-5%.

Due to the rarity of this condition at that age especially in the African setting, it is further instructive that we report this case.

Conclusion

Our findings are in keeping with the literature. Our patient's recovery from surgery is satisfactory

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. Written informed consent was obtained from the patient's father. In the form provided consent was given for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

Author contributions

CCA, SKA, and AIS contributed to the collection of data, analysis of results, and writing of the manuscript. HOA and TAO contributed to the writing and critical revision of the manuscript. AIS, SKA OAS, and KRA contributed to the care of this family, collection of data, analysis of results, and the writing and critical revision of the manuscript.

Research quality and ethics statement

Ethical approval was obtained from the ethical committee of our institution.

The authors followed applicable EQUATOR Network (http://www.equator-network.org/) guidelines, notably the CARE guideline, during the conduct of this case report.

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Conflicts of interest

There is no conflict of interest whatsoever

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