



A Rare Case of Spontaneous Reduction of Adult Appendicular Intussusception with Acute Appendicitis

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Abstract

Appendiceal intussusception is a very rare disease that is found in only 0.01% of patients who have undergone an appendectomy. The term intussusception is defined as invagination of a segment of the gastrointestinal tract into the lumen of an adjacent segment. It is more commonly observed in children, however occasionally it is seen in adults. It is associated with long mesoappendix, acute appendicitis, appendicular tumor and ileocaecal junction pathology. We describe a case of 19 yrs old male with appendicular intussusception associated with acute appendicitis, which reduced spontaneously and underwent laparoscopic appendectomy.

Keywords: Appendicitis, Intussusception.

Introduction

Intussusception means the proximal bowel segment invaginates into distal segment of adjacent bowel. The proximal bowel entering is called the intussusceptum whereas the distal is termed as intussusceptens. The occurrence of this disease is so rare that it presents a clinical challenge to preoperative timely diagnosis. Appendicular intussusception may present in variety of ways and high index of suspicion with appropriate investigation is required for correct preoperative diagnosis. We describe a case of 19 yrs old male with acute appendicitis, diagnosed with appendicular intussusception on CT scan and

underwent laparoscopic appendectomy, during which it was found to be reduced spontaneously.

Case Report

A 19 yrs old male presented with complaints of pain in right iliac fossa since 1 day duration. He had history of passage of one motion with blood and mucous in stool. He did not have fever or vomiting.

Examination showed Pulse of 76 / min, BP – 120 / 80 mm of Hg and respiratory rate was normal. On abdomen examination, there was tenderness and rebound tenderness in right iliac fossa. There was guarding present in right iliac fossa however there

was no rigidity present. Bowel sounds were sluggish on auscultation. Other systems were unremarkable. His investigations showed Hb 13.9 gm/ dl, WBC count of 8,700/cmm. Liver function test, renal function test and Serum electrolytes were in normal limit. His USG abdomen done was suggestive of intussusception. His CT abdomen and pelvis was done. It showed that Appendix was dilated to 12mm and elongated. Base of appendix was seen invaginating in caecum causing appendicular intussusception. (Image 1 and 2: Green arrows)

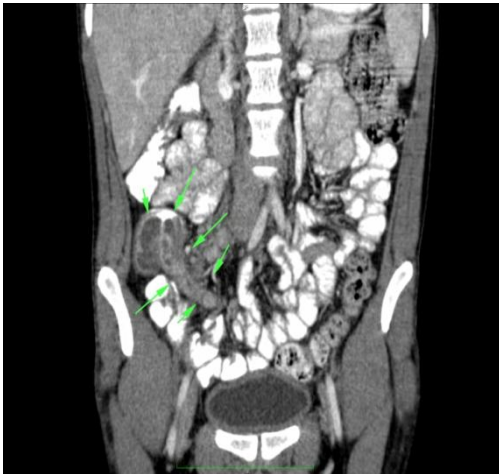


Image 1

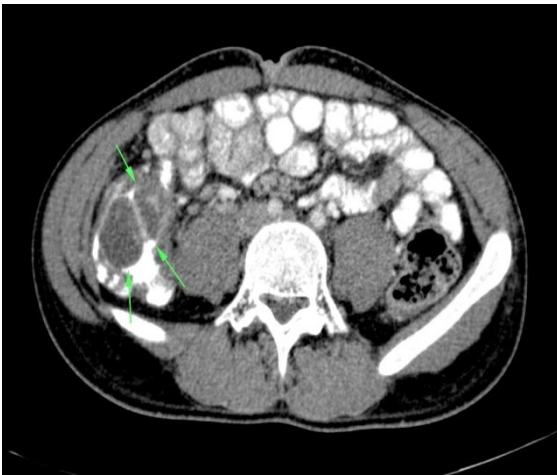
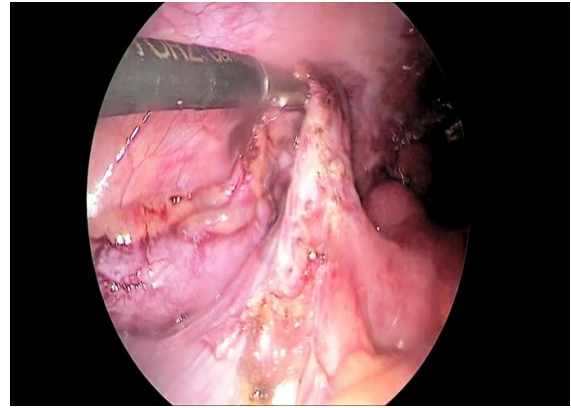
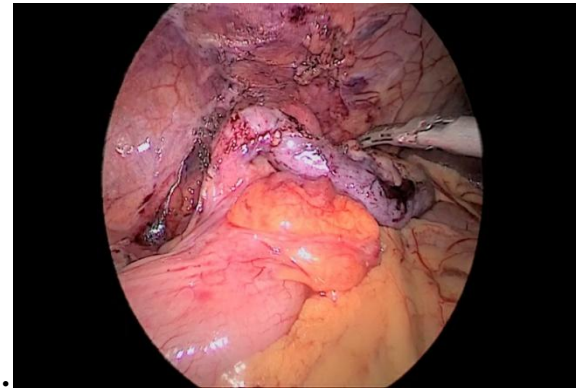


Image 2

He was taken up for emergency surgery. Laparoscopic surgery was done. During surgery it was found that appendicular intussusception was reduced spontaneously (2a, 2b)



2a.



2b

Appendicectomy was done and specimen was sent for histopathology. Histopathology report was suggestive of acute appendicitis. The patient recovered completely after the surgery and was discharged on post-operative day 3 after starting on normal full diet.

Discussion

Intussusception is defined as the telescoping of a proximal segment of the gastrointestinal tract into the lumen of the adjacent distal segment of the gastrointestinal tract, in which proximal segment is called as intussusceptum, and distal segment is called as intussusciens. Bowel intussusception in adults is considered a rare condition, accounting for 5% of all cases of intussusceptions and almost 1%-5% of bowel obstruction¹.

Appendicular intussusception was first described in 1858 by John McKidd². Several classifications for the pathological appearance of the appendix have been proposed. In 1910, Moschcowitz proposed the first classification of appendiceal intussusception, modified by McSwain (1941) and later by Langsam(1984).³

According to McSwain classification:

Type 1: tip of appendix intussuscepted into its proximal portion

Type 2: middle part of appendix intussuscepted into its proximal portion

Type 3: base of appendix intussuscepted into Caecum (similar to our case)

Type 4: proximal part of appendix becomes intussusceptum and is received into the distal portion

Type 5: complete inversion of appendix intussuscepted into caecum with or without ileo-caecal or caeco-caecal intussusceptions⁴

Collins in a review of 40 year study of 71,000 appendiceal specimens reported an incidence of 0.01%. In many cases it is found that appendix was leading point of intussusception, appendix in those cases was either found normal or pathological⁵. Appendicular intussusception can have various factors of etiopathogenesis like fetal type cecum with appendix originating from its tip, appendix with a wide lumen and the proximal lumen wider than the distal lumen, thin mesoappendix with a narrow base and minimal fat, mobile appendicular wall with active peristalsis, free appendix free of peritoneal folds or adhesions, active peristalsis due to fecoliths, foreign bodies, parasites, appendiceal neoplasms, lymphoid follicles, and endometrial implants⁶ etc. Char et al in 2009⁷ found that appendiceal intussusception is more often encountered in adult women, with a predominance of occurrence in the 4th decade of life. Intussusception of intestine is commonly encountered in paediatric population, so also their spontaneous reduction is mentioned in literature⁸, however we are yet to come across any report of spontaneous reduction of adult intussusception with appendicitis.

In 1898 Rolleston proposed that either an intramural or an intraluminal lesion leads to an attempt by the appendix to extrude the offending lesion. Peristaltic contractions of appendix takes place vigorously providing a leading point of intussusception as the lining can invaginate or telescope into the distal part. Intussusception can

also occur as a result of an apex formation at the base of appendix due to spasm of muscular sphincter present at its base. It seems likely as mentioned before that a combination of anatomical, physiological and minor pathological changes interact to produce this rare condition.⁸ In our patient he presented with symptoms suggestive of acute appendicitis. CT scan report of abdomen confirming appendicular intussusceptions (Images 1 and 2).

In 1971, authors Bachman A L and Arthur C, in their case report mentioned about 4 cases of appendicular intussusception characterised by complete resolution during same or subsequent barium enema study¹². Reduction with barium enema may be attempted for intussusceptions of appendix after diagnosis is ascertained, especially paediatric population. However, there is a high recurrence rate⁹. No more than 90 cm of hydrostatic pressure should be applied to avoid complications. Alternatively, air may be introduced via a rectal tube to produce caecal distension. If the attempt is successful and the appendix is completely filled, a close follow-up is indicated to early diagnose recurrence. Unlike children, reduction by barium enema or air is not suggested for adults, especially for patients over 60 years old. The reason is that adults have leading points which are frequently neoplastic¹⁰. A recent advance is the use of through-the-scope mini-probe catheter endoscopic ultrasound to evaluate the abnormal findings of the appendix at colonoscopy to allow the surgical selection of the candidate¹¹

Conclusion

Appendicular intussusception although a rare occurrence its spontaneous reduction in presence of acute appendicitis in and adult is even more rare. However therapeutic appendectomy should be done to prevent further recurrence. Early CT abdomen provides anatomical diagnosis of the entity as the findings can be missed if the intussusception is spontaneously resolved.

Conflicts of interest: None

Author's contribution: Both the authors had contributed equally in the care of the patient, drafting the article and literature research.

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