

Adult appendix cecal intussusception by lymphoid hyperplasia - A rare diagnosis

Abstract

The appendix invagination on the adjacent portion of the lumen of the caecum characterizes the appendix cecal intussusception, which is a rare disease - incidence of 0.01% of the general population. It can occur at any age - most commonly in the first fifteen years of life. Affects mainly men (5: 1 ratio). The pain can mimic acute appendicitis. The patient can have a variable intensity of pain in the right iliac fossa, accompanied by vomiting for several days, with change the intestinal peristalsis - may progress to constipation, diarrhea and melena. The authors report a case with computed tomography diagnosis of this rare disease.

Keywords: abdominal pain/diagnosis, appendix/diagnostic imaging, intussusception/diagnosis; intussusception/diagnostic imaging, tomography, x-ray computed

Volume 8 Issue 6 - 2017

Fabricius André Lyrio Traple,¹ Thaís Nogueira Dantas,¹ Márcio Luís Duarte,² Luiz Raphael Donoso Scoppetta,¹ Luiz Carlos Donoso Scoppetta¹

¹Department of Radiology, Hospital Sao Camilo, Brazil

²Department Radiology, WEBIMAGEM, Brazil

Correspondence: Márcio Luís Duarte, WEBIMAGEM, Avenida Marquês de São Vicente 446, São Paulo, São Paulo, Brazil, Tel: 55xx13981112799, Email marcioluisduarte@gmail.com

Received: August 04, 2017 | **Published:** November 07, 2017

Introduction

Appendix cecal intussusception is the appendix invagination on the adjacent portion of the lumen of the caecum.¹ It's a rare disease, with an incidence of 0,01% of the general population,² but can occur at any age, most commonly, in the first fifteen years of life, affecting mainly men (5:1 ratio).¹ The etiology can be divided into anatomical and pathological causes.¹

Anatomical causes:¹

- Appendix completely mobile without fixation by congenital peritoneal folds.
- Mobile appendiceal wall, able to present active peristalsis.
- Large appendiceal lumen with larger proximal lumen diameter than the lower portion.
- Caecum fetal type, with the appendix originating from its tip.

Pathological causes:¹

- Foreign body: fecaliths or parasites.
- Inflammation: endometriosis or lymphoid follicular hyperplasia.
- Cancers: carcinoid tumor, adenocarcinoma, mucocele, polyp, papilloma, fibroma, lipoma, cysts, lymphoma, leiomyoma.
- Invagination of appendiceal stump after appendectomy.

Appendix tumors are uncommon and, most of them are benign.³ Appendix adenoma is a rare condition and adenocarcinoma is even rarer - most arises from an adenoma.³ Benign and malignant neoplasms have just reports associating them to appendix cecal intussusceptions.⁴ The evaluation of malignant and benign polyps, and mucosal and invasive lesions are extremely important for setting the treatment of choice.⁴ When there is a submucosally invasive cancer, it may have nodal involvement, and eradication of the affected colon and nodal dissection should be performed.⁴

Case presentation

26 years old man with moderate intensity colic pain in the right iliac fossa, radiating to the back for one day. Physical examination

demonstrates flaccid abdomen, with no pain in the right iliac fossa decompression. Abdomen computed tomography (CT scan) with endovenous contrast shows "target" image in the appendix region, near caecum, compatible with appendix cecal intussusception to the caecum, marked thickening of the caecum and fine densification of adjacent fat, fecalith inside the caecum and lymph nodes in the right iliac fossa (Figures 1 & 2).



Figure 1 Abdominal CT Scan in axial section with endovenous contrast demonstrating appendix cecal inside the caecum, characterized the image in "multilamellar appearance" (blue arrow). There is an appendiceal inside the appendix. In association, we observed marked thickening of the cecum, fine densification of adjacent fat planes and mesenteric lymph nodes increased in number.

The following colonoscopy demonstrated in the caecum, at the appendiceal ostium topography, diffuse edema and hyperemia mucosa, presenting protrusion into the cecal light. Patient underwent laparoscopic right hemicolectomy due to malignancy suspicion. Final pathologic diagnosis confirmed by histology of the surgical specimen as lymphoid follicular hyperplasia of the cecal appendix.

Discussion

The pain can mimic acute appendicitis - pain in the right lower abdomen, loss of appetite, low fever or the patient can have a variable

intensity of pain in the right iliac fossa, accompanied by vomiting for several days, with change the intestinal peristalsis, which may progress to constipation, diarrhea, melena or even a long history of interspersed periods of few symptoms with periods of intermittent abdominal pain in the right iliac fossa.^{1,2} Patients can be asymptomatic - the disease would be an incidental finding at colonoscopy or image tests.⁵ The differential diagnosis include: acute appendicitis, diverticulitis, acute pelvic inflammatory disease, renal lithiasis, enterocolitis and ectopic pregnancy.^{1,2}



Figure 2 Abdominal CT Scan in coronal section with endovenous contrast demonstrating appendix cecal inside the caecum, characterized the image in "multilamellar appearance" (blue arrow). There is an appendiceal inside the appendix. In association, we observed marked thickening of the cecum, fine densification of adjacent fat planes and mesenteric lymph nodes increased in number.

Ultrasound is the method of choice for children and shows the following signs:⁵

- i. "Target" or "donut" sign: hypoechoic rim bordering a center predominantly hyperechoic.

- ii. Sign of multiconcentric ring.

- iii. Crescent-in-doughnut sign: formed by concentric alternating echogenic and hypoechogenic bands. The echogenic bands are formed by mucosa and muscularis whereas the submucosa is responsible for the hypoechoic bands.

CT scan is the diagnostic method most widely used and accurate - the intussusception resembles a mass with a target form - target signal - with or without blocking intestinal signals.⁶

Appendectomy can be performed, and is the treatment of choice in both children and adults. In the setting of a neoplasm, more extensive resection may need to be undertaken such as an ileocecectomy or right hemicolectomy.⁷

Conflicts of interest

There is no conflict of interest.

Acknowledgements

None.

Funding

None.

References

- Atkinson GO, Gay BB, Naffis D. Intussusception of the appendix in children. *American Journal of Roentgenology*. 1976;126(6):1164–1168.
- Epifanio M, Lima MA, Spolidoro JV, et al. Appendiceal intussusception. *Pediatr Gastroenterol Nutr*. 2014;59(4):e37.
- Takahashi M, Sawada T, Fukuda T, et al. Complete appendiceal intussusception induced by primary appendiceal adenocarcinoma in tubular adenoma: a case report. *Jpn J Clin Oncol*. 2003;33(8):413–415.
- Kawamura YJ, Toyama N, Kasamatsu T, et al. Intussusception of appendiceal adenoma mimicking invasive carcinoma. *Endoscopy*. 2002;34(9):749.
- Swischuk LE, Hayden CK, Boulden T. Intussusception: indications for ultrasonography and an explanation of the doughnut and pseudokidney signs. *Pediatr Radiol*. 1985;15(6):388–391.
- Amr MA, Polites SF, Alzghari M, et al. Intussusception in adults and the role of evolving computed tomography technology. *Am J Surg*. 2015;209(3):580–583.
- Iqbal CW, Kamath AS, Zietlow SP. Appendiceal intussusception masquerading as an ileocolic intussusception. *J Gastrointest Surg*. 2012;16(5):1076–1077.