



Taibah University Journal of Taibah University Medical Sciences

www.sciencedirect.com



Case report

An unusual case of colonic intussusception in old age

Sultan A. Alshoabi, MD* and Osamah M. Abdulaal, PhD

Department of Diagnostic Radiologic Technology, College of Applied Medical Sciences, Taibah University, Almadinah Almunawarah, KSA

Received 21 November 2018; revised 20 February 2019; accepted 21 February 2019; Available online 15 March 2019



الخلاصة

الانغلاف المعوي هو دخول جزء من الأمعاء إلى الجزء المجاور منها وهو سبب نادر لانسداد الأمعاء عند الكبار. عادة يأتي المريض وفيه علامات البطن الحاد الذي يشمل مجموعة واسعة من الحالات الطارئة. على الرغم من أنه من الصعب تشخيص الانغلاف سريريا إلا أنه من السهل تشخيصه عن طريق التصوير الطبي. التصوير بالموجات فوق الصوتية والتصوير المقطعي المحوسب يمكنه بسهولة اكتشاف الانغلاف المعوي. هذا التقرير يصف موقع غير معتاد لانغلاف القولون عند مريض عمره سبعين عاما. كل من عمر المريض ومكان هذه الحالة امر نادر الحدوث.

الكلمات المفتاحية: الانغلاف المعوي؛ مريض مسن؛ التصوير بالموجات فوق الصوتية؛ التصوير المقطعي

Abstract

Intussusception refers to the telescoping of a bowel segment into the lumen of an adjacent distal bowel. It is a rare entity and an uncommon cause of intestinal obstruction in adults. Approximately 90% of cases of intussusception in adults have an organic cause as a lead point. Usually, the patient presents with signs of acute abdomen with a short history. Although it is difficult to diagnose colonic intussusception clinically, medical imaging by ultrasonography and computed tomography can easily detect this rare but clinically important disease. This case report describes an uncommon location of intussusception in the colon in a 70-year-old female patient.

Keywords: Computed tomography; Elderly patient; Intussusception; Ultrasound imaging

© 2019 The Authors.

Production and hosting by Elsevier Ltd on behalf of Taibah University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Intussusception is an telescoping of a bowel segment (intussusceptum) into the adjacent distal bowel (intussusciens). It can be classified based on location into three types: entero-enteric, entero-colonic (the most common), and colo-colonic. Intussusception in children is usually idiopathic but is often associated with an identifiable cause in adults.¹ It occurs in approximately 1–4 of 1000 live births and has a 3:1 male-to-female ratio in children.² It is a rare entity and an uncommon cause of intestinal obstruction in adults, usually secondary to an organic cause. About 90% of cases of intussusception in adults have an organic cause as a lead point and should be investigated well before treatment.³ In children, ultrasonography is the first-choice imaging modality for suspected cases of intussusception. It has approximately 97.9% sensitivity and 97.8% specificity for the detection of intussusception with no radiation exposure.⁴ Intussusception in adults presents with variable clinical manifestations, rendering it a challenge for clinical diagnosis. Abdominal Computed Tomography (CT) is the imaging modality of choice for diagnosis of intussusception in adults. The “target” or “sausage-shaped” masses in the outer intussusciens and inner intussusceptum are pathognomonic signs of the condition.⁵

Multidetector computed tomography (MDCT) can delineate the presence of intussusception and provide valuable information about the site and extent of intussusception,

* Corresponding address:

E-mail: alshoabisultan@yahoo.com (S.A. Alshoabi)

Peer review under responsibility of Taibah University.



Production and hosting by Elsevier

including the bowel segments involved. It can focus on the site of intussusception, the intestinal segments involved, the extent of the intussuscepted bowel, and the presence of a leading point. Moreover, MDCT can demonstrate the complications of intussusception, represented by bowel wall

ischemia and perforation, which are mandatory to promptly refer for surgery.^{1,6}

In this case study, we documented an unusual case of colonic intussusception. This condition occurred in an elderly patient, which is also unusual. The patient was



Figure 1: a) Longitudinal and b) transverse ultrasonography images of a 70-year-old female patient showing the pseudo kidney sign and the target sign of bowel intussusception, respectively.

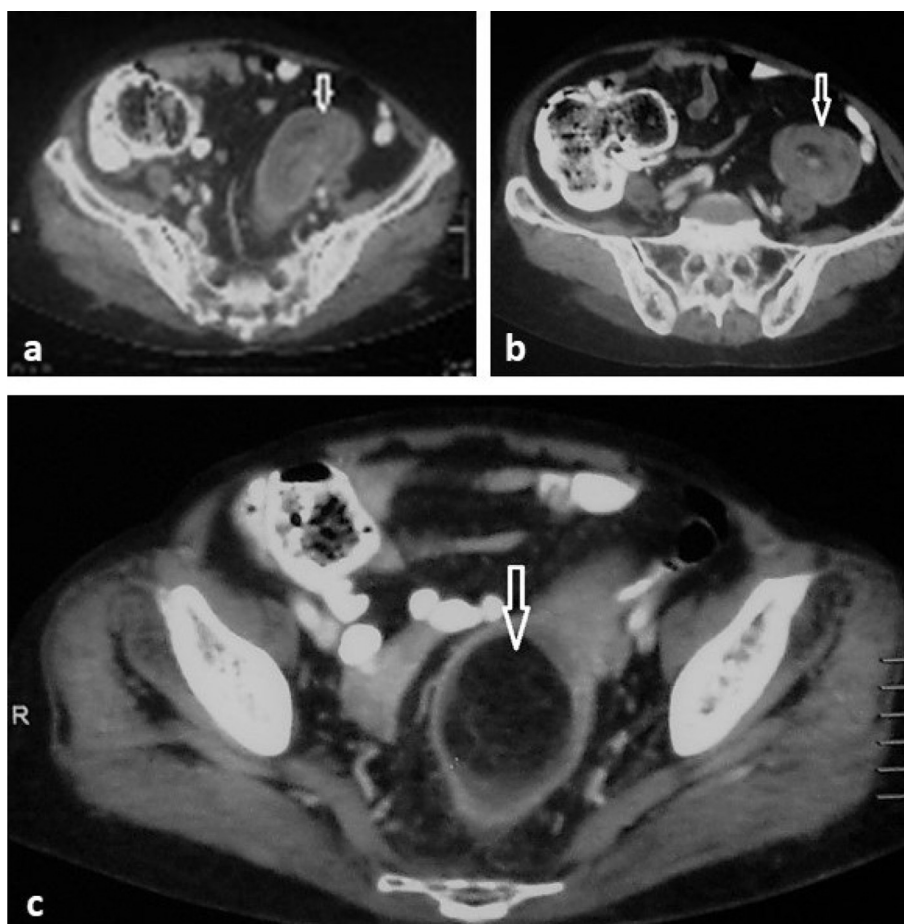


Figure 2: Axial CT images of the abdomen of the same patient with intravenous and oral contrast a) demonstrate the “sausage sign” of intussusception in the left iliac fossa, b) demonstrate the “target sign” of intussusception formed by concentric layers, including hypodense and hyperdense tissues, and c) reveal an ovoid, well-defined, hypodense mass of 7×5 cm inside the sigmoid colon. The attenuation coefficient of the mass was compatible with adipose tissue (lipoma).

correctly diagnosed using both ultrasonography and CT. We highlight the essential role of imaging by MDCT in confirming the diagnosis of intussusception in adults, focusing on the presence of a leading point, which may guide an accurate selection of patients for surgery.

Case report

A 70-year-old female presented to the emergency department of the hospital with severe colicky abdominal pain and small amounts of bloody stool for four days. Abdominal ultrasound imaging was performed by using 3.5 MHz curved and 7.5 MHz linear transducers. The transverse ultrasound imaging scan showed the “doughnut sign,” and the longitudinal scan showed the “pseudo kidney sign” (Figure 1). The above findings were typical for diagnosis of intussusception. However, this diagnosis was unusual for the patient’s age. The patient was referred for an abdominal CT scan to confirm the diagnosis. We then performed abdominal CT for the patient using a 64 multislice CT machine to confirm the diagnosis. The CT images revealed the typical “target sign” and “sausage shape” of bowels in the left iliac fossa (Figures 2a and 2b). The CT images also demonstrated a well-defined hypodense mass of about 7×5 cm in its maximal transverse dimensions located in the sigmoid colon. The mass was ovoid and well-margined and had a homogenous fat density consistent with lipoma (Figure 2c). The colon was dilated proximally, but the small bowels were not dilated. The above findings were consistent with a lipoma acting as a leading point for a colo-colonic intussusception. A midline laparotomy was performed, and the diagnosis was confirmed. Segmental colonic resection with side-to-side anastomosis was performed. Supportive therapy by IV fluids and drugs was continued. The patient’s condition improved.

Discussion

Intussusception is the telescoping of a segment of bowel (intussusceptum) into the lumen of an adjacent distal bowel portion (intussusciens). It can be classified based on location into three types; entero-enteric, entero-colonic (the most common), and colo-colonic. Although intussusception is a rare condition in adults and the elderly, it is almost always an emergency case, requiring early diagnosis and management to prevent bowel gangrene and death.

This study involved a rare case of intussusception presented in an elderly patient with a pedunculated colonic lipoma as a leading point. The findings in this study were in line with a previous study by Mouaqit et al.,⁷ who concluded that intussusception is a rare condition representing only 1% of intestinal obstruction cases in adults. Colonic carcinoma is the lead point of colonic intussusception in up to 70% of cases, while benign colonic lipoma is an uncommon cause.

The leading end of the intussusception, in this case, was a pedunculated colonic lipoma of about 7×5 cm in size. Gluskin et al.⁸ reported that giant (>4 cm) lipomas are the most common benign colonic neoplasms leading to colonic intussusception.

In this case, ultrasonography revealed the “doughnut sign” and the “pseudo kidney sign,” both considered

indications of intussusception. These findings were consistent with those of Lam et al.,⁹ who reported that the “doughnut sign” is easy to recognize even by trainees. This renders ultrasonography a highly sensitive and specific imaging method for diagnosis of intussusception.

In the current case, the CT showed the “target sign” and “sausage sign,” which are typical of intussusception. Subramaniam et al.¹⁰ reported the same in a CT study of an elderly patient.

The diagnosis of intussusception, in this case, was confirmed after surgery and was based on both abdominal ultrasonography and CT imaging. Based on our findings, these imaging modalities played an essential role in evaluating and detecting intussusception. Previous literature by Hango H. et al.¹¹ reported that a combination of ultrasonography and abdominal CT could result in a 95.5% correct preoperative diagnostic rate.

Regarding treatment options for colonic intussusception, surgery is still the best option, as reported by Dungerwalla M et al.¹² Also, Guillén Paredes MP et al. reported that surgery is usually necessary.¹³ In 2017, Feo CV. et al. reported the first case of colonic intussusception due to lipoma in an adult treated by laparoscopy.¹⁴ In 2018, M’rabet S et al. determined that surgery is the treatment of choice in colonic lipoma with intussusception due to risk of malignancy.¹⁵

In this case, we documented an unusual case of colonic intussusception in an elderly patient. The case was correctly diagnosed by ultrasonography and confirmed by CT.

Conclusion

Intussusception presents as an emergency condition, even in the elderly, and rapid diagnosis is critical to prevent bowel ischemia and gangrene. Ultrasonography and CT imaging modalities play an essential role in diagnosis of intussusception, which may be difficult for clinicians, especially in elderly patients.

Source of funding

None.

Conflict of interest

The authors have disclosed no conflicts of interest. The authors approved the publication and take responsibility for its accuracy and integrity.

Ethical approval

This is a retrospective case report without the use of any samples from patients, so ethical approval can be waived.

Author contributions

Both authors have critically approved the final draft and are responsible for the contents and similarity index of the manuscript. The authors take responsibility for its accuracy and integrity. All authors have critically reviewed and

approved the final draft and are responsible for the content and similarity index of the manuscript.

References

1. Valentini V, Buquicchio GL, Galluzzo M, et al. Intussusception in adults: the role of MDCT in the identification of the site and cause of obstruction. *Gastroenterol Res Pract* **2016**; 2016: 5623718. <https://doi.org/10.1155/2016/5623718>.
2. Bowker B, Rascati S. Intussusception. *J Am Acad Phys Assist* **2018**; 31: 48–49.
3. Maghrebi H, Makni A, Rhaïem R, et al. Adult intussusceptions: clinical presentation, diagnosis and therapeutic management. *Int J Surg Case Rep* **2017**; 33: 163–166.
4. Kang P, Peters A. Intussusception. *Appl Radiol* **2014**; 43(9): 42–43. Retrieved from, <https://search-proquest-com.sdl.idm.oclc.org/docview/1622081739?accountid=142908>.
5. Lu T, Chng Y. Adult intussusception. *Perm J* **2015**; 19(1): 79–81. <https://doi.org/10.7812/TPP/14-125>.
6. Somma F, Faggian A, Serra N, Gatta G, Iacobellis F, Berritto D. Bowel intussusceptions in adults: the role of imaging. *Radiol Med* **2015**; 120(1): 105–117.
7. Mouaqit O, Hasnain H, Chbani L, et al. Pedunculated lipoma causing colo-colonic intussusception: a rare case report. *BMC Surg* **2013**; 13: 51–51.
8. Gluskin A, Singh N. Gastrointestinal: a sigmoid lipoma as the cause of intussusception. *J Gastroenterol Hepatol* **2017**; 32: 292–292.
9. Lam SHF, Wise A, Yenter C. Emergency bedside ultrasound for the diagnosis of pediatric intussusception: a retrospective review. *World J Emerg Med* **2014**; 5(4): 255–258. <https://doi.org/10.5847/wjem.j.issn.1920-8642.2014.04.002>.
10. Subramaniam D, Culshaw N, Langlands F, et al. Intussusception in the elderly. *BMJ Case Rep* **2013**; 2013. bcr2012006185-bcr2012006185.
11. Hongo H, Mike M, Kusanagi H, et al. Adult intussusception: a retrospective review. *World J Surg* **2015**; 39: 134–138.
12. Dungenwalla M, Loh S, Smart P. Adult colonic intussusception: surgery still the best option. *J Surg Case Rep* **2012**; 2012(6): 3. <https://doi.org/10.1093/jscr/2012.6.3>. Published 2012 Jun 1.
13. Guillén Paredes MP, Campillo Soto A, Martín Lorenzo JG, Torralba Martínez JA, Mengual Ballester M, Cases Baldó MJ. Adult intussusception - 14 case reports and their outcomes. *Rev Esp Enferm Dig* **2010 Jan**; 102(1): 32–40.
14. Feo CV, Marcello D, Feo CF. Laparoscopic treatment of colocolic intussusception secondary to a lipomatous polyp Case Report. *Ann Ital Chir* **2017**; 6.
15. M'rabet S, Jarrar MS, Akkari I, et al. Colonic intussusception caused by a sigmoidal lipoma: a case report. *Int J Surg Case Rep* **2018**; 50: 1–4.

How to cite this article: Alshoabi SA, Abdulaal OM. An unusual case of colonic intussusception in old age. *J Taibah Univ Med Sc* 2019;14(2):199–202.