

## Acute intussusception ileo-ileal in adult

### **\*\*A case report**

#### **Abstract**

We relate here the case of a 47 years patient with no particular history, admitted in emergency for an occlusive syndrome which developed gradually. The onset of symptoms was marked by a moderate abdominal pain with bilious vomiting. The symptomatic treatment had no effect; the pain became intense and diffuses to the entire abdomen accompanied by uncontrollable vomiting and the gas and stool passage were stopped. Ultrasonography of abdomen showed target signs in cross section and sandwich sign in longitudinal section which are characteristic of intussusceptions. The abdominal computed tomography (CT) is the reference imaging technique; it allows conducting indisputably diagnostic certainty and discovering the possible etiology. It shows the presence of an intestinal occlusion, the topography of the condition and the morphological characteristics of any causal lesion. The laparotomy revealed an ileo-ileal intussusception caused by an ileal tumor. We performed a segmental small bowel resection with anastomosis. Histological study confirmed the benign nature of the tumor evoking an aspect in favor of an inflammatory pseudotumor of the small intestine.

**key words:** Acute intussusception, ileo-ileal, adult

#### **Introduction**

Intussusception or invagination of the bowel is defined as the telescoping of one portion of the bowel into an immediately adjacent portion of the bowel. Intussusception is more common in the pediatric population than in adults. The intussusception in adults is rare accounting for 5% of all cases of intussusceptions and almost 1%-5% of bowel obstruction.[2,8,9] and has some features that make the whole point of this condition. It is an epiphenomenon revealing in 80% of cases a particular tumor organic lesion [1]. The diagnosis and management in the pediatric population are different in the pediatric and adult populations

#### **The observation**

The patient of 47 years had no particular history. He was admitted in emergency for an intestinal obstruction which had developed gradually. The patient presented abdominal colic without severe pain, but presented with bilious vomiting. The onset of these symptoms was marked by intestinal obstruction. The pain became intense in spite of taking symptomatic treatment and diffused to the entire abdomen accompanied by uncontrollable vomiting. The gas and stool passage were stopped. On physical examination, the abdomen is slightly distended with tenderness in the left flank. Laboratory tests are normal. The abdominal X-ray shows the image of many bright arches with air-fluid levels projecting the left flank (Fig 1).

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**Fig 1. The abdominal X-ray : bright arches with air-fluid levels**

44 Ultrasonography of abdomen showed target signs in cross section and sandwich sign in longitudinal  
45 section which are characteristic of intussusception

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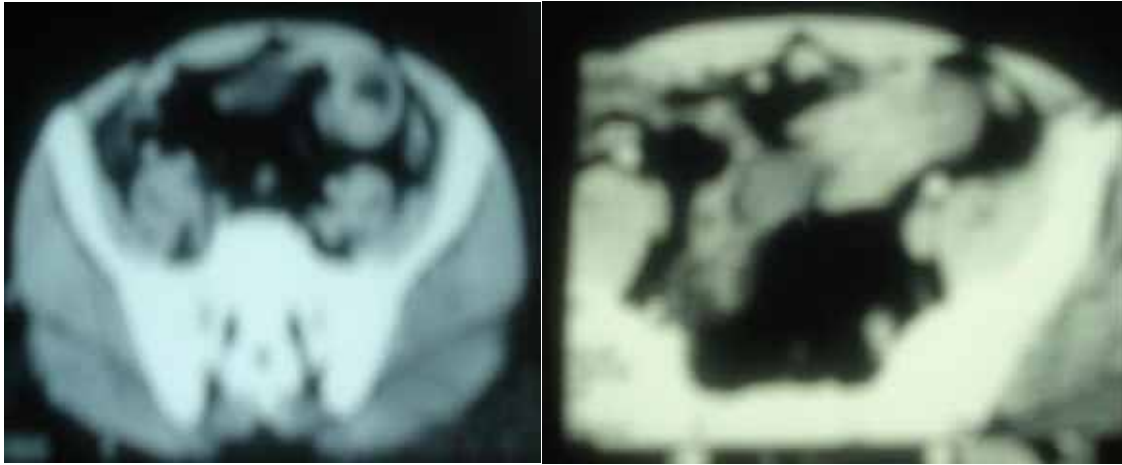
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**Figure 2. Ultrasonographic image in transverse section “target” signs**

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50 The diagnosis is confirmed by the abdominal computed tomography (CT) scan showing ileo-ileal  
51 intussusception (fig 3).

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**Fig. 3 Abdominal computed tomography in adult intussusception.**

The laparotomy also revealed an ileo-ileal intussusception (Fig-4) with a dilated proximal small intestine.

The intussusception was due to an ileal homogeneous well circumscribed solid mass with exophytic growth into intestinal lumen (fig. 5,6). The mass was measuring  $5 \times 5 \times 4.5$  cm in the location mentioned above. It was reduced and a segmental small bowel resection was performed.

Histological study confirmed the benign nature of the tumor and revealed proliferation of spindle-shaped cells with infiltration of plasma cells and lymphocytes evoking an aspect in favor of an inflammatory pseudotumor of the small intestine. Immunohistochemistry was not undergone



**Figure 4 : Intraoperative findings : a solid, well-defined mass as lead point of intussusception.**



**Figure 5 : The surgical specimen after the en bloc resection of the small bowel**



**Fig-6: Specimen showed a firm, circumscribed endoluminal tumor.**

## **Discussion**

The Acute intussusception is a rare cause of abdominal pain and represents 1-5% of intestinal obstruction in adults. It is most often small bowel (48% -70%). Unlike the child where it is often idiopathic in adults, it is often secondary to an organic lesion in 85% of all cases [5]. In 90% of adult cases, predisposing lesions can be found, but in the paediatric population, organic lesions are found in only 10% of the cases [1], whereas in 58% of cases of large bowel intussusceptions, a malignant aetiology has to be expected [2,10,13]. Some studies showed that approximately 30% of all small bowel intussusceptions are caused by malignancy, whereas the remainder is caused by benign lesions (60%) or are idiopathic (10%) [9,11,16].

The classic pediatric presentation of acute intussusception (a triad of cramping abdominal pain, bloody diarrhea and a palpable tender mass) is rare in adults [2]. The diagnosis is often difficult as the symptomatology evolves spontaneously resolve by pushing at least at the beginning and is usually manifested as chronic abdominal pain [10,16]. Nausea, vomiting,

89 abdominal fullness sensation, diarrhea, constipation or bowel obstruction outset can also be  
90 observed. As for the small bowel tumor diagnosis, it is difficult outside the complications of  
91 intussusception or bowel obstruction. More rarely, gastrointestinal bleeding form or Melena  
92 can dominate in case of tumor ulceration.

93 Plain abdominal films are typically the first diagnostic tool, since in most cases the  
94 obstructive symptoms dominate the clinical picture demonstrate signs of intestinal  
95 obstruction and may provide information regarding the site of obstruction.

96 Ultrasonography is a useful tool for intussusception diagnosis, both in children and in adults  
97 though variable appreciation depending on the operator [5,26,27]. The classic appearance of  
98 an intussuscepted bowel in a transverse plane is called the ‘target sign’ and in the longitudinal  
99 appearance it is usually viewed as multiple parallel lines, which is termed as the ‘sandwich  
100 appearance [9,12,16,17].

101 Computed tomography (CT) for adult Abdominal is the reference imaging technique, it  
102 allows conducting indisputably diagnostic certainty and discovering the possible etiology. It  
103 shows the presence of an intestinal occlusion, the topography and the morphological  
104 characteristics of any causal lesion [14,15]. The CT sensitivity varies between 58 and 100%.  
105 This test is currently considered as the most sensitive radiologic method to confirm  
106 intussusception and distinguishes the presence or absence of a lead point [4,6,9,14,15]. Adult  
107 intussusception secondary to inflammatory tumor can be demonstrated by MRI [15]. But the  
108 laparoscopy has also been used successfully in selected cases [7]. In the adult 70 to 90% of  
109 cases of intussusception require definite treatment, of which surgical resection is, most often,  
110 the treatment of choice [2].

111 The term “inflammatory pseudotumor” has been used for any macroscopic or microscopic  
112 tumor [1]. Different terms have been used: Inflammatory myofibroblastic tumor (IMFT),  
113 inflammatory fibroid polyps (IFPs), plasma cell pseudotumour, inflammatory  
114 myofibrohistiocytic proliferation, and omental mesenteric myxoidhamartoma. [3,12,13].

## 116 Conclusion

117 The acute intestinal obstruction by intussusception secondary to a small tumor is rarely seen  
118 in adults. Its symptoms are not specific. His diagnosis is facilitated by the CT scan. Surgical  
119 excision is the treatment of choice.

## 120 Consent Disclaimer:

121 As per international standard or university standard, patient’s consent has been collected and  
122 preserved by the authors.

## 125 References

1. Chiang JM, Lin YS. Tumor spectrum of adult intussusception. *J Surg Oncol.* 2008;98:444-7.
2. Begos D G, Sandor A, Modlin I M. The diagnosis and management of adult intussusception. *Am J Surg.* 1997;173:88-94
3. F.M.C.D.M. Fletcher, K. Unni, World health organization classification of tumours pathology and genetics of tumours of soft tissue and bone, *Cancer* 177 (2002) 1365–1376.
4. Marinis A, Yiallourou A, Samanides L, Dafnios L, Anastasopoulos G, Vassiliou L, Theodosopoulos T. Intussusception of the bowel in adults: A review ; *World J Gastroenterol* 2009 January 28; 15(4): 407-411
5. Cerro P, Magrini L, Porcari P, De Angelis O. Sonographic diagnosis of intussusceptions in adults. *Abdom Imaging* 2000;25: 45-47
6. Kim YH, Blake MA, Harisinghani MG, Archer-Arroyo K, Hahn PF, Pitman MB, Mueller PR. Adult intestinal intussusception: CT appearances and identification of a causative lead point. *Radiographics* 2006; 26: 733-744
7. McKay R. Ileocecal intussusception in an adult: the laparoscopic approach. *JSLs* 2006; 10: 250-253
8. Susan M. Cera Intestinal Intussusception Clinics in colon and rectal surgery/volume 21, number 2 2008
9. Azar T, Berger DL. Adult intussusception. *Ann Surg* 1997; 226: 134-138.
10. Wang LT, Wu CC, Yu JC, Hsiao CW, Hsu CC, Jao SW. Clinical entity and treatment
11. Zubaidi A, Al-Saif F, Silverman R. Adult intussusception: a retrospective review. *Dis Colon Rectum* 2006; 49: 1546-1551
12. Cláudia Paiva\*, Filomena Soares, Raquel da Inez Correia, Vítor Valente. Inflammatory myofibroblastic tumor presenting as ileocecal intussusception—A case report. *International Journal of Surgery Case Reports* 24 (2016) 146–149
13. Bhbhavuray T, Madhu CP, Sudhir S, Shreeharsha MV. Ileo-ileal Intussusception in an Adult Caused by Vanek's Tumour: A Rare Case Report. *Journal of Clinical and Diagnostic Research.* 2013 Dec, Vol-7(12): 2994-2995.
14. Low HM, Chinchure D. Clinics in diagnostic imaging. *Singapore Med J* 2016; 57(12): 664-668
15. Feldis M, Dilly M, Marty M, Laurent F, Cassinotto C. An inflammatory fibroid polyp responsible for an ileal intussusception discovered on an MRI. *Diagnostic and Interventional Imaging* (2015) 96, 89—92.
16. Satoshi Iida, Hosei Matsuzaki, Shinichi Kawashima, Masayuki Watanabe, Yasuhiro Akiyama, Hideo Babaa. Adult Intestinal Intussusception Caused by an Inflammatory Myofibroblastic Tumor
17. Onkendi EO, Grotz TE, Murray JA, Donohue JH: Adult intussusception in the last 25 years of modern imaging: is surgery still indicated? *J Gastrointest Surg* 2011;15:1699–1705.