

Case report

Idiopathic intussusception in male adult: A case reportM. Makrodimou¹, Ch. Triantopoulou², D. Nikolaou², S. Velonakis³, E. Koulentianos³, C. Dervenis¹**SUMMARY**

Intussusception is the invagination of one loop of intestine into another and presents with a syndrome of colicky pain and palpable mass and/or rectal bleeding. Due to the intermittent symptoms one could overlook adult idiopathic intussusception. Most of the cases present to the emergency room/outpatient clinic with the symptoms of intussusception such as acute abdominal pain and distention and are usually treated as obstructive ileus cases. The incidence of intussusception is quite low in comparison to the common causes of obstructive ileus. The following case report of a male patient gave reason to elaborate on the significance of Computed Tomography (CT) along with the incidence of intussusception as a primary disease.

Key words: idiopathic, intussusception, CT

INTRODUCTION

Intussusception in adults is quite uncommon, approximately 5%, compared to children where it is more often encountered¹. Although 90% of the cases in infants and children are idiopathic, in the adult cases we can identify an underlying pathology in 90% of the patients.

The first investigative step should be that of physical examination and an abdominal X-ray while the second should be that of CT scan. CT is a powerful tool in determining the anatomic segment of involvement, recognizing an underlying pathology (eg. the mass lesion that is acting as the leading point for the intussusception), ex-

cluding the presence of free peritoneal air or localized perforation² - in which cases a barium enema is a relative contraindication -, and even providing valuable information regarding the viability of the involved segment³. Therefore CT scan provides more information to the clinical doctor and proves advantageous compared to ultrasound, which is so widely used in pediatric cases.

We present the case of a male patient with no previous operations, no underlying pathology of the intestinal tract and no malignancy.

CASE REPORT

A male patient, 43 years old, of middle eastern origin, presented with a colicky epigastric pain following a meal at the emergency outpatient clinic. After 3 hours the patient experienced constant abdominal pain accompanied with symptoms of incomplete ileus. X-ray films revealed signs of ileus of the small intestine with multiple air-fluid levels (Figure 1). The patient's medical history was free from previous symptoms, operations or hospitalization.

Biochemistry, complete blood count and tumor markers CEA, Ca 19-9, Ca 15-3 were within normal range. Barium enema was performed with the following findings: a/ normal retrograde filling of the large intestine to the cecum b/ pressure effect upon the ileocecal region c/ a single diverticulum in the sigmoid-rectal region (Figure 2).

CT scan was recommended and upon performance ileocecal intussusception was recognized without profound pathology (Figure 3, 4, 5). The CT findings were characteristic: three concentric circles were formed by the invagination of a bowel segment into another. The central circle was of soft-tissue density. Peripheral to that was a circle of a fat density representing the entrapped mesentery and further peripherally there was a second soft-

1st surgical Department¹, CT department² and Radiology³ department of Konstantopoulion "Agia Olga" General Hospital, Athens, Greece

Author for correspondence:

Ch. Dervenis, 1st Surgical Dept., Konstantopoulion, "Agia Olga" General Hospital, 3-5, Agia Olgas Str., Nea Ionia, Athens, Greece

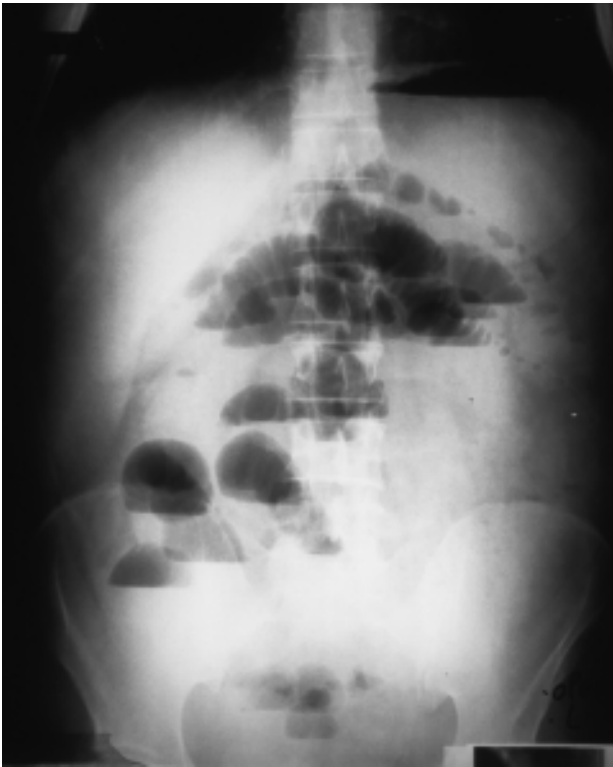


Figure 1. Plain film indicative of small bowel obstruction.

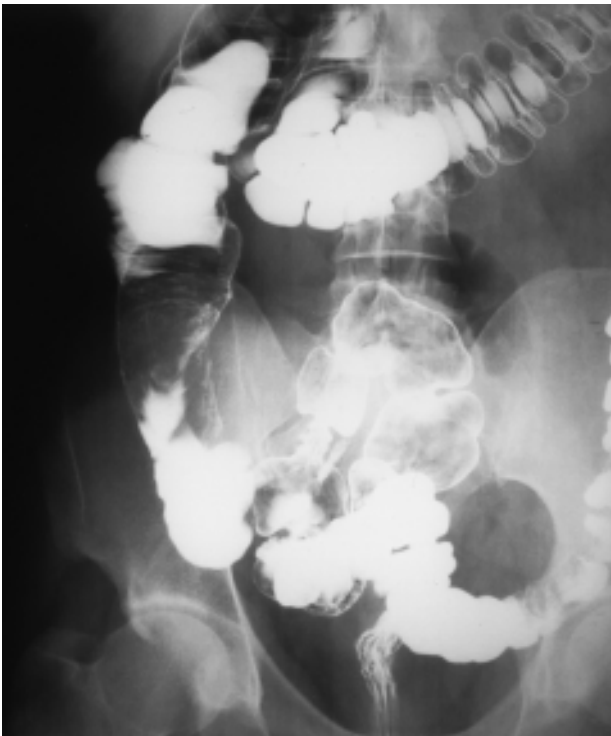


Figure 2. Barium enema demonstrates pressure of colon by a “soft tissue mass,, in the right iliac fossa.

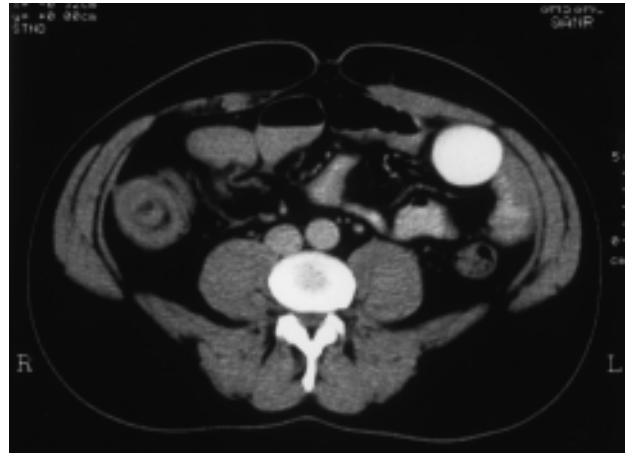


Figure 3. CT scan demonstrates the three concentric circles characteristic of intussusception.



Figure 4. CT scan: the invagination of the terminal ileum into the ascending colon is more obvious.



Figure 5. CT scan reveals bowel wall thickening and focal changes (haziness) in peritoneal fat as a consequence of intussusception.

tissue density circle representing the intussusciens^{4,5}.

Diagnostic Laparoscopy followed where intussusception of the ileocecal region was confirmed without an underlying pathology. The patient left the hospital in good health but returned within a two weeks with symptoms of incomplete ileus. Further control with enteroclysis followed, again without pathological findings (Figure 6).

DISCUSSION

Only rarely can we detect adult intussusception in the absence of underlying pathologic findings¹⁰⁻¹². As depicted in table 1 several investigators have reported the incidence of idiopathic intussusception with almost consistent results.

Intussusception can be divided in four groups: a. tumor related, b. postoperative, c. miscellaneous (Meckel's diverticulum, Celiac disease) and d. idiopathic^{6,13}. Although the mechanism that leads to an intussuscep-

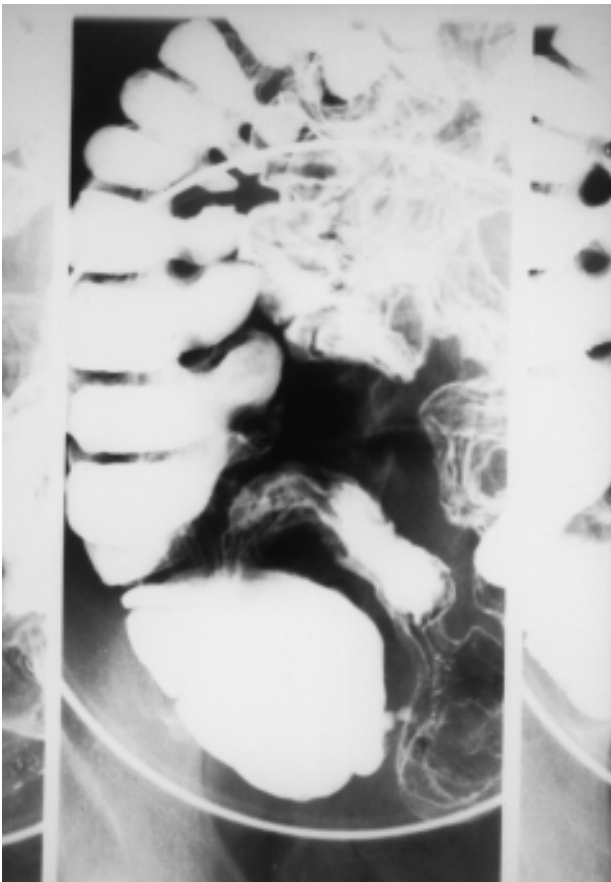


Figure 6. Enteroclysis: normal appearance of ileocecal region.

Table 1.

Intussusception in adults				
	Patient No.	Pathology	Idiopathic	Years
Agha F. ⁶	25	23	2	29
Han AM et al ⁷	20	18	2	18
Smith IS et al ⁸	34	17	17	5
Gayer et al ⁹	16	14	2	5

tion is still unknown, any lesion or irritation of the bowel wall or lumen that desynchronizes the peristaltic waves, could provide the mechanical base for the invagination of one part of the intestine into another. Since the existence of a tumor, polyps, Meckel diverticulum, appendiceal stump¹⁴, inflammatory disease, celiac sprue, viral infections¹⁵ or adhesions due to preceding operations were excluded, as far as that patient is concerned, it can be speculated that dysrhythmic peristalsis is the cause of the intussusception.

It still remains to be investigated, in order to fully understand the pathomechanism of idiopathic intussusception.

However surgical intervention – bowel resection – should not necessarily be the treatment for idiopathic intussusception. We have performed a diagnostic laparoscopy and intraoperative reduction of the intussuscepted ileus without any resection. Surgical management should be retained for patients over 60 years old, based on the knowledge that malignancy is more common¹⁶⁻¹⁸.

Plain films may show evidence of small bowel obstruction or the intussusception itself may be identified as a soft tissue mass, sometimes surrounded by a crescent of gas. On the other hand barium enema or enteroclysis can simultaneously obtain spontaneous reduction^{19,20} (providing certain precautions are taken) and therefore prove to be beneficial but yet not diagnostically satisfactory. The overall accuracy of enteroclysis in small bowel obstruction is 85% but it is contraindicated in patients with complete obstruction or in those likely to have bowel infarction.

CT scan can be of great value in recognizing, characterizing and monitoring an intussusception. The information provided is of great use to the clinician as CT has been shown to be useful in revealing the site, level and cause of obstruction and in displaying signs of threatened bowel viability. The finding of thickened regionally-enhancing bowel wall with submucosal edema and localized ascites, must be considered highly suggestive of intestinal ischemia and may be an indication for rapid surgical decompression.

In any case idiopathic intussusception in young adults should be included in our differential diagnosis in the emergency room. CT will have an important role to establish a definite diagnosis in patients for whom immediate surgery is not needed.

REFERENCES

1. Dean DL, et al. Intussusception in adults. *Arch Surg* 1956; 73:6-11.
2. Shaff MI, Tarr RW, Partain CL, et al. Computed tomography and Magnetic Resonance Imaging of the Acute Abdomen. *Surg Clin North Am* 1988; 68:233-254.
3. Bar Ziv J, et al. Computed Tomography in adult intussusception. *Gastr Radiol* 1991; 16:264-266.
4. Donovan AT, al. Computed tomography of ileocecal intussusception: mechanism and appearance. *J Comp Assist Tomogr* 1982; 6:630-632
5. Iko BO, et al. Computed Tomography of adult colonic intussusception: Clinical and experimental studies. *AJR* 1984; 143:769-772.
6. Agha F. Intussusception in adults - Review. *AJR* 1986; 146:527-531.
7. Han AM, et al. Diagnosis and Treatment of adult intussusception. *Am J Surg* 1989; 158:25-28.
8. Smith IS, et al. Adult intussusception in Glasgow. *Br J Surg* 1968; 55:925-928.
9. Gayer G, et al. Intussusception in Adults: CT Diagnosis. *Clin Radiol* 1998; 53:53-57
10. Donhauser JL, et al. Intussusception in the adult. *Am J Surg* 1950; 79:673-677
11. Aston SJ, et al. Intussusception in the adult. *Am J Surg* 1975; 41:576-580
12. Weilbaecher D, et al. Intussusception in adults: review of 160 cases. *Am J Surg* 1971; 121:531-553
13. Marshak RH, Linder AE. *Radiology of the small intestine*. London: Saunders, 1970; 23-26
14. Patton KR, et al. Intussusception of a normal appendix. *Am J Emerg Med* 2000; 30:58-63
15. Wood BJ, et al. AIDS associated intussusception in young adults. *J Clin Gastr* 1995; 21:158-162
16. Reijnen HAM, et al. Diagnosis and treatment of adult intussusception. *Am J Surg* 1989; 158:25-28
17. Nagorney DM, et al. Surgical management of intussusception in the adult. *Ann Surg* 1981; 193:230-236
18. Khurram Baig M, et al. Controversy in the treatment of adult long ileocolic intussusception: A case report. *Am Surg* 2000; 66:742-743
19. Goutsoyiannis NC, Papakonstantinou O, Bays D, et al. Adult enteric intussusception: Additional observations on enteroclysis. *Abdom Imaging* 1994; 19:11-17
20. Luckey P, et al. Idiopathic ileoileal intussusception in an adult with spontaneous reduction during enteroclysis: a case report. *Abdom Imag* 2000; 25:48-50.