

## Case report

**Idiopathic intussusception in male adult: A case report**M. Makrodimou<sup>1</sup>, Ch. Triantopoulou<sup>2</sup>, D. Nikolaou<sup>2</sup>, S. Velonakis<sup>3</sup>, E. Koulentianos<sup>3</sup>, C. Dervenis<sup>1</sup>**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 encountered<sup>1</sup>. 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 perforation<sup>2</sup> - in which cases a barium enema is a relative contraindication -, and even providing valuable information regarding the viability of the involved segment<sup>3</sup>. 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.

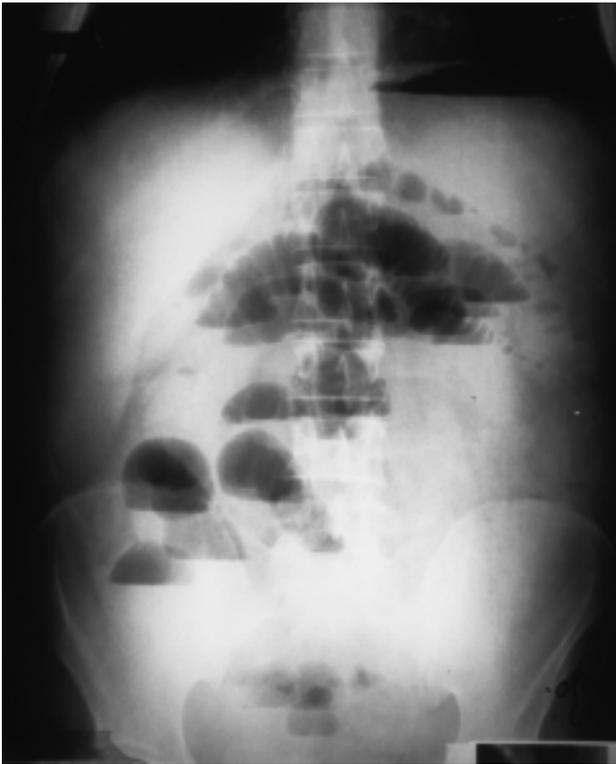
Biochemistry, complete blood count and tumor markers CEA, Ca 19-9, Ca 15-3 were within normal range. Barium enema was performed with the following findings: a/ normal retrograde filling of the large intestine to the cecum b/ pressure effect upon the ileocecal region c/ a single diverticulum in the sigmoid-rectal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

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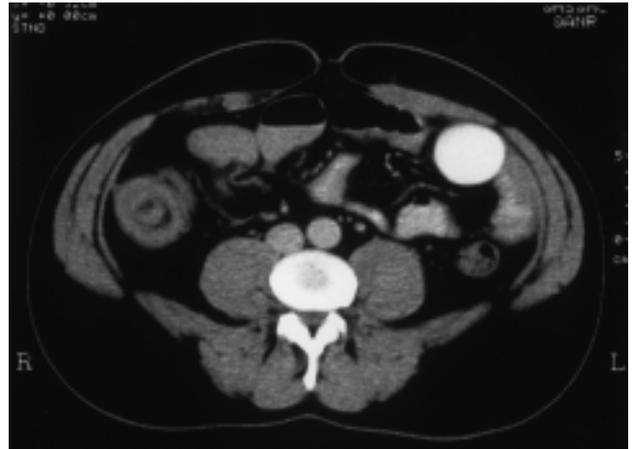
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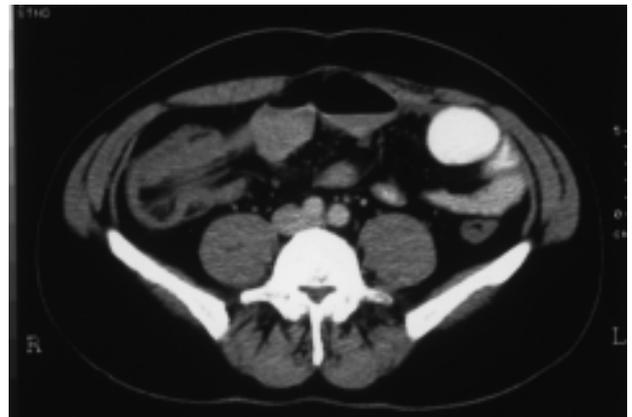
**Figure 1.** Plain film indicative of small bowel obstruction.



**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.

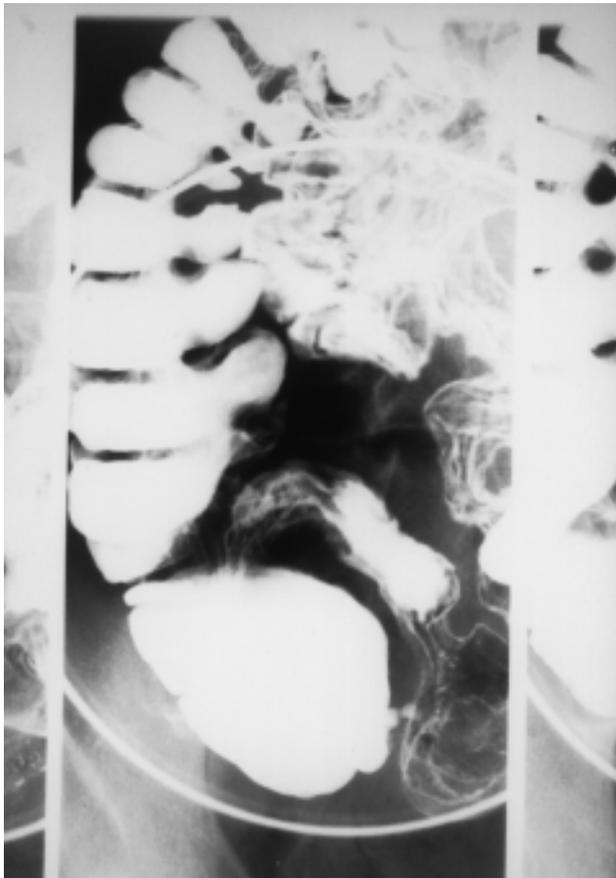
tissue density circle representing the intussusciens<sup>4,5</sup>.

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 findings<sup>10-12</sup>. 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<sup>6,13</sup>. Although the mechanism that leads to an intussuscep-



**Figure 6.** Enteroclysis: normal appearance of ileocecal region.

**Table 1.**

**Intussusception in adults**

Intussusception in adults				
	Patient No.	Pathology	Idiopathic	Years
Agha F. <sup>6</sup>	25	23	2	29
Han AM et al <sup>7</sup>	20	18	2	18
Smith IS et al <sup>8</sup>	34	17	17	5
Gayer et al <sup>9</sup>	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 stump<sup>14</sup>, inflammatory disease, celiac sprue, viral infections<sup>15</sup> 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 common<sup>16-18</sup>.

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<sup>19,20</sup> (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.

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