

## Jejunal intussusception due to GIST

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**Section:** Abdominal imaging

**Area of Interest:** Abdomen

**Procedure:** Diagnostic procedure

**Imaging Technique:** CT

**Special Focus:** Obstruction / Occlusion Case Type:

Clinical Cases

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**Patient:** 58 years, female

### Clinical History:

A female patient, 58 years old, presented in the emergency department with GI bleeding and weight loss since two/three months ago.

Hb: 6, 8 g/dL.

Upper GI endoscopy: ulcerated sub-epithelial lesion in the proximal jejunum, with 3 cm.

### Imaging Findings:

CT enterography (Fig.1-3) showed a hypervascular expansive lesion in the lumen of the proximal jejunum, with well-defined borders, measuring 3 cm. This lesion is the cause of jejuno-jenunal intussusception, which is characterized by a bowel-within-bowel configuration. There are no signs of GI obstruction, distant metastasis or adenopathies.

### Discussion:

#### Background:

Intussusception consists in the invagination of a bowel loop with its mesenteric fold (intussusceptum) into the lumen of a contiguous portion of bowel (intussusciens) due to the peristalsis [1]. Intussusceptions are classified according to location (enteroenteric, ileocolic, ileocecal, or colocolic), with or without a lead point, that may be benign or malignant [2].

GISTs are thought to originate from interstitial cells of Cajal located in the muscularis propria in the GI wall, and arise most commonly from the stomach (60%–70%), small bowel (30%) and rarely from the rectum, oesophagus, colon, and appendix [3].

#### Clinical Perspective:

Intussusception without a lead point may be asymptomatic or manifest as vague abdominal pain, and does not generally cause proximal bowel obstruction. Most cases are found incidentally at CT performed for other reasons [4]. Intussusception with a lead point may manifest with abdominal pain, nausea and vomiting, suggesting intestinal obstruction. However it can also manifest with symptoms related to a neoplastic process (constipation, weight loss, GI bleeding) [4].

#### Imaging Perspective:

At abdominal CT, the appearance of bowel-within-bowel with or without mesenteric fat and vessels is

pathognomonic for intussusception (Fig. 1). In a transversal view a target sign may be visible (Fig. 3). In recent years, abdominal CT has been reported to be the most useful tool for diagnosis of intestinal intussusception and the lead point, with a diagnostic accuracy of 58–100% [5].

With contrast-enhanced CT, GISTs appear as exophytic masses with peripheral enhancement. They may have heterogeneous enhancement depending on their level of aggressiveness, and the more aggressive GISTs may have a central area of necrosis (hypoattenuation areas) or areas of hemorrhage (high attenuation). Calcification is rare [6].

#### Outcome:

Surgery is the treatment of choice for GISTs, if resectable. Tyrosine kinase inhibitor (Imatinib) has produced a good response and prolonged survival in patients with advanced stage disease [6].

Our case underwent surgical treatment, without signs of recurrence at this time (1 year of follow up).

#### Take Home Message, Teaching Points:

- Intussusception consists in the invagination of a bowel loop with its mesenteric fold (intussusceptum) into the lumen of a contiguous portion of bowel (intussusciens) due to the peristalsis.
- The CT appearance of bowel-within-bowel with or without mesenteric fat and vessels is pathognomonic for intussusception.
- The lead point may be seen at CT, even though it is hard to discern the exact underlying disease in most cases.

**Differential Diagnosis List:** Jejunal intussusception induced by a GIST, Jejunal intussusception induced by a GIST, Jejunal intussusception induced by a carcinoid tumour, Jejunal intussusception induced by hypervascular metastases (melanoma or breast)

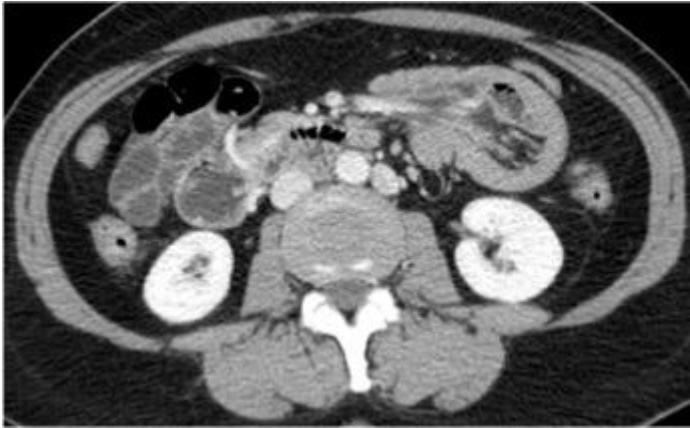
**Final Diagnosis:** Jejunal intussusception induced by a GIST

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**Figure 1**

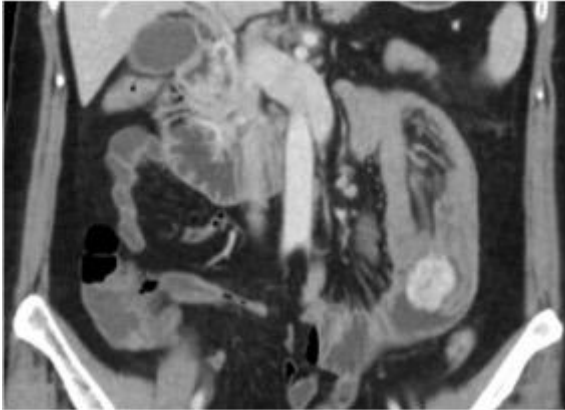
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**Description:** Bowel-within-bowel configuration - pathognomonic. The mesentery fat and vessels are seen inside the loop, following the intussusceptum. **Origin:** CHUC, Coimbra, Portugal

## Figure 2

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**Description:** Bowel-within-bowel configuration - intussusception - in an extension of 10cm, with the lead point in an expansive hypervascular lesion with 3cm. **Origin:** CHUC, Coimbra, Portugal

**Figure 3**

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**Description:** Typical multilayered appearance of a small bowel intussusception. In this case, the lead point (hyper vascular lesion) is seen inside the loop. **Origin:** CHUC, Coimbra, Portugal