

## Case Report

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# Low gastrointestinal tract bleeding secondary to low-grade gastrointestinal stromal tumor: case report

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## ABSTRACT

Gastrointestinal stromal tumors (GIST) are neoplasms of mesenchymal origin. We present the case of a patient with low gastrointestinal tract bleeding secondary to a gastrointestinal stromal tumor, as well as her diagnostic clinical approach in a third-level medical unit, as well as a brief review of the literature. The treatment of this neoplasm is surgical and ideally consists of complete resection with negative margins (R0). GISTs mostly affect patients between 4-6 decades of life with a slight predominance in women, with the stomach and small intestine being the most frequently affected organs. The immunohistochemical study shows positivity for c-KIT and CD34 in 100% and 63% of cases. The treatment is surgical which usually by maintaining free margins is curative

**Keywords:** GIST, Gastrointestinal bleeding, Neoplasm

## INTRODUCTION

Gastrointestinal stromal tumors (GIST) are neoplasms of mesenchymal origin, until 2 decades ago they were called with various names according to their histopathological differentiation of smooth muscle (leiomyoma, leiomyoblastoma or leiomyosarcoma) or neural (schwannoma); thanks to subsequent studies of immunohistochemistry, electron microscopy and molecular biology it was possible to reclassify these tumors as a clinical-pathological entity characterized immunohistochemically and unlike other tumors of smooth and neural muscle origin, by expressing in 95% of cases the transmembrane receptor for the factor derived from stem cells with activity on the receptor tyrosine kinase known as CD117 or c-KIT, located on chromosome 4q11-q12 and composed of 21 exons, being mutations at the level of exon 11 (67%) and 9 (11%) the

most frequently detected. GISTs generally affect subjects between the 4<sup>th</sup>-6<sup>th</sup> decades of life with a slight predominance in the male population, corresponding to approximately 0.1-0.3% of all neoplasms of the digestive tract with an estimated incidence and prevalence of 14.5 and 129 cases per million inhabitants respectively; representing 80% of gastrointestinal mesenchymal neoplasms.<sup>1-5</sup> Mitotic count and tumor size are the main prognostic factors identified related to disease progression and survival, it is difficult to predict their biological behavior (benign / malignant), other prognostic morphological variables consider mucosal involvement, presence of necrosis, hypercellularity, cellular pleomorphism and anatomical localization.<sup>1-10</sup> We present the case of a patient with low gastrointestinal tract bleeding secondary to a gastrointestinal stromal tumor, as well as her diagnostic clinical approach in a third-level medical unit, as well as a brief review of the literature.

## CASE REPORT

A 69-year-old female with a surgical history of hysterectomy for uterine myomatosis 20 years ago and left kidney cyst drainage 10 years ago. Transfusions: July 30, 2021; 6 globular packages for bleeding from the lower digestive tract. Hospitalizations: 30.07.21, Admission for hypovolemic shock due to bleeding from the lower digestive tract, panendoscopy with non-active ulcer, treatment with amines and hemo-transfusion, omeprazole and sucralfate. It begins on 29.08.21 with malaise, asthenia, adinamia, nausea, melenic evacuation, of moderate amount, Bristol 3 to 4, later with hematochezia on two occasions. Denying another symptomatology, he reports loss of 3 kg in the last 3 months.

**Table 1: Laboratory tests.**

Lab tests	Results
<b>Hematic biometry</b>	
HB	7.5
HTO	25.2
LEU	7.2
PLAQ	237.9
<b>Coagulation times</b>	
TP	11.4
TTP	21.5
INR	0.9
<b>Sanguine chemistry</b>	
GLUC	101
Urea	47
Good	22
Creates	0.5
BT	0.5
TGP	8
TGO	18
AGO	88
DHL	167
White	3.3
<b>Serum electrolytes</b>	
ON	140
K	4.4
CL	108
MG	1.8
LIKE	9.1
P	2.6

## Cabinet

*CT scan of the abdomen (August 2021):* Mural thickening of the ascending colon and uncomplicated diverticula in sigmoids. Panendoscopy (August 2021), gastric ulcer forrest III. Colonoscopy (31/08/21) rectum and sigmoid with abundant clots, caliber, compliance and vascular pattern without alterations, 12 uncomplicated diverticula are observed in colon sigmoides rest of colon without alterations, terminal ileum without abnormalities. Idx: htdb secondary to self-limiting diverticular disease.

History of apparently healed gastric ulcer based on last endoscopy of September 2021, and diverticular disease based on colonoscopy of August 2021, however, it persists with mane despite already being with proton pump inhibitors. Due to bleeding of unknown origin manifested by mane, anterograde enteroscopy is requested.

*Anterograde enteroscopy (01/02/2022):* at the level of the proximal jejunum a thickened mucosal lesion is observed with a change of coloration of 7mm with bleeding when taking biopsies that is self-limited, 10 cm from the lesion there is another elevated, friable, ulcerated lesion of 20 mm in diameter which a single biopsy of 3 mm is taken not being possible to take complete by active bleeding of arterial type, 2 hemoclips are placed with cessation of bleeding.

## Pathology results

It is received in a bottle with formalin identified with the patient's data tumour biopsy in jejunum consisting of multiple tiny, soft, irregular and whitish fragments that together measure 0.8×0.7 cm. They are included in their entirety in one capsule. Dx: jejunum biopsy, negative for neoplasia. chronic nonspecific inflammation of the lamina propria and edema post-surgical diagnosis: jejunum tumor+bleeding of digestive tract under operation performed: exploratory laparotomy + intestinal resection+entero-entero mechanical latero-lateral anastomosis (05/02/2022). Findings: tumor in jejunum of 2×2 cm, hyper-vascularized, located at 20 cm of angle of Treitz. No perforation data, absence of free liquid (Figure 1).

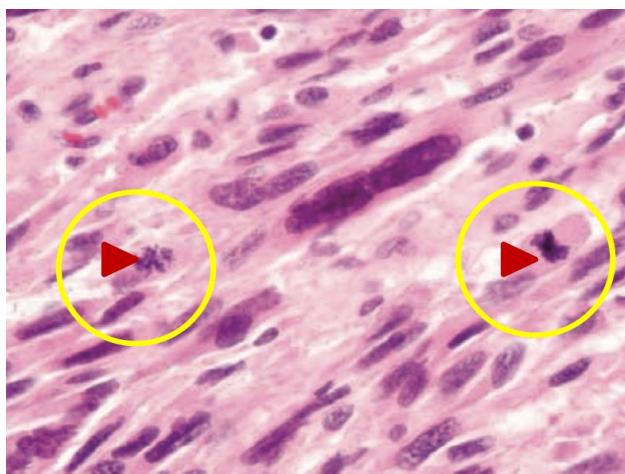


**Figure 1: Tumor in jejunum of 2x2 cm, hyper-vascularized, located at 20 cm of angle of Treitz. No drilling data, absence of free liquid.**

## Pathology on 08/02/2022

*Macroscopic description:* Jejunum segment of 7×3 cm, smooth, shiny and light brown surface, with superficial vascular network. At 0.6 cm of surgical edge of resection or referred tumor dependent on jejunal serous, ovoid,

firm, smooth and shiny surface, clear brown with superficial vascular network. It lacks a capsule, seems to originate from muscle-serous jejunum, measures  $4 \times 3 \times 2.5$ , ovoid, homogeneous, whitish light coffee with hemorrhagic puncture and striated and solid cutting surface. Jejunum segment: low-grade gastrointestinal stromal tumor (gist), tumor size  $4 \times 3 \times 2.5$  cm, unidentified necrosis, neoplasm-free edges (proximal and distal), less than 5 mitoses in 50 high-power fields. Immunohistochemistry: dog1(+), cd117 (+), vimentin (+), s100 (+), actml (-), ae1/ae3 (-)



**Figure 2: 400x H and E staining, stromal tumor with abundant mitosis.**

#### **Tomography on 12/03/2022**

Four nodules located in the anterior segment of the right upper lobe and in the postero-basal segment of the right lower lobe are observed, irregular morphology, spiculated edges and solites, the greater than 12 mm in its major axis in the axial plane. Laminar and segmental atelectasis (Figure 3).



**Figure 3: Four nodules located in the anterior segment of the right upper lobe and in the postero-basal segment of the right lower lobe.**

## **DISCUSSION**

The clinical manifestations of GIST are various, the size, and the location of the tumor can affect the clinical manifestations of the patients. The most common clinical manifestations are gastrointestinal (GI) bleeding and abdominal discomfort. Patients with GI bleeding usually need emergency surgery, so it is of great significance to analyze the effect of GI bleeding on the prognosis of patients with GIST.<sup>8</sup>

In the immunohistochemical study, GIST are characterized by expressing c-KIT with only a small percentage (<5%) that are negative, the absence of this marker in the presence of a suggestive histological pattern does not rule out the diagnosis. The treatment of this neoplasm is surgical and ideally consists of complete resection with negative margins (R0), depending on the location, size and involvement of neighboring structures, dissection of lymph nodes is not recommended, given the infrequent involvement and dissemination more frequently by hematogenous route with hepatic involvement.<sup>2-5,7,8</sup>

## **CONCLUSION**

GISTs mostly affect patients between 4-6 decades of life with a slight predominance in women, with the stomach and small intestine being the most frequently affected organs. The immunohistochemical study shows positivity for c-KIT and CD34 in 100% and 63% of cases. The treatment is surgical which usually by maintaining free margins is curative. To date, however, guidelines have to be standardized, and the need for a timely diagnosis is highlighted to establish optimal management, individualized for each patient, and the importance of referring them to a center with the resolution capacity as a third level of attention.

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