



## CASE REPORT

# Massive Bleeding From Gastro-Intestinal Tract as a Result of Giant Tumour "GIST"

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## Abstract

Gastrointestinal stromal tumor (GIST) is the most common mesenchymal tumor of the gastrointestinal tract. Surgery with complete removal of the tumor is the primary treatment for resectable GIST and the only chance of cure. We report the case of a 69-year-old Albanian female patient presenting with massive fresh blood vomiting. In Abdominal palpation are soft huge tumor with moderate sensitivity in epigastrium region. . Endoscopically bleeding cannot be stopped and resolved. After short evaluation and preoperative recovery, urgent Indication for Surgery intervention has been taken and total gastrectomy and Oesophago-Jejuno Anastomosis has been performed. However, the risk of postoperative recurrence was fairly high in such tumors with high-risk features, 2 years after operation the patient is well without any intestinal problems. Gigantic gastrointestinal stromal tumor presenting with severe bleeding had an uneventful surgical outcome. Surgery remains the primary treatment for resectable huge GIST and offers the only chance of cure. A multidisciplinary approach and a close teamwork among the oncologist, the radiologist, the gastroenterologist, and the surgeon are, therefore, essential to offer GIST patients the best management obtainable.

## Key Words

Gastrointestinal Stromal Tumor, Mesenchymal Tumor, Gigantic Gastrointestinal Stromal Tumor

## Introduction

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract. Activating mutations of KIT or the platelet derived growth factor receptor alpha gene (PDGFRA) have been identified in the vast majority of GISTs. The relevant oncoproteins show evidence of constitutive tyrosine kinase activity and support cell growth. KIT and PDGFRA mutations are rarely found in GISTs in patients with neurofibromatosis type 1 (NF1) suggesting that the pathogenesis of GIST in NF1 patients is different from that in non-NF1 patients (1). GISTs are tumors of connective tissue, i.e. sarcomas; unlike most gastrointestinal tumors, they are non-epithelial. 70% occur in the stomach, 20% in the small intestine and less than 10% in the esophagus. Small tumors are generally benign,

especially when cell division rate is slow, but large tumors disseminate to the liver, omentum and peritoneal cavity. They rarely occur in other abdominal organs. Some tumors of the stomach and small bowel referred to as leiomyosarcomas (malignant tumor of smooth muscle) would most likely be reclassified as GISTs today on the basis of immunohistochemical staining. In 1983, the term, "stromal tumor", was introduced by Mazur and Clark (2). Interstitial cells of Cajal (ICCs) are present in the gastrointestinal wall and normalize gastrointestinal motility. These cells express KIT tyrosine kinase, which plays a fundamental role in the development of ICCs (3,4,5). GISTs are thought to arise from interstitial cells of Cajal (ICC), that are normally part of the autonomic nervous system of the intestine (3). They serve a pacemaker

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function in controlling motility. Imatinib, formerly known as STI571, was developed as a tyrosine kinase inhibitor, and was found to inhibit BCR-ABL, KIT, and PDGFR. (6). Imatinib is currently being used as a molecular target drug for the treatment of both chronic myeloid leukemia and metastatic GIST. Surgery with complete removal of the tumor is the primary treatment for GIST and the only chance of cure. A multidisciplinary approach is, therefore, mandatory to offer GIST patients the best treatment available.

### Case Report

We report the case of a 69-year-old Albanian female patient presenting with an abdominal mass and massive fresh blood vomiting, transferred urgently from the regional hospital in Peja. The patient arrived at Emergency Center at 12:20 PM. She present's weak and thread pulse, arterial blood pressure 85/55 mmHg, Saturation O<sub>2</sub>=92%. We put naso-gastric tube and start with Oxygen 4 L / min. Urinary catheter (300 ml clean Urine).Blood for labs has been taken.

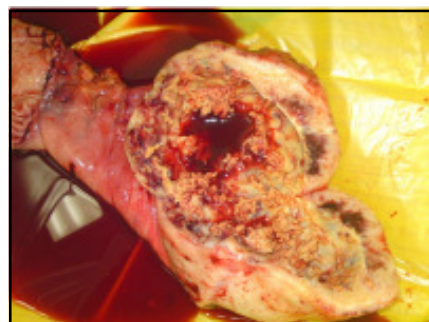
*Physical Examination:* Head and neck without pathological disorders. Thorax - Symmetrical both sides' movements during respiration. In auscultation vesicular respiration. Fast Cardiac tones with action rhythm - Tachycardia, without pathological tones. In Abdominal palpation are soft huge tumor with moderate sensitivity in epigastria region. CNS- Somnolence is present, she react in outside stimulation's

*Laboratory Findings:* Emergency Labs were: hematocrit=0.26, Hb=98 g/dl, Er=3.1 x 10/L, WBC= 4.2 x 10/L, platelets=150 x 10/L, BUN=6.0 mmol/L, creatinine=70 mcmol/L Glikemia=6.4 mmol/L, Calcium=1.95 mmol/L, potassium=3.0 mmol/L, Sodium=136 mmol/L

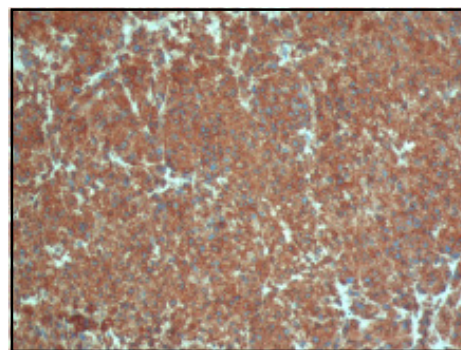
*Case Menagement:* We administered in Emergency 2 doses of Blood O-Rh Positive, and 1 dose of Fresh Frozen Plasma (FFP). We gave fluids and analgesics. Vital Signs has been checked every 5 min. Lab Findings: Hemogram has been checked every 20 min and the level of HCT and Hgb are constantly decreasing. We urgently consult Gastro-Enterologist who realizes Gastroscopy at 13:10. And his prescription was: "Esophagus and Stomach with huge amount of fresh considerable level of blood, so



**Fig 1A. The Surgical Specimen GIST Tumor was Removed Measuring 20 cm x12x10-cm in Size**

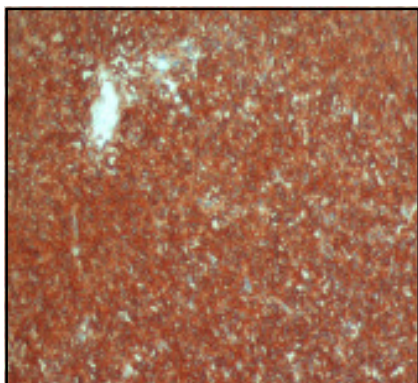


**Fig 1B. The Cut Surface of the Opened GIST Demonstrated Whitish-gray Solid Mass, with Hemorrhagic Fluid; the Solid Portion was Soft in Composition**

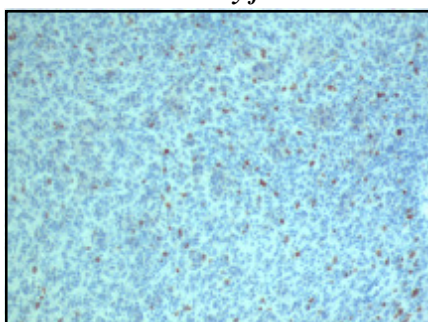


**Fig 2. Microscopically Immunohistochemichal Stains Reveal Strong Positive Immunoreactivity for CD34.**

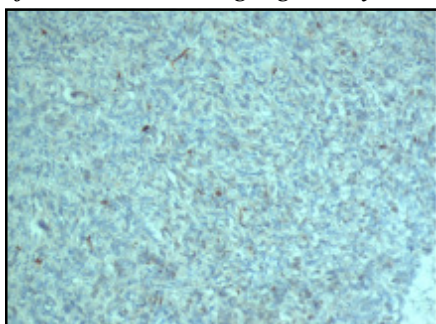
the origin of bleeding cannot be detected. Endoscopically bleeding cannot be stopped and resolved."At 14:15 the patient presents these levels of labs: HCT=0.19, Hb=87 g/dl, RBC=2.9x10/L, WBC=6.8x10/L. After consultation with surgery team the vital Indication for Surgery intervention has been taken. Surgical Intervention: Median Supra and infraumbilical laparotomy has been performed. Abdominal exploration has been taken and



**Fig 3. Immunohistochemical Stains Reveal Strong Positive Immunoreactivity for CD117**



**Fig 4. Proliferation Index is Highlighted By Ki-67 Stain**



**Fig 5. Focal Positivity of the Stromal Cells for S-100, and High Cellularity and Mitotic Activity**

we find out big full-filled stomach. At the moment we made incision of stomach the huge amount of blood appears without specific location detected. The exploration of stomach and duodenum has been taken and there was sign of bleeding. The side of bleeding was proximal site of the Stomach, where we palpated huge bleeding tumor grossly, the surgical specimen of the resected mass showed a well-circumscribed huge tumor measuring 20 cm x12x10-cm in size (Fig 1A and 1B). Total Urgent- Gastrectomy has been indicated (video clip 2). After Total Gastrectomy, Oesophago- Jejun-

Anastomosis has been performed. Anastomosis has been realized with single sutures. Also we have made an Entero-Enteric (E-E), anastomosis by Brown. Tumors mass has been sent for Histopathological and Immunohistochemistry examination. Pathological assessment of biopsy was reliable with a malignant mesenchymal tumor as show in (Fig 2). Microscopically Immunohistochemical stains reveal strong positive immunoreactivity for CD34 (Fig3). Immunohistochemical stains reveal strong positive immunoreactivity for CD117

(Fig 4), and proliferation index is highlighted By Ki-67 stain with focal positivity of the stromal cells for S-100 and high cellularity and mitotic activity (Fig 5).

Hospital Evaluation: After Surgical Intervention the patient has been transferred to ICU. She has been treated there for 10 days. During this time she was treated with: amp Ceftriaxone 2 x 1 g (10 days), amp Gentamycin 240 mg (5 days), Sol Methronidazole 500 mg (7 days), Albumin 20% (7 days), FFP (7 days), Liposolution (10 days), and Aminosteril (10 days). Sol.NaCl 0.9% 1000 ml (10 days), Sol. Ringer 1000 ml (10 days). At 11-th day of postoperative treatment the patient has been transferred into our Abdominal Surgery Department in established general condition. The treatment continues for 7 days more with: Sol Human Albumine 20% (7days),FFP (1 day),Liposolution(3days), amp.Ranitidin 100 mg 3x1 (7 days), Sol NaCl 0.9% 1000 ml (7 days), Sol. Ringer 1000 ml (7 days).

Post operative Evaluation: At 18-th day of treatment patient has been released Home with very good Surgical and General Condition. She has been advised to follow regular check out's at Abdominal Surgeon. After 3 weeks, the Imatinib (100 mg daily), therapy has been prescribed to her. She used it for only 12 months. After 2 years of follow-up she had a CT scan of abdominal organs (liver, pancreas and retroperitoneal tissue) which results with non metastatic process, and patient was well and free of gastrointestinal problems but has a megaloblastic anemia which is treating every 3 weeks with 1000 µ B12.

### Discussion

The most common gastrointestinal system location of GISTs is the stomach (52-60%) (7). Most GIST patients



are detected in their 6th or 7th decades, while only 10% are below 40 years of age (8). Most patients are diagnosed incidentally as they have nonspecific symptoms or are asymptomatic (9). In one study, it is stated that asymptomatic GISTs can be detected more frequently during routine endoscopic examination of the stomach, colon and rectum (8). Our patient presenting with a huge abdominal mass and massive fresh blood vomiting, associated with abdominal pain and anemia. In the relevant literature, anemia and gastrointestinal bleeding are seen in 48% of cases in ulcerated lesions (9). In our cases as the GISTs located in the stomach and were ulcerated, there was massive bleeding and consequential anemia. CT scans with intra-venous contrast are the preferred routine imaging modality for GIST patients (10). Due to unstable general condition we do only urgent gastroscopy examination. In Gastroscopy prescription was: "Esophagus and Stomach with huge amount of fresh considerable level of blood, so the origin of bleeding cannot be detected. Also endoscopically bleeding cannot be stopped and resolved. During the operation, on the mass a ruptured superficial vessel was found to bleed actively into the gastric cavity and no other bleeding was identified. Due to gigantic tumor, urgent total gastrectomy was carried out and she was discharged on the 18th day after the operation without any complication. One year follow-up patient was given imatinib treatment by the oncology department. Large multi centre studies on primary GISTs have lead to the development of prognostic scoring systems based on tumour histopathology (11, 12).

Adjuvant imatinib after complete resection for primary GIST is recommended for at least 12 months in intermediate to high risk patients (13). Recurrence or metastasis after complete surgical resection may occur in more than two thirds of all gastrointestinal stromal tumors. Recurrence is usually local or peritoneal and often associated with liver metastases. Most recurrences occur within 2 years of the original tumor, although intervals of up to 10 years have been reported (14). Although we have administered neoadjuvant imatinib mesylate for the post operative treatment of GISTs and we do know benefits of neoadjuvant imatinib mesylate in tumor recurrences. In our patient repeated C.T. two years after operation did not show any residual tumor.

## Conclusion

Gigantic gastrointestinal stromal tumor presenting with severe bleeding had an uneventful surgical outcome. In our cases so far surgery has been the standard treatment for primary resectable GISTs. We believe that such gigantic GISTs tumor with hemodynamic shock secondary to massive haematemesis during his initial presentation, associated with a gastric ulcerative lesion, is extraordinary condition prescribed in the literature.

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