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Longitudinal Gastrectomy Associated with Splenectomy, Caudal Pancreatectomy and Left Hepatectomy for Locally Advanced GIST after Neoadjuvant IMATINIB Therapy: Case Report

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Abstract | **Case Report**

Gastro intestinal stromal tumors (GIST) are the most common mesenchymal tumors of the gastro intestinal tract [1] and account for 80 % of all GI tumors. Approximately 30% of GISTs are malignant [2]. Occurring throughout the entirety of the GI tract, GISTs most commonly present in the stomach or small intestine [3], Most GISTs present asymptomatically. They are best identified by computed tomography (CT) scan and most stain positive for CD117 (C-Kit). For localized, resectable tumors, surgical resection remains the cornerstone of treatment. For patients with locally advanced disease, preoperative imatinib can be used to help reduce tumor burden before resection [4]. We report the case of a 48 years old patient who presented a gastric stromal tumor invading the spleen, the pancreas and a portion of the left liver. After 6 months of néo adjuvant Imatinib therapy, the patient has undergone a longitudinal gastrectomy associated with splenectomy caudal pancreatectomy and left hepatectomy in which the evolution was favorable.

Keywords: Gastro intestinal stromal tumors (GIST), gastro intestinal tract, computed tomography (CT) scan.

INTRODUCTION

Gastro intestinal tumor is the most common mesenchymal tumor of the alimentary channel [5].

Most GISTs remain silent until reaching a large size.

Patients with locally advanced gastrointestinal stromal tumors (GISTs) have a high risk of tumor perforation, incomplete tumor resections and often require multivisceral resections.

We report the case of a patient who presented a locally advanced GIST tumor of the stomach tube invading the spleen the pancreas and the left liver whose size has remain stable after 6 months of imatinib treatment.

CASE REPORT

48 years old patient presented during a medical checkup intense epigastric pain resistant to symptomatic treatment.

The abdomen examination found a patient with palpable epigastric mass, lymph nodes areas were free and the rest of the clinical examination was without abnormalities.

A gastroscopy revealed a budding tumor of the large tuberosity and subcardial region with a large ulcerous crater bleeding; the gastric body and antrum were safe.

The anatomopathological study revealed a GIST with a low degree of malignancy.

The CT scan found a gastric tumor invading the spleen, the pancreas and a portion of the left liver.

The patient received 6 months of néo adjuvant Imatinib treatment.

The CT scan performed afterwise noted regression in the size of the tumor by 60%.

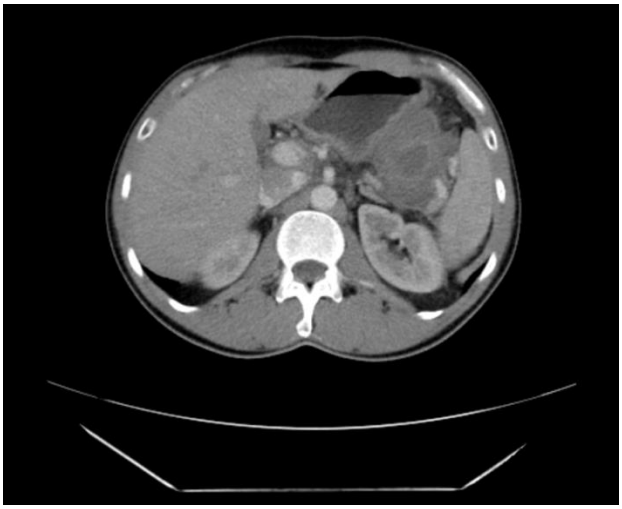

Figure 1: CT scan after 6 months of Imatinib treatment revealing a gastric stromal tumor invading the spleen

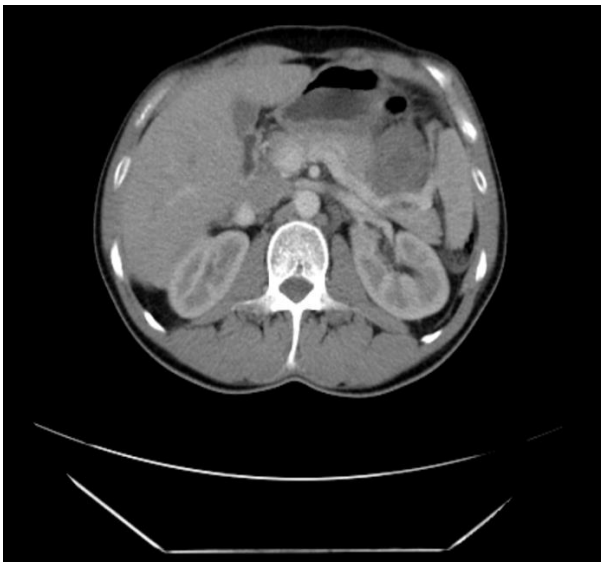

Figure 2: CT scan after 6 months of imatinib treatment revealing gastric GIST invading the spleen and the distal pancreas

We approached through a midline laparotomy.

The exploration revealed a gastric tumor of the greater tuberosity of the stomach that was adherent to the spleen, the left liver and the distal pancreas.

The patient undergone a partial left hepatectomy, a longitudinal gastrectomy associated with splenectomy and caudal pancreatectomy.

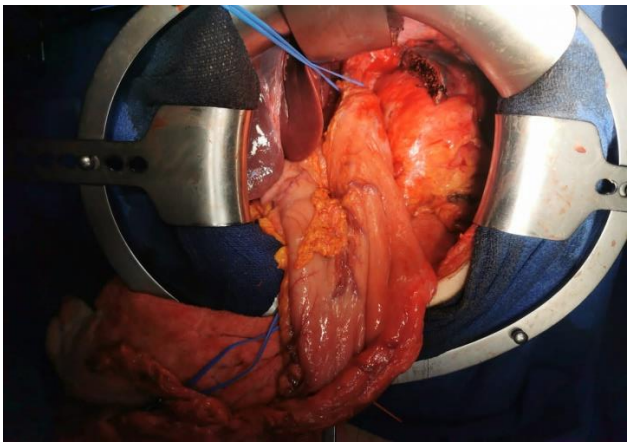

Figure 3: partial left hepatectomy, the resected liver is still adherent to the gastric tumor

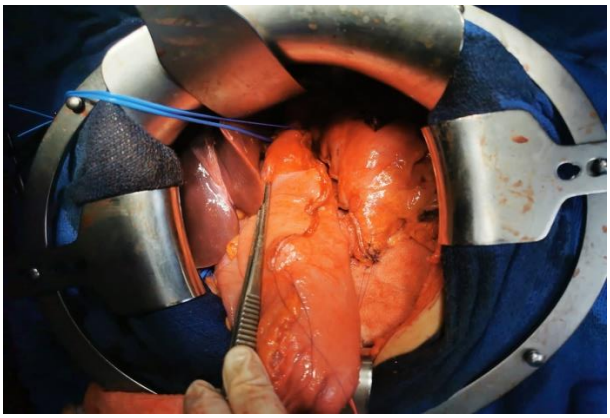

Figure 4: Longitudinal gastrectomy made by a mechanical stapler, the tumor is located in the greater tuberosity and still adherent to the spleen and distal pancreas

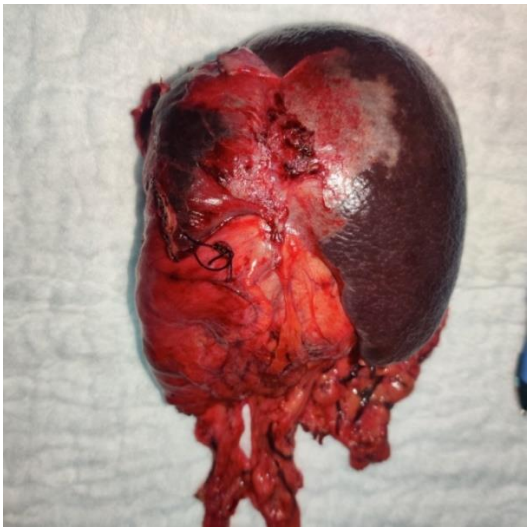

Figure 5: Anterior view of the resected tumor, spleen in the right, left liver upper left, stomach in the bottom

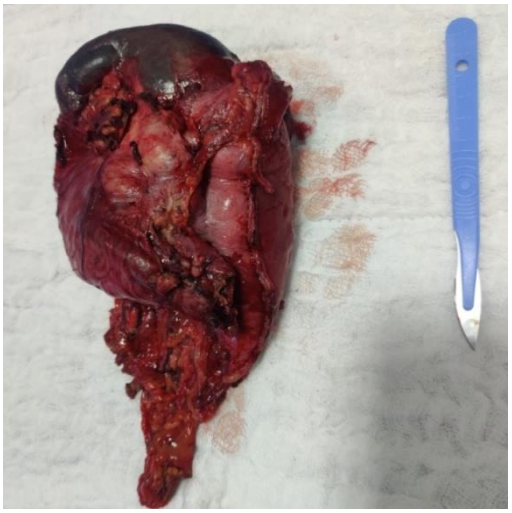

Figure 6: Posterior view of the resected tumor shows the invasion of the distal portion of the pancreas

The patient was extubated in intensive care after hemodynamic stability. The postoperative course was favorable.

DISCUSSION

Gastro intestinal stromal tumors (GISTs) are the most common soft tissue tumours of the gastro intestinal tract, which arise from the interstitial cells of Cajal [6].

GIST affect mainly middle aged to elderly adults, typically in their 60s [7] with no clear gender predilection [8].

Most GISTs remain 'silent' until reaching a large size. Symptoms are not specific and vary according to size and location.

The majority of GISTs (60%) are seen in the stomach, usually in the fundus [9]. The percentages of GISTs found in other portions of GI tract are reported as 30% in jejunum and ileum, 5% in duodenum, 4% in colorectum, and rarely in the esophagus and appendix [10].

The diagnosis of GISTs is based on imaging techniques, with a special role of endoscopic examination.

Gastric GISTs are greyish-white sub-mucosal tumors with smooth contours and usually well-circumscribed and highly vascular tumors. They typically have a tan-white or fleshy pink cut surface often with hemorrhagic foci, central cystic degeneration, or necrosis. The overlying mucosa of large tumors is typically ulcerated [8].

Microscopically, three main histological subtypes have been best widely accepted and they are spindle cell type (most common, 70%), epithelioid type (20-25%), and mixed spindle cell and epithelioid type [11].

Immunohistochemically, the vast majority of GISTs (95%) are strongly and diffusely positive for KIT (CD117), which makes the KIT to be a very specific and sensitive marker in the differentiating GIST from other mesenchyma tumors in the GI tract [12].

The risk of relapse of GISTs is estimated based on mitotic rate, tumor size, tumor site, surgical margins and the status of tumor rupture.

Tumor size and mitotic count are considered to be the most useful and best studied prognostic factors by the 2002 Consensus risk classification [13].

Neoadjuvant therapy with TKI should be considered to facilitate complete resection and allow for a less morbid operation, especially in duodenal GIST which can be sometimes hardly resected completely [17].

The only potentially curative treatment of GISTs, is complete surgical resection if it is a locally resectable or marginally resectable tumor [14].

Based on the clinical practice guidelines (NCCN & ESMO), treatment with imatinib (400 mg/day) now is the standard of care for patients with locally advanced, recurrent, or metastatic disease [15].

The most recent management guidelines in US (NCCN) [16] and Europe (ESMO) [15] recommended adjuvant imatinib for at least 1 year following complete surgical resection in patients with intermediate- to high-risk GIST.

CONCLUSION

GISTs are rare tumors that account for a small percentage of gastrointestinal neoplasms. Usually GISTs are an incidental finding and therefore most of the time present asymptomatically. GISTs are best identified by CT scan but also can be seen on abdominal ultrasound, MRI, and PET. The pathology of GISTs consist of either spindle cells, epithelioid cells, or mixed cell types. GISTs most commonly stain positive for CD117 and DOG-1. Surgical resection of GISTs with adjuvant imatinib 400 mg daily is the gold standard for the treatment of GISTs. However, if the tumor is unresectable then neoadjuvant imatinib 400 mg daily followed by resection is recommended.

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