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Duodenal Gastrointestinal Stromal Tumors: About Two Cases

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Authors' contributions

This work was carried out in collaboration among all authors. Author AE wrote the protocol and the first draft of manuscript. Authors SRJ and AE are the operating surgeons. Authors AE, AB and LE managed the documentary research, wrote the manuscript and proposed the work for publication. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Duodenal gastrointestinal stromal tumors (GISTs) represent a rare location of the gastrointestinal tract. Curative treatment is based on the surgical approach. There is a controversy, if duodenal GISTs should be treated by a duodenopancreatectomy or by a limited resection of the duodenum. In this article, we report two cases of duodenal Duodenal gastrointestinal stromal tumors. In the first case it was a tumor of genus inferus and in the second case a tumor which depends on the duodeno-jejunal angle. The two patients treated by local resection. Whenever possible, local resection is recommended for resection of duodenal GISTs, to avoid longer hospital stays and higher risk of perioperative complications.

Keywords: Stromal tumor (GIST); duodenum; treatment; surgery.

1. INTRODUCTION

Duodenal gastrointestinal stromal tumors (GISTs) are rare tumors. Surgical resection is the cornerstone of treatment for patients with localized disease. According to the size and the location of the tumor, various surgical procedures are performed for duodenal GISTs, such as

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pancreaticoduodenectomy (PD), partial duodenectomy. We report the observations of two patients admitted with duodenal gastrointestinal stromal tumors requiring radical surgical treatment.[1]

2. CASE PRESENTATION

2.1 Case 1

The first patient was 43 years old, with a history of portal hypertension for 11 years on a healthy liver of unknown etiology with stage II esophageal varices (ligated 3 months ago), taking B blockers, who was hospitalized in the department for a melena assessment. The onset of symptoms was 3 months prior to admission by installing melena with average abundance isolated without hematemesis or hematochezia, all operating in a context of profound asthenia. Upon physical examination, the patient was conscious with slightly discolored conjunctiva. Abdominal examination was normal. No palpable mass, no hepatomegaly or splenomegaly.At rectal examination we find melena. The rest of the physical examination was unremarkable. Laboratory tests noted microcytic hypochromic anemia at 6.8 g/dl after transfusion of 2 red blood cells. No cholestasis. The esophago-gastroduodenoscopy (EGD) showed the after-effects of stage II esophageal varices, with a juxta-papillary ulcerative budding process the endoscopic aspect of which evokes a GIST. The pathological examination of the duodenal biopsy showed a mesenchymal tumor proliferation and the immunohistochemical study of which is consistent with a GIST stromal tumor.

2.1.1 The staging included

-A scanner that found a lesion of the genus Inferius and a third duodenum which maybe related either to a lesion of endocrine origin or carcinoid tumor. The possibility of a GIST is unlikely given following the mucous seat.Upon clinical examination: no Troisier, no hepatomegaly, no carcinosis nodules. Abdominal ultrasound scan: liver of normal size, regular contours, without focal lesions, no ascites or deep ADP. Thorax x-ray: normal. The preoperative assessment (chest radiograph, ECG, Biology) is normal. The patient was operated under general anesthesia, incision under the right rib, the exploration revealed multiple liver-omental and cholecysto-omental adhesions, which was following by adhesiolysis. The implementation of duodenopancreatic detachment of Kocher allowed highlighting a tumor of genus inferus of 1.5 cm projecting from the outer side of the duodenum (Fig. 1).

Fig. 1. Intraoperatoire view: Surgical exploration and duodenal resection in the outside edge of the genus inferus

We performed a duodenal resection outside the edge of the genus inferus, the proximal portion of D3 carrying the tumor is about 5 mm far in healthy tissue with internal cuts. Duodenoplasty with separated points by Vicryl 3/0 and jejunostomy were made. The postoperative course was simple.

Histological examination showed tumor development with submucosal proliferation of the duodenal wall measuring 2.5 cm long with a large axis and a mitotic index of 4 mitoses / 25 fields suggestive of GIST. Lateral resection limits are healthy. The immunohistochemical profile shows tumor cells expressing cKit and CD34 in favor of a duodenal GIST classified in the recidivism low risk group acording to Miettinen and Lasota. The clinical course was good with a decline of 2 years.

2.2 Case 2

The second patient was 70 years old, a chronic smoker at 20 PA who quitted smoking 3 years ago, admitted for intra-peritoneal mass. The symptoms seem to start one month ago with food and bilious vomiting non punctuated by meals, permanent pain in the upper quadrant of gravity type with neither transit disorder or gastrointestinal bleeding, all operating in the context of apyrexia, asthenia, weight loss which amounted to 15 Kg and deterioration of the

general status. Clinical examination revealed a firm palpable mass in the left upper quadrant, extending to the left iliac fossa measuring 10 cm long axis, movable relative to the surface plane, fixed relative to the deep plane. Upon percussion, sloping matt blanks, rectal examination reveals a homogeneous increased prostate size. The rest of the physical examination was unremarkable. The Esophagogastroduodenoscopy allowed viewing a progressive round digging bulbar ulcer of 0.5 cm with regular contours. The pathological examination of the duodenal biopsy showed chronic antrum and corpus moderate little active gastritis and mild atrophy without intestinal metaplasia with the presence of helicobacter pylori without dysplasia or neoplasia.

2.2.1 The staging included

- Abdominal ultrasound scan: objectified a left upper quadrant mass associated with digestive thickening whose origin cannot be specified in this examination. Prostatichypertrophy, calcification seat.

- Abdominal-pelvic CT: intraperitoneal tissue mass of probable tumor origin, to be compared with the rest of the assessment

- Colonoscopy: Normal.

- Chest radiograph. The preoperative assessment (chest radiograph, ECG, Biology) is normal.

The patient was operated under AG. The exploration revealed a tumor of 9 cm long axis at the lesser sac, a tumor which depends on the duodeno-jejunal angle 11 cm long axis without ascites or liver metastases or peritoneal carcinomatosis nodules (Fig. 2).

The patient underwent resection of a tumor mass of the lesser sac and monobloc resection of the first jejunal and duodenal-jejunal angle carrying a second tumor mass, end-to-end and duodenal anastomosis, drainage of the left paracolic gutter by Delbet blade + drainage of the left phrenic with Salem tube + feeding jejunostomy. The postoperative course was simple. The pathological examination of the surgical specimen shows a histological appearance of tumor proliferation with spindle and epithelioid cell evoking first a GIST. The immunohistochemical study shows tumor cells expressing c-Kit and CD34 in favor of a duodenal GIST. The clinical course was good with a decline of 6 months.

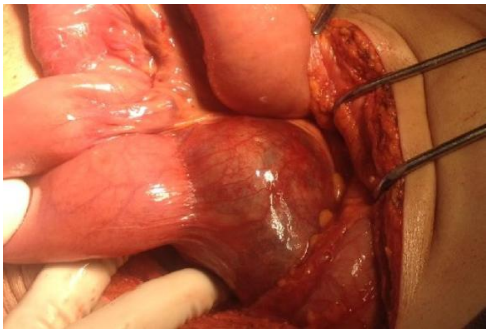

Fig. 2. Intraoperative view showing a tumor at the lesser sac

3. DISCUSSION

Gastrointestinal stromal tumors can be asymptomatic or revealed by digestive symptoms , they commonly originate from the stomach , and small bowel (30-40%) . Duodenal GISTs represent a rare subset with an overall frequency of 3-5% [2].

The clinical presentation of Duodenal GISTs is dependent on tumor size, presence of mucosal ulceration, location in relation to the Ampulla of Vater, and involvement of adjacent organs [3].

The clinical presentations of duodenal GISTs were highly variable according to their size and the existence of mucosal ulceration. The most common clinical presentation of duodenal GIST has been reported to be gross Gastrointestinal bleed or chronic anemia abdominal pain and abdominal mass or obstructive jaundice [4].

The optimal procedure for duodenal GIST remains controversial and should be tailored to the tumor location and size and patient's fitness. There are only a handful of retrospective studies directly comparing perioperative andlong-term outcomes of radical resections, such as pancreaticoduodenectomy, to local resection in the management of duodenal GISTs. However, available data suggest that in selected patients, local resection is safe and oncologically comparable to radical resectio [5].

Systemic therapy was given in the neoadjuvant and/or adjuvant setting in a minority of both local resection and radical resection cases, and treatment in these settings did not appear to impact survival. This finding is consistent with randomized control trials of adjuvant imatinib for resectable gastrointestinal stromal tumors of all sites, which show a benefit in recurrence-free but not overall survival [6].

In the two current patients, the symptomatology was made of abdominal pain and gastrointestinal hemorrhage the diagnosis of duodenal GIST was made by eso-gastro-duodenal fibroscopy with biopsies .

The preoperative staging did not show any contraindication to curative treatment.

The decision to operate was made after a multidisciplinary consultation.

The patients received neoadjuvant therapy based on imatinib.

The interventions were performed by open approach : It was a tumor of genus inferus in the first case and atumor which depends on the duodeno-jejunal angle in the second case.

The two patients treated by local resection: Partial duodenectomy with end-to-endanastomosis.

The postoperative course was simple for two patient.

The immunohistochemical profile shows tumor cells expressing cKit and CD34 in favor of a duodenal GIST The clinical course was good with a decline of six months and two years

4. CONCLUSION

We have reported two cases with duodenal GISTs, successfully treated with local resection We advocate segmental duodenal resection instead of duodenopancreatectomy, as existing data show that local resection have similar survival and smaller morbidity than duodenopancreatectomy.[2]

CONSENT

As per international standard or university standard written patient consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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