

Clinical Case

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A Rare Case of Upper Digestive Hemorrhage due to Bleeding Duodenal Tumor

Claudiu Turculeț, Dragoș Ene, Teodor Florin Georgescu, E. Ciucă, A. Vlădășcău, Florin Iordache, Mircea Beuran

Department of General Surgery, Clinical Emergency Hospital Bucharest, Romania

Rezumat

Un caz rar de hemoragie digestivă superioară prin tumoră duodenală hemoragică

Prezentăm cazul unui pacient în vârstă de 48 de ani fără antecedente personale patologice semnificative, ce se prezintă la camera de gardă pentru melenă, amețeli și astenie. Analizele biomorale de la internare au relevat o anemie severă (Hb = 4,8 g/dL). Este internat în secția de Gastroenterologie a spitalului nostru, unde se practică o primă endoscopie digestivă superioară ce concluzionează existența unei formațiuni tumorale vegetante la nivelul duodenului II, cu mucoasă congestionată, relief vilos cu spoturi hematochistice, care se întinde pe o lungime de peste 7 cm. După administrarea de masă eritocitară, plasmă și agenți hemostatici, nivelul hemoglobinei crește. Examenul tomografic cu substanță de contrast al abdomenului relevă o formațiune tumorală bine delimitată, hipocaptantă de 3/5 cm diametru la nivelul duodenului II - III. Se repetă endoscopia digestivă superioară și se practică hemostază endoscopică la nivelul formațiunii tumorale duodenale hemoragice. Se intervine chirurgical și se decelează o tumoră localizată la nivelul duodenului III - IV parțial stenozantă, ulcerată. Se practică duodenectomie (duoden III - IV), enterectomie (prima ansă jejunală), duodeno-jejuno anastomoză

termino - terminală, închiderea orificiului piloric transgastric și gastro-enteroanastomoză precolică pe ansă omega cu fistula Braun la piciorul ansei, după primirea rezultatului histopatologic extemporaneu ce a indicat prezența unei tumori GIST duodenale. Evoluția postoperatorie a fost favorabilă cu reluarea tranzitului intestinal a 5 -a zi postoperator. Examenul histopatologic a diagnosticat tumora duodenală ca fiind tumoră gastro-intestinală stromală (GIST) cu margini de rezecție libere. Particularitatea cazului constă în etiologia rară a hemoragiei digestive superioare, cât și severitatea acesteia.

Cuvinte cheie: hemoragie, tumoră duodenală, endoscopie, GIST

Abstract

We present the case of a 48-year-old patient with no medical history, who presents himself to the emergency room with melena, asthenia and dizziness. The blood tests revealed a severe anemia (Hb = 4,8 g/dL). He is admitted in the Gastroenterology ward, where a first superior digestive endoscopy is performed which shows a duodenal bleeding tumor (second duodenum) of 7 cm in length. After the administration of red blood cell mass, plasma and haemostatic agents the level of the hemoglobin increases. The abdominal CT scan reveals a 3/5 tumor localized in the second and third duodenum. The superior digestive endoscopy is repeated and haemostasis of the bleeding tumor is accomplished. The surgical exploration of the peritoneal cavity discovered a partial stenosing, ulcerated duodenal tumor (third and fourth

Corresponding author:

Claudiu Turculeț, MD
Department of General Surgery
Clinical Emergency Hospital Bucharest
Romania
E-mail: claudiuturculet@yahoo.com

duodenum) and duodenectomy (third and fourth duodenum), segmental enterectomy (first loop of the jejunum), end to end duodeno-jejunal anastomosis, transgastric closure of the pylorus, gastro-enteric anastomosis on Omega loop with Braun fistula were performed, after the result of the extemporaneous histopathological exam suggested a GIST tumor. The postoperative evolution was favorable. The histopathological exam diagnosed the duodenal tumor as a gastrointestinal stromal tumor (GIST) with tumor free resection margins. The particularity of this case is the rare etiology of the upper gastrointestinal hemorrhage and its severity.

Key words: hemorrhage, duodenal tumor, endoscopy, GIST

Introduction

Gastrointestinal stromal tumors (GISTs) represent the most common tumor of mesenchymal origin, which develops in the gastrointestinal tract. (1,2) They were described as a separate entity by Mazur and Clark in 1983. These tumors can be more frequently found in the stomach (approximately 60%), small bowel (25%) and colon and rectum (10%). (2-4) The duodenum represents a rare location for GISTs (about 3 – 5%). Due to the low incidence and to the anatomy of duodeno-pancreatic region the diagnosis is often hard to establish. (1,6)

Most duodenal GISTs occur sporadically, but some of these tumors may appear as part of hereditary - familial syndrome, such as Carney's triad, type I Neurofibromatosis or Von Hippel Lindau disease. (7-10) The clinical presentations of duodenal GISTs are non specific and varied depending on size, ulceration, growth pattern or location. The most frequent reported symptom is gastrointestinal bleeding. (3,6)

At this moment, there is no consensus on the surgical

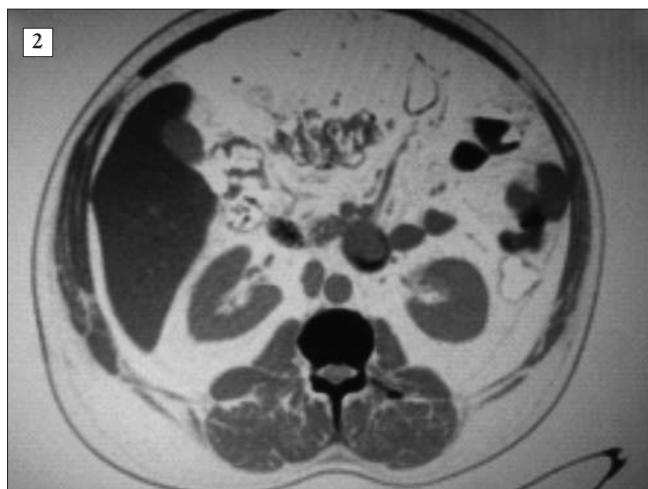
treatment of duodenal GISTs. Segmental duodenectomy with end-to-end duodeno-jejunal anastomosis can be performed in the case of large tumors located in the third or fourth part of the duodenum. (3,5,11)

Case report

We report a 48 year old patient with no medical history, who presented himself at the emergency room with melena, asthenia and dizziness, symptoms which appeared 12 hours ago. The blood tests revealed a severe anemia (Hb = 4,8 g/dl) and the patient was admitted in the Gastroenterology ward. After the administration of red blood cell mass, plasma and haemostatic agents the level of the hemoglobin increases and a superior digestive endoscopy was performed which revealed a bleeding duodenal tumor of 7 cm in length, but no local haemostasis could be accomplished. The endoscopy was repeated with successful local haemostasis. The computer tomography (CT) scan revealed a 3/5 tumor localized in the second and third duodenum (Fig. 1 and 2).

After the investigations were completed, the patient was transferred to the General Surgery ward, where he was operated. The surgical exploration of the peritoneal cavity discovered a partial stenosing, ulcerated duodenal tumor (third and fourth duodenum) and duodenectomy (third and fourth duodenum), segmental enterectomy (first loop of the jejunum), end to end duodenum – jejunum anastomosis, transgastric closure of the pylorus, gastro – enteric anastomosis on Omega loop with Braun fistula were performed, after the result of the extemporaneous histopathological exam suggested a GIST tumor. (Fig. 3 and 4)

The postoperative evolution was favorable with no complications. The patient was discharged ten days after surgery. The histopathological and immunocytochemical exams concluded: duodenal GIST tumor developed in the muscular layer with extension in the submucosa and subserosa with the ulceration of the mucosa; tumor free resection margins; CD 117 intense



Figures 1, 2. CT scan showing a duodenal tumor

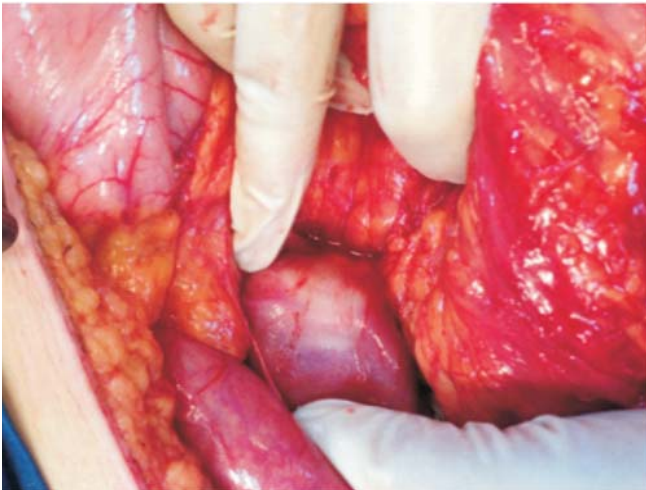


Figure 3. Duodenal tumor



Figure 4. Section of duodenal tumor

positive; *DOG 1* intense positive; *SMA* positive; *CD 34* and *S 100* negative. The tumor was included in the second prognostic group (tumor diameter about 3 cm, mitosis < 5).

Discussion

The preoperative diagnosis in GISTs is difficult and in most cases the diagnosis is only suspected until the histopathological exam. The most used investigations are gastrointestinal endoscopy, which allows in some cases forceps biopsy, CT scan and MRI (magnetic resonance imaging). Recently has been proved that endoscopic ultrasound with fine needle aspiration to be gold standard diagnostic investigation in the case of GIST tumors. (12,15) The immunocytochemical tests for *CD117* and *CD 34* positivity can diagnose GIST in up to 80%. (12) The main objective of the surgical intervention is to perform a resection with clear margins (R0 resection). (11,13) There is no actual consensus whether to perform a limited resection or a pancreaticoduodenectomy or a sparing pancreas duodenectomy. The main risk when a limited resection is performed is the tumor recurrence, but the actual data seems to demonstrate that local recurrence is determined by the presence of positive resection margins. There is also data which suggests that limited resection and pancreaticoduodenectomy have similar disease-free survival rates. (11) For the neoadjuvant or adjuvant treatment tyrosin kinase inhibitors, such as Imatinib, Sunitib or Regorafenib, are used. (14)

Conclusion

Duodenal GISTs are rare tumors with variable malignant potential. Clinical presentations are variable: from asymptomatic to abdominal pain and bleeding. Ultrasound endoscopy with fine needle aspiration can be very useful in the diagnosis of GISTs. When resection is possible, the main objective of the surgical intervention is to obtain clear margins. There is no actual consensus when to perform limited resections or pancreatico-

duodenectomies. Limited resections should be considered because of the fewer risks involved compared with other more extensive operations. The closure of the pylorus is a good way to protect the duodeno-jejunal anastomosis.

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