

A massive bleeding from a gastrointestinal stromal tumor of a Meckel's diverticulum

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SUMMARY

Introduction Meckel's diverticulum is the most common congenital anomaly of the gastro intestinal tract, present in about 2% of population.

Case Outline The article presents the case of a 44-year-old otherwise healthy man with anemia, who was diagnosed lower gastrointestinal bleeding. An abdominal CT scan revealed a clearly demarcated solid tumor in hypogastric region, measuring 65 × 45 mm. A laparotomy through lower midline incision was performed. A surgical resection of a lesion of a Meckel's diverticulum was carried out and a final diagnosis of gastrointestinal stromal tumor was made. The patient made an uneventful recovery.

Conclusion The preoperative diagnosis of a complicated Meckel's diverticulum may be challenging. CT is usually an adequate method to diagnose tumors arising from Meckel's diverticulum.

Keywords: bleeding Meckel's diverticulum; diverticulectomy; gastrointestinal stromal tumor (GIST)

INTRODUCTION

Meckel's diverticulum is the most common congenital anomaly of the gastrointestinal tract, present in about 2% of population [1]. It is the remnant of the omphalomesenteric duct, which usually obliterates in the fifth to seventh week of life [1, 2]. The name derives from Johann Friedrich Meckel (1781–1833), who described its pathological features in 1809 [3, 4]. Gastrointestinal bleeding in adults originates mainly from the upper gastrointestinal tract (80%). Less than 5% of the bleeding originates in small intestine [3]. Painless gastrointestinal bleeding is a common symptom of Meckel's diverticulum. Meckel's diverticulum is the most common site of heterotopic gastric mucosa [2].

CASE REPORT

A 44-year-old otherwise healthy man, was admitted to the internal medicine department of the regional hospital because of painless rectal bleeding (hematochezia) resulting in fainting (syncope) at defecation. Neither fever nor vomiting were reported. His past medical history revealed nothing remarkable. The patient was hemodynamically stable, his blood pressure was 110/80 mmHg and heart rate 95 beats per minute. He had a hemoglobin level of 5.8 gm/dl. His abdomen was soft, non-tender and non-distended. The patient received five units of packed red blood cells. Both esophagogastroduodenoscopy and colonoscopy discovered no

pathology. An abdominal ultrasound examination revealed a well marginated vascularized hypoechoic tumor measuring 59 × 40 mm. Due to the suspicion of a vascular malformation, the patient was admitted to the Department of Surgery in September of 2014 (No. 50245/2014). An abdominal CT scan revealed a clearly demarcated solid tumor in hypogastric region, measuring 65 × 45 mm (Figure 1).



Figure 1. Contrast-enhanced CT scan of the abdomen and pelvis showing a clearly demarcated solid tumor in hypogastric region, measuring 65 × 45 mm in cross section

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The patient was administered a general anesthesia and a lower midline incision was used. The tumor of 4 cm in diameter was identified in Meckel's diverticulum. The segmental ileal resection with tumor and end-to-end anastomosis in two layers were performed (Figure 2). There was no evidence of distant spread. The tube was inserted.

The postoperative course was uneventful. The patient was discharged on the seventh postoperative day. The pathological examination revealed a gastrointestinal stromal tumor (GIST) with spindle cells histologic subtype. Immunohistochemistry showed positive reaction for CD117 (as marker for the presence of the KIT protein) and smooth muscle actin. But the reactions for desmin, S100, CD34 and Ki67 were negative. The patient had no further episodes of hematochezia.

DISCUSSION

The clinically applicable is the rule of twos: occurs in 2% of the population, located two feet of the ileocecal valve, two inches in length, 2 cm in diameter, 2:1 male:female ratio, two ectopic tissues (gastric and pancreatic), and symptomatic before two years old [2]. Ectopic tissue, mainly gastric mucosa, is often found in Meckel's diverticula and can lead to ulceration and bleeding [5]. There has been an ongoing debate about the excision of asymptomatic Meckel's diverticulum [6]. However, bleeding, obstruction, diverticulitis, and perforation are complications which require emergency surgery. The treatment of choice is then surgical resection by the diverticulectomy or by the segmental bowel resection and anastomosis [2].

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Figure 2. Intraoperative photograph showing the tumor arising from Meckel's diverticulum located on antimesenteric margin of the ileum

Both benign and malignant tumors in Meckel's diverticulum are very rare, with their incidence of 0.5–1.9% [4]. Lipoma, angioma, leiomyoma and hamartoma are benign lesions. Carcinoids, mesenchymal tumors (i.e. gastrointestinal stromal tumors, leiomyosarcomas) and adenocarcinomas are malignant lesions. Of these, 12% of tumors are GIST [7, 8]. The term GIST was first used in 1983 by Mazur and Clark. GISTs arise from the interstitial cells of Cajal, pacemaker cells of gastrointestinal tract [8]. GISTs arising from Meckel's diverticulum are extremely rare [8]. Definitive surgery remains the mainstay of treatment for patients with localized, primary GIST. The diverticulum is excised with 2–3 cm of adjacent ileum [6]. End-to-end anastomosis is performed. Either conventional laparotomy or laparoscopic approach are used.

The preoperative diagnosis of a complicated Meckel's diverticulum may be challenging. CT is usually an adequate method to diagnose tumors arising from Meckel's diverticulum.

Масивно крварење из гастроинтестиналног стромалног тумора Мекеловог дивертикулума

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КРАТАК САДРЖАЈ

Увод Мекелов дивертикулум је најчешћа урођена аномалија система органа за варење, присутна у око 2% популације.

Приказ болесника Чланак приказује случај 44-годишњег анемичног али иначе здравог мушкарца, са дијагнозом крварења из доњег дела дигестивног система органа. СТ-скеном абдомена откривен је јасно дефинисан чврст тумор у хипогастричкој регији, димензија 65 × 45 mm. Извршена је доња медијална лапаратомија. Спроведена је хируршка

ресекција лезије Мекеловог дивертикулума и постављена коначна дијагноза гастроинтестиналног стромалног тумора. Болесник се опоравио без компликација.

Закључак Преоперативно успостављање дијагнозе сложеног Мекеловог дивертикулума може бити тешко. СТ-скен је обично адекватна метода за откривање тумора који настају из Мекеловог дивертикулума.

Кључне речи: крварење из Мекеловог дивертикулума; дивертикулектомија; гастроинтестинални стромални тумор (ГИСТ)

Примљен • Received: 07/09/2015

Прихваћен • Accepted: 07/12/2015