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Case Report

Massive gastrointestinal bleed due to multiple gastric neuroendocrine tumors

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Abstract

Gastric neuroendocrine tumors (G-NETs) are uncommon lesions which are usually diagnosed on histological evaluation of gastric polyps. These may occur sporadically or due to hypergastrinemia in the setting of atrophic gastritis or Zollinger-Ellison Syndrome. Large lesions may ulcerate and result in gastrointestinal bleeding. However, massive gastrointestinal bleeding is rare in patients with NETs. We report a 60-year-old lady who presented with massive gastrointestinal bleeding due to multiple G-NETs.

Key words

Gastrinoma, gastrointestinal hemorrhage, neuroendocrine tumors, polyps, stomach

Introduction

Neuroendocrine tumors (NETs) are tumors originating from neuroendocrine cells and may occur in various locations in the body.[1] Gastroenteropancreatic NETs include the tumors located in the gastrointestinal tract or the pancreas and a quarter of these arise in the stomach.[2] Massive gastrointestinal bleeding is an unusual presentation of gastric NET (G-NET).[3] We report about a 60-year-old lady who presented with massive upper gastrointestinal bleeding and was found to have multiple gastric polypoidal lesions which were found to be due to NET.

Case Report

A 60-year-old lady, previously asymptomatic, presented with multiple episodes of hematemesis that associated with postural giddiness and black colored stools. There was no preceding history of abdominal pain or lump. She had no known comorbidities. At presentation, she was in hypotension (blood pressure: 80/50 mmHg) and had tachycardia (pulse rate: 124/min) and tachypnea (respiratory rate: 28/min). The systemic examination was normal. Her hemoglobin was 6.0 g/dL with normal leukocyte and platelet count. She was resuscitated with intravenous fluids and blood transfusion and underwent gastroscopy for evaluation of the cause of bleeding. The endoscopy revealed multiple polypoidal lesions in the stomach with some of them showing central umblication [Figure 1]. One of the larger lesions showing an ulcer with hemorrhagic base [Figure 2]. The contrast-enhanced computed tomography (CECT) of the abdomen confirmed the presence of multiple heterogeneously attenuating poylpoidal lesions in the stomach [Figure 3] and no lesions elsewhere suggestive of metastasis were noted. Because of ongoing gastrointestinal bleed, the patient was taken up for surgery. She underwent total gastrectomy with esophago-jejunal pouch anastomosis (Hunt-Lawrence pouch) and postoperative period was uneventful. The resected specimen revealed pedunculated necrotic mass arising from lesser curvature and multiple small pedunculated masses scattered diffusely in the whole stomach [Figure 4]. The histological examination of the lesions revealed features of neuroendocrine carcinoma. Tumor cells were positive for chromogranin. There was no evidence of atrophic gastritis in the resected stomach. Ki 67 index was >20%. There was no evidence of multiple endocrine neoplasia 1 (MEN-1) as serum calcium levels were normal

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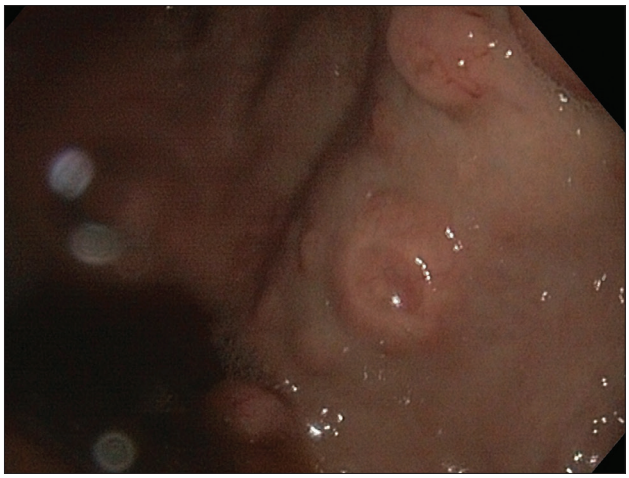

Figure 1: Endoscopy showing multiple polypoidal lesions in the stomach

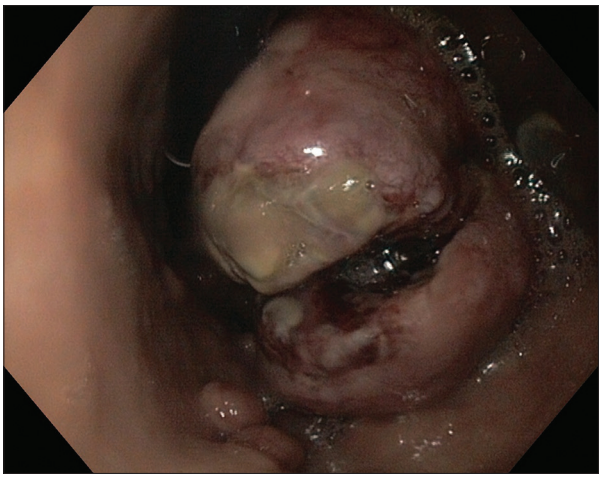

Figure 2: Endoscopic image of one of the larger lesions

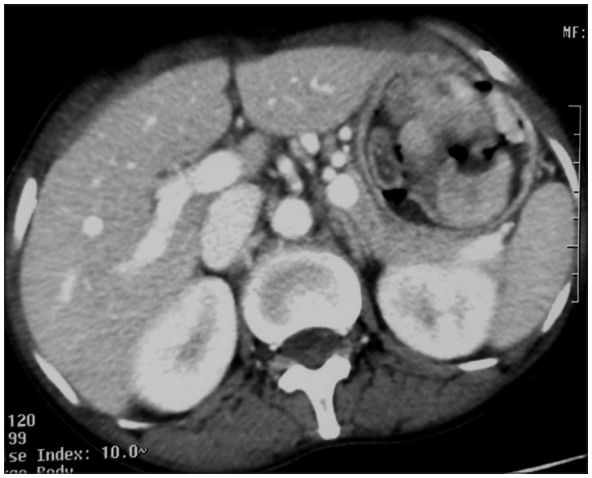

Figure 3: Computed tomography of abdomen showing multiple heterogeneously attenuating poylpoidal lesions in the stomach

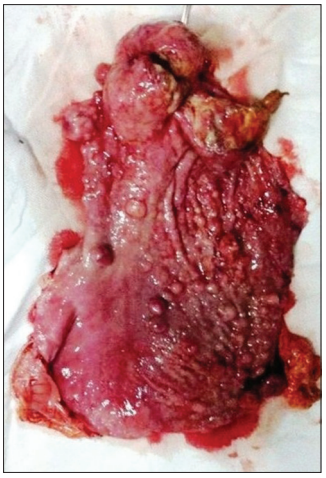

Figure 4: Resected specimen

and parathyroids were normal on ultrasound and abdominal CT did not reveal any pancreatic lesion. The patient was subsequently discharged and referred to oncology services for further management. DOTA-TATE positron emission scan done on follow-up revealed no uptake elsewhere.

Discussion

G-NETs are uncommon gastric tumors usually recognized as asymptomatic gastric polyps. Earlier termed as gastric carcinoids, G-NETs may occur in the setting of hypergastrinemia (G-NET 1 and 2) or sporadically (G-NET 3).[2] These tumors may be associated with MEN-1 syndrome.[1,2] The lesions may be solitary or multiple and vary in size.[2] Interestingly, these lesions can acquire large sizes even without causing many symptoms as in the present case. Gastrointestinal bleeding is uncommon and has been reported only occasionally.[2-6] Therefore, bleeding may be the presenting symptom but occurs only when the lesions become large and ulcerate.[2] Large lesions occurring sporadically as in present case are a feature of Type 3 G-NET. However, our patient had multiple lesions which are uncommon in the Type 3 G-NETs. The presence of central ulcer in a polyp is believed to be a characteristic finding in G-NET.[2] Overall, considering that these lesions are uncommon anyway, they are extremely rare causes of gastrointestinal bleed. Fortunately, our patient had no evidence of metastasis and therefore, the surgery was curative for her.

In a patient diagnosed with G-NET, it is important to classify into one of the three subtypes on the basis of various characteristics. Type 1 NET usually occurs in elderly females with atrophic gastritis and associated hypergastrinemia and multiple small lesions are usually present. The histology is usually well-differentiated and metastasis unusual. Type 2 lesions are multiple small polyps detected in patients with MEN-1 and have associated Zollinger-Ellison Syndrome. Type 3 lesions are large, usually single and have a poorly differentiated morphology.[2] Although our patient had multiple lesions, they were large and poorly differentiated thereby fitting with Type 3 G-NET. In spite of large size and undifferentiated histology, our patient had no evidence of metastasis on CECT. To summarize, G-NET should be considered in the possible

etiology of gastrointestinal bleed if multiple polyps with central ulceration are detected on endoscopy.

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Conflicts of interest
There are no conflicts of interest.

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