CASE REPORT

Type III Gastric Neuroendocrine Tumor - a Case Report
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Abstract
We present the case of a 71 year old female that was endoscopically diagnosed with type III neuroendocrine gastric tumor (NET). NETs are rare, slowly growing neoplasm originating in the neuroendocrine cells, that can occur anywhere in the body. Gastrointestinal forms account for more than a half of them. If type I and II gastric neuroendocrine tumors can be managed endoscopically, type III and IV have surgery as their main therapy. Because type III lesions have the greatest potential to generate metastasis, we did a CT scan on the patient and found distant metastasis located in the liver and also to the lymph nodes. Treatment options depend on the type of tumor, its location, signs and symptoms experienced by the patient, due to excess hormones produced by the tumor, and also if there is resectable metastatic disease or not. Although our patient had a voluminous tumor, surgical resection was possible, followed by chemotherapy, with good evolution.

Keywords: neuroendocrine tumor, NET, endoscopy, digestive bleeding, gastric, polyp.

INTRODUCTION
Neuroendocrine tumors (NETs) are rare, slowly growing neoplasms originating in the neuroendocrine cells. They can occur anywhere in the body, but most commonly occur in the lungs, appendix, small intestine, rectum and pancreas¹.

Gastrointestinal tract NETs account for 67% of NETs, the small bowel (especially the ileum) being the most frequent primary site, with an incidence of 42% within this group. Also, NETs account for 37% of all small bowel cancers². Their clinical behavior can range from benign to malignant³.

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CASE PRESENTATION

A 71 year old female presented with intense fatigue, weight loss and several episodes of melena. On physical exam, the abdomen was soft, non-distended, and painful in the epigastric area.

Routine test revealed severe hypochromic, microcytic anemia with a hemoglobin of 6.1 g/dL (NR: 10.9-14.3 g/dL) and a blood iron level of 5 ug/dL (NR: 50-170 ug/dL), ferritin level of 6.3 ng/mL (NR: 15-150 ng/mL), a blood urea nitrogen level of 54 mg/dL (NR: 19.26-49.22 mg/dL) and an elevated C reactive protein 5.3 mg/dL (NR: 0-1 mg/dL).

An esophagastroduodenoscopy was performed using the Sonoscope 550 endoscope and the 4 LED processor, showing a polypoid ulcerated lesion with a large implantation base - approximately 7 cm in diameter, located medio-gastric on the great curvature. Multiple infra-centimetric polyps were spotted in the gastric corpus and the gastric mucosa appeared pale with visible vascularization of the submucosa. Multiple biopsies were taken (Figure 1).

A CT scan for evaluation was performed and showed a voluminous gastric tumor with distant metastasis located in the liver (segments 5 and 7) and also to the lymph nodes.

The patient was referred for surgery and underwent a subtotal gastrectomy with a gastro-entero-anastomosis, including a peri-gastric lymph node dissection (Figures 2 and 3).

The pathology exam revealed a polypoid mass with an 8 cm diameter, with a histological aspect of a type III neuroendocrine tumor, grade 2 according to the World Health Organization classification, the mitotic rate being 7 per 2 power fields. Out of 7 lymph nodes examined, 4 presented tumoral invasion. According to AJCC edition 8- it is a pT1 N1 stage.

The patient had an uneventful postoperative course.

DISCUSSION

Based on morphological characteristics there are four types of neuroendocrine tumors.

The type I lesions correspond to the majority of gastrointestinal NETs found in the stomach (70-80%) and are associated with autoimmune chronic atrophic gastritis. Diagnosis of type I is made by upper gastrointestinal endoscopy with biopsy that reveals pale, yellowish and transparent blood vessels of the antral mucosa. The
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Gastric NETs include 4 different subtypes that have distinct pathogenesis and management, and need to be correctly diagnosed in order to be able to prescribe the correct course of treatment. Although our patient had a voluminous tumor, surgical resection was possible and chemotherapy was started with good evolution.

Compliance with ethics requirements: The authors declare no conflict of interest regarding this article. The authors declare that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008(5), as well as the national law. Informed consent was obtained from all the patients included in the study.
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