Gastric mixed neuroendocrine/nonneuroendocrine neoplasia: a rare entity

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Dear Editor,

Gastric neoplasms have different histological subtypes. Mixed neuroendocrine/nonneuroendocrine neoplasms (MiNEN), as defined by the World Health Organization (WHO) 2019 Classification of Tumors of the Digestive System, are rare composite tumors bearing morphological characteristics of more than one histological type. Historically, the diagnosis requires that each component accounts for at least 30 % of the total tumor burden (1,2).

We present the case of a 70-year-old male, who was referred to our endoscopy unit for resection of a depressed lesion (Paris classification type 0IIc) of 40mm diameter, located on the lesser curvature of the gastric body. The lesion was submitted to *en bloc* resection by endoscopic submucosal dissection. Histological examination revealed a poorly differentiated intramucosal adenocarcinoma and a grade G3 welldifferentiated neuroendocrine tumor (NET), on a background of chronic atrophic gastritis (Fig. 1). Unfortunately, examination of the NET component revealed intercepted margins. The patient is currently undergoing tumor staging and will be discussed by a multidisciplinary team to determine subsequent management.

Gastric adenocarcinomas are believed to be inflammation-driven tumors, mainly caused by *Helicobacter pylori* infection, associated with gastric atrophy and intestinal metaplasia. Gastric NETs are mostly related with elevated serum gastrin and enterochromaffin-like cell hyperplasia (2). Since atrophic gastritis can lead to hypergastrinemia, it might also contribute to NET formation. Gastric MiNENs are mainly observed in elderly male patients and do not exhibit any specific endoscopic characteristic that allow them to be distinguished from adenocarcinoma (1). In this case, the diagnosis was made only after endoscopic resection.

Gastrointestinal MiNENs are exceptionally rare tumors, most frequently encountered in the colorectum (1). Other reported sites include the stomach, esophagus, small bowel, gallbladder, biliary tract and pancreas (1,3,4). The best approach to treatment is still debated (2,5), since they generally have a worse prognosis and a lower probability of successful endoscopic resection.

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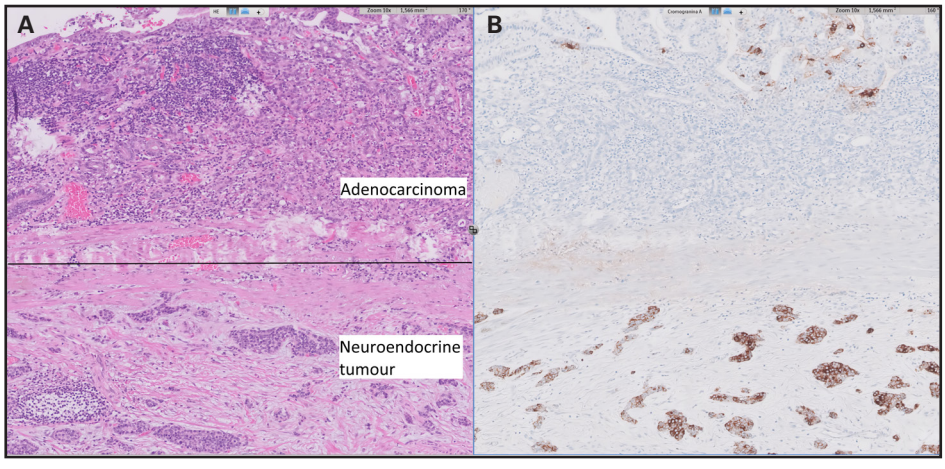

Fig. 1. *Histological examination of the lesion showing the cytoarchitectural features of the poorly differentiated intramucosal adenocarcinoma and the grade G3 welldifferentiated neuroendocrine tumor (A), and immunohistochemical staining for chromogranin A, highlighting the neuroendocrine component (B).*