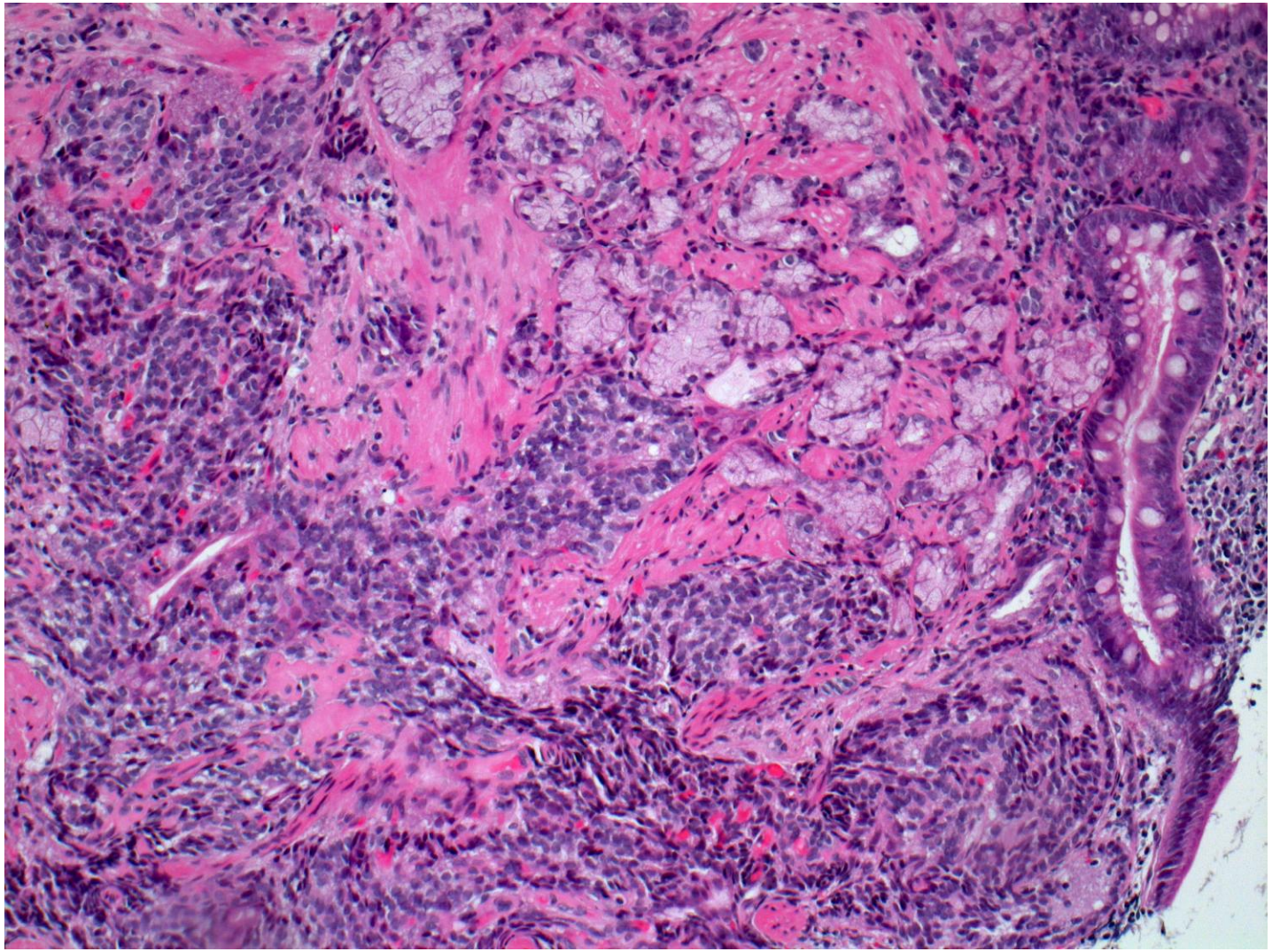
Duodenal ghrelinoma

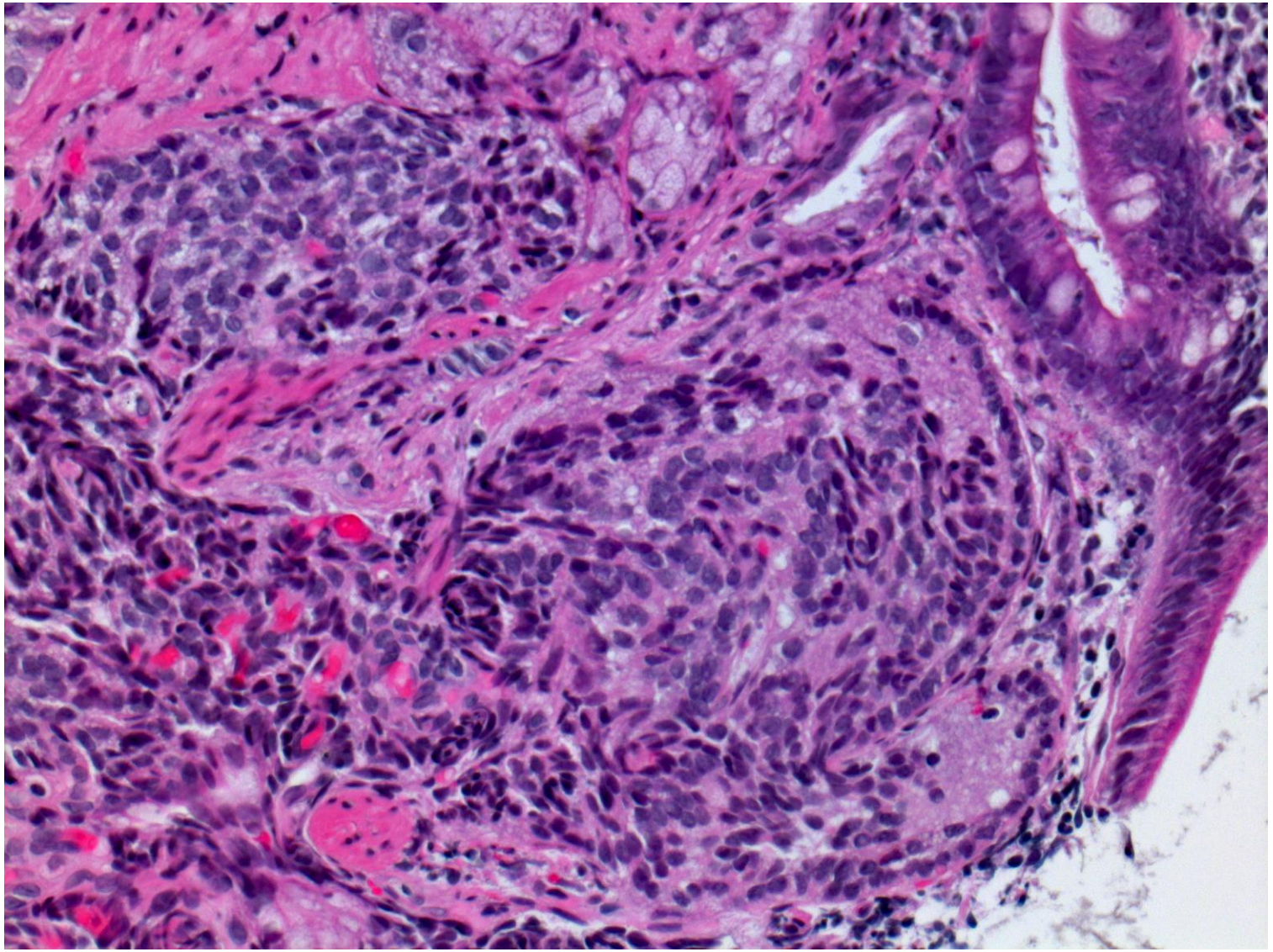
Ghrelin is a 28 amino acid, acylated peptide mainly produced in enterochromaffin-like (ECL) cells of the gastric fundus. Ghrelin stimulates growth hormone release by acting on both the pituitary and hypothalamus, but also stimulates ACTH and prolactin as well as gastric acid secretion and intestinal motility. Rise of plasma ghrelin levels stimulates appetite, and increases intestinal motility and gastric acid secretion. Neuroendocrine tumors (NETs) secreting ghrelin (ghrelinoma) has been identified in gastric NETs, but intestinal and pancreatic NETs may also secrete ghrelin. Theoretically, ghrelinoma may cause acromegaly, diabetes mellitus, diarrhea and gastric acid hypersecretion. Actually, functioning ghrelinomas have been reported. Here, a 50 y-o female case of ghrelin-producing duodenal NET is presented.

Ref.-1: Zandee WT, et al. Ghrelinoma. 2020. In: Feingold KR, et al., editors. Endotext [Internet]. South Dartmouth (MA): MDText.com, Inc. Available from: https://www.ncbi.nlm.nih.gov/books/NBK279169/

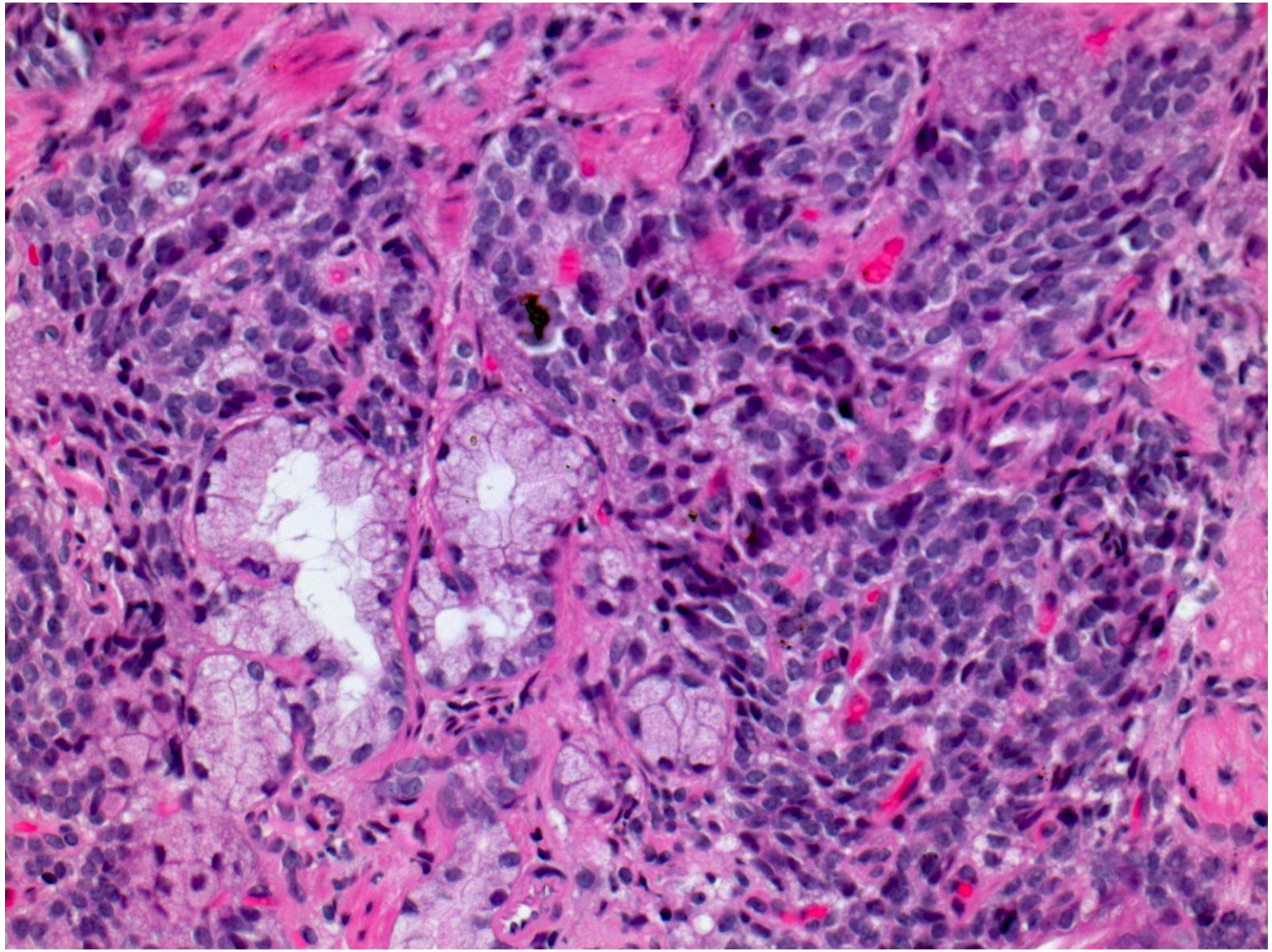
Ref.-2: Tsolakis AV, et al. Malignant gastric ghrelinoma with hyperghrelinemia. J Clin Endocrinol Metab 2004; 89(8): 3739-3744. doi: 10.1210/jc.2003-032118



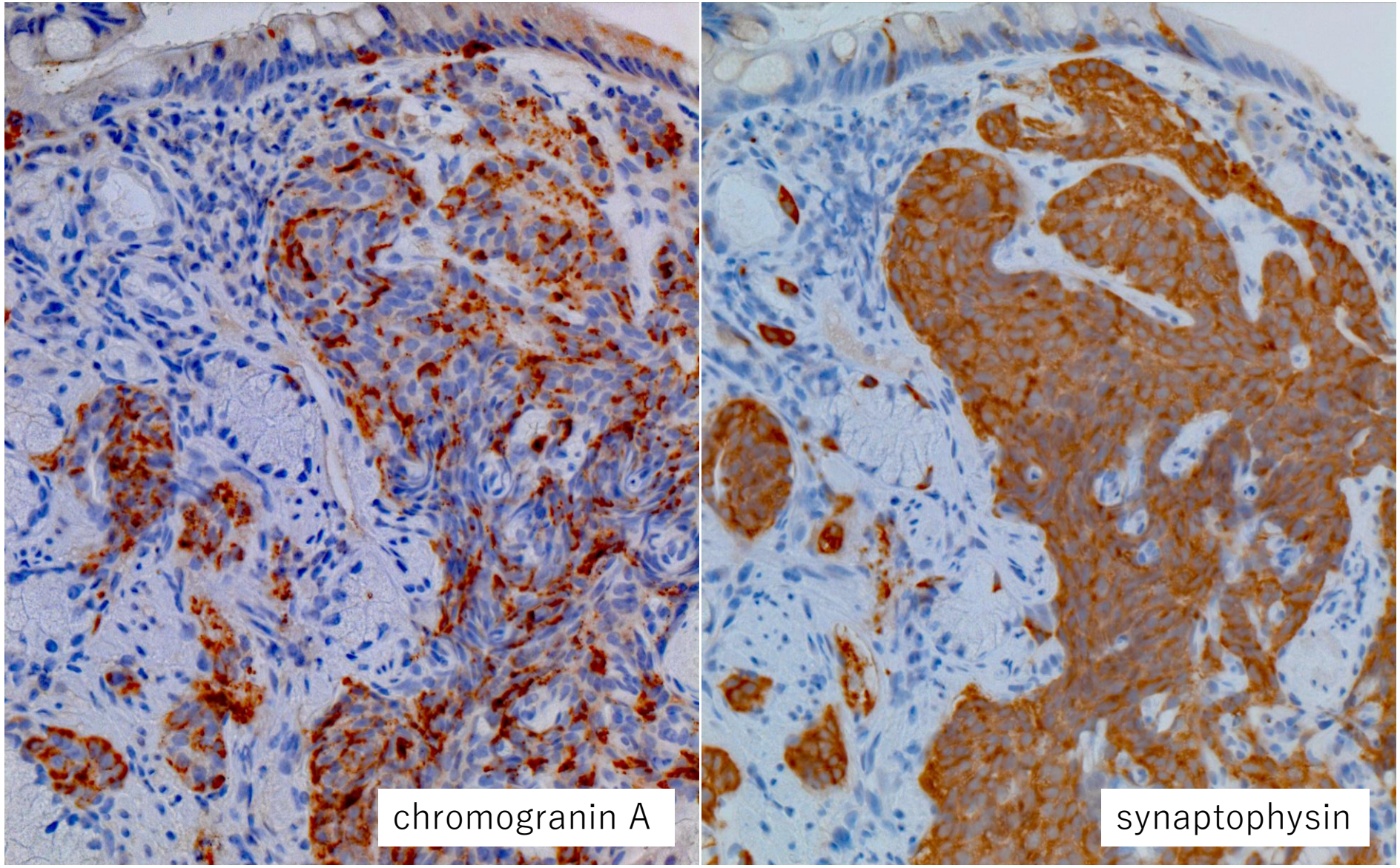
Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. Nodular growth of monomorphous neuroendocrine cells is seen in the lamina propria mucosae adjacent to Brunner's gland (H&E-1).



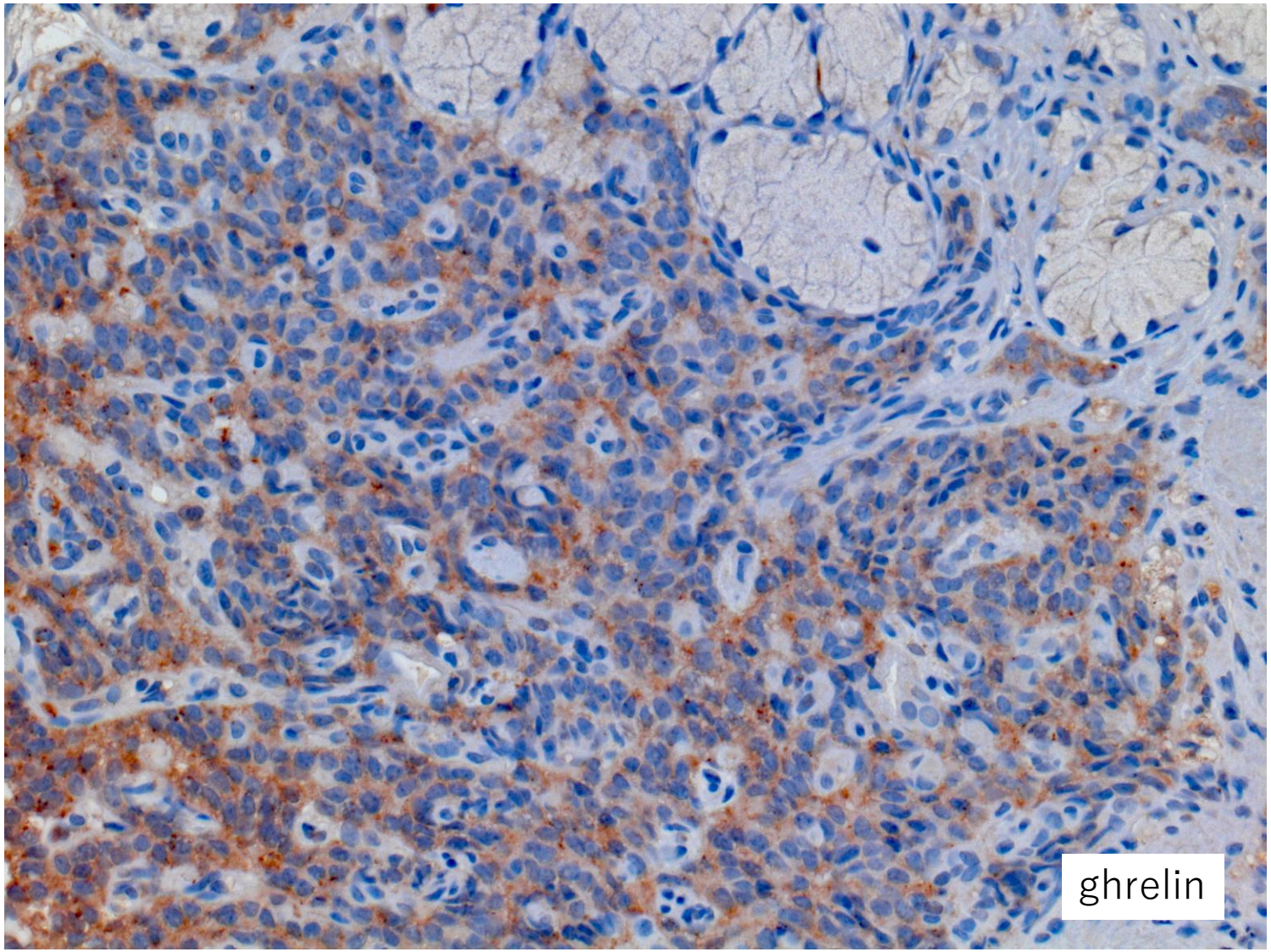
Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. Nodular growth of monomorphous neuroendocrine cells is seen in the lamina propria mucosae (H&E-2).



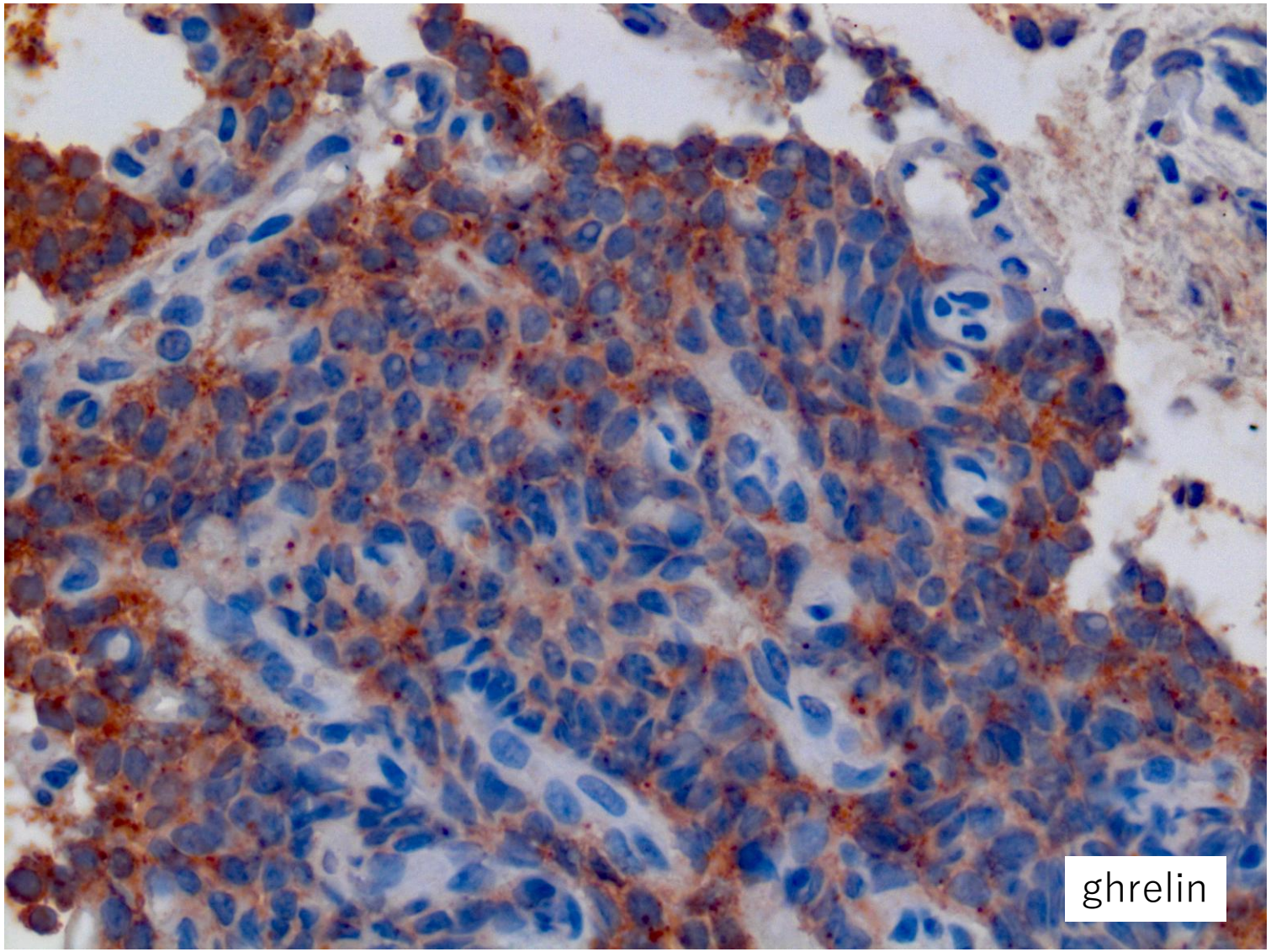
Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. Nodular growth of monomorphous neuroendocrine cells is seen in the lamina propria mucosae (H&E-3).



Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. The monomorphous neuroendocrine cells are immunoreactive for chromogranin A (left) and synaptophysin (right) (immunostaining for CGA and synaptophysin).



Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. The monomorphous neuroendocrine cells diffusely express ghrelin (immunostaining for ghrelin).



Duodenal ghrelinoma (NET, G1, carcinoid tumor) seen in a 50 y-o female patient. The monomorphous neuroendocrine cells diffusely express ghrelin (immunostaining for ghrelin).