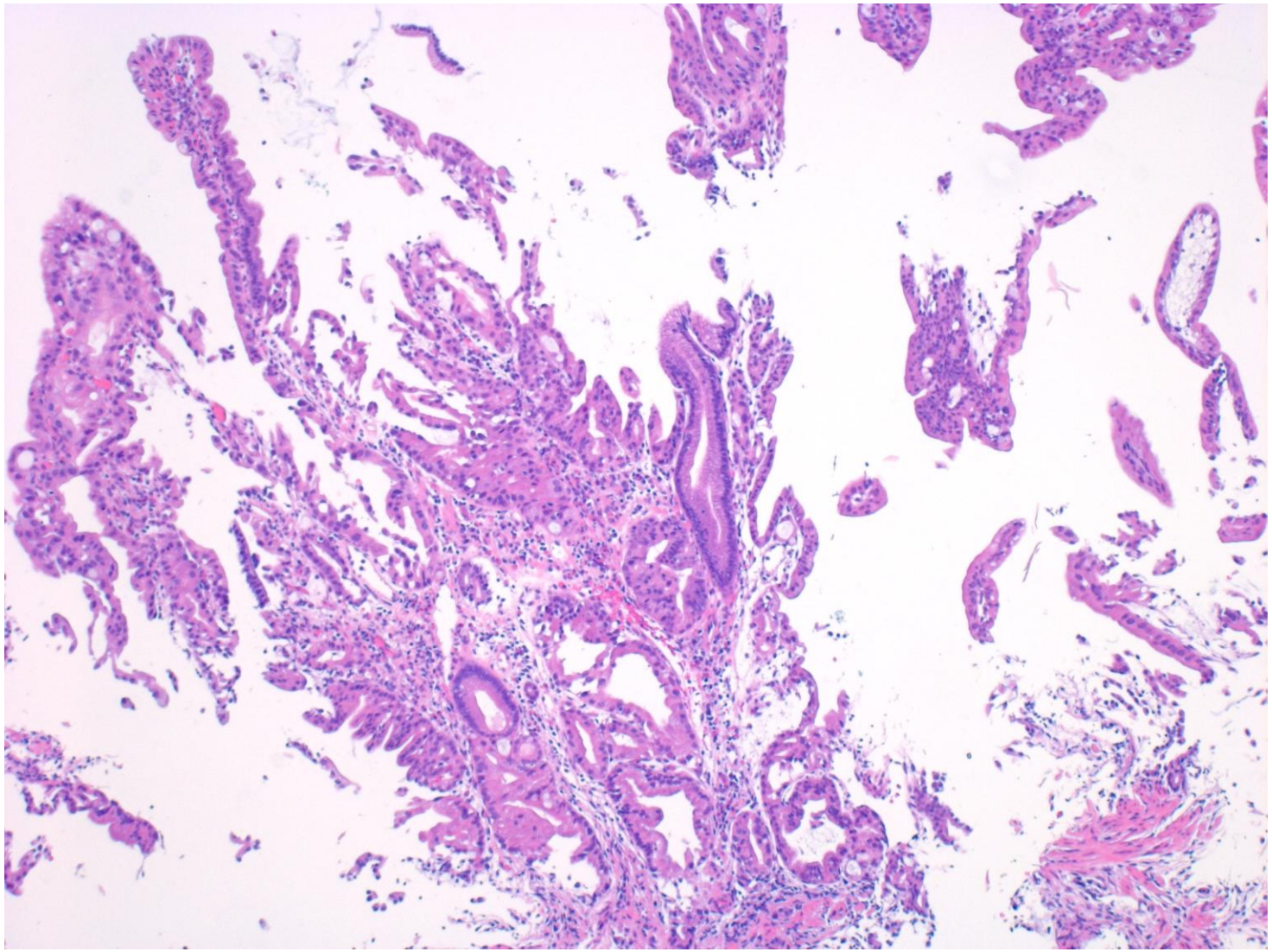
Duodenal fundic gland adenocarcinoma

Gastric adenocarcinoma of the fundic gland is a rare, well-differentiated gastric cancer entity commonly involving the submucosal layer. It originates from the mucosa of the gastric fundic gland, without chronic gastritis or intestinal metaplasia. Microscopically, the tumor cells are closely arranged to form anastomosing tubular glands, and many tumor cells differentiate towards chief cells. The tumor of this rare type may occur in the duodenal mucosa. Two cases are presented.

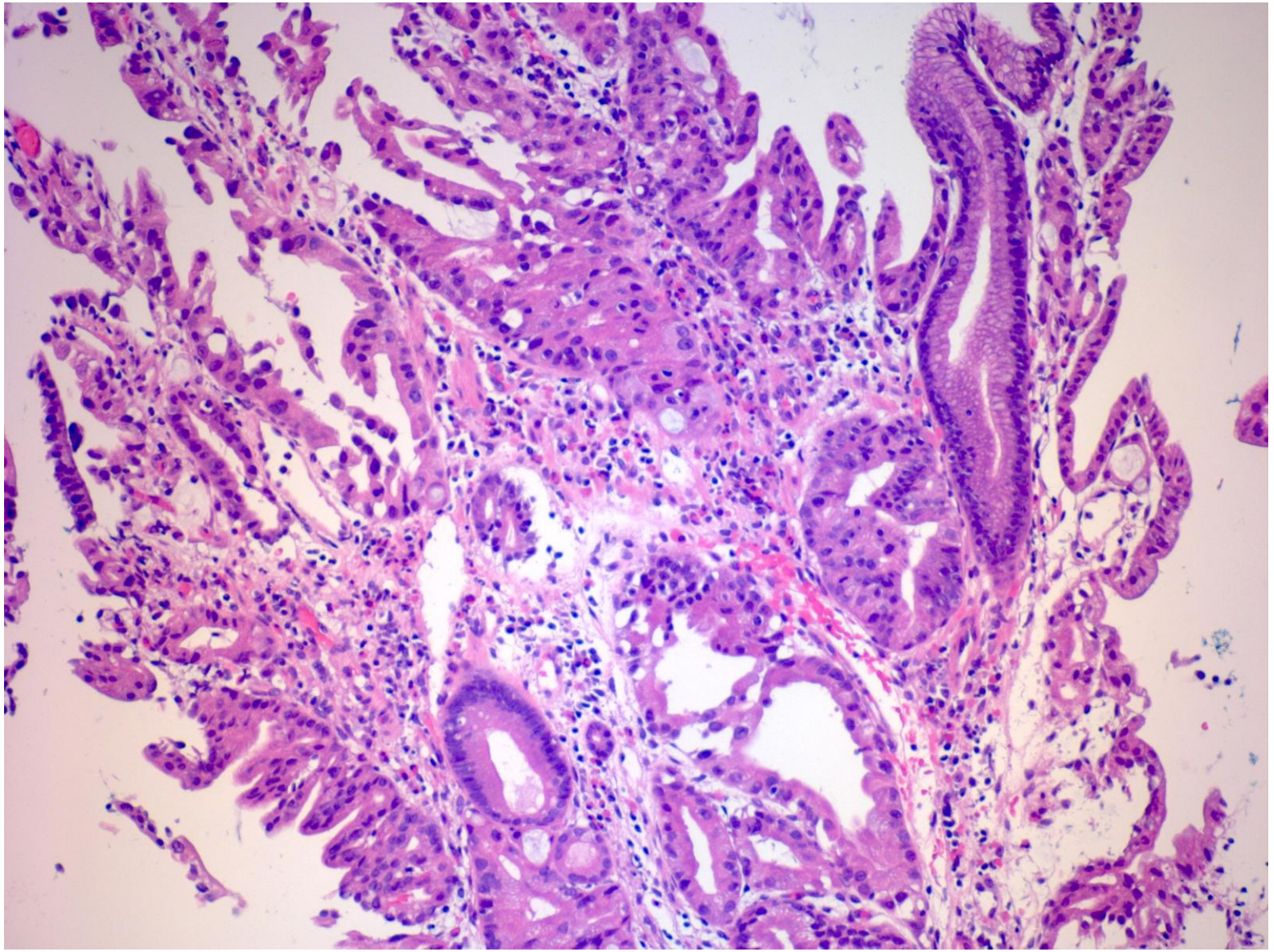
Ref.: Meng X, et al. Gastric adenocarcinoma of the fundic gland: a review of clinicopathological characteristics, treatment and prognosis. Rare Tumors 2021; 13. doi:10.1177/20363613211060171

Case 1



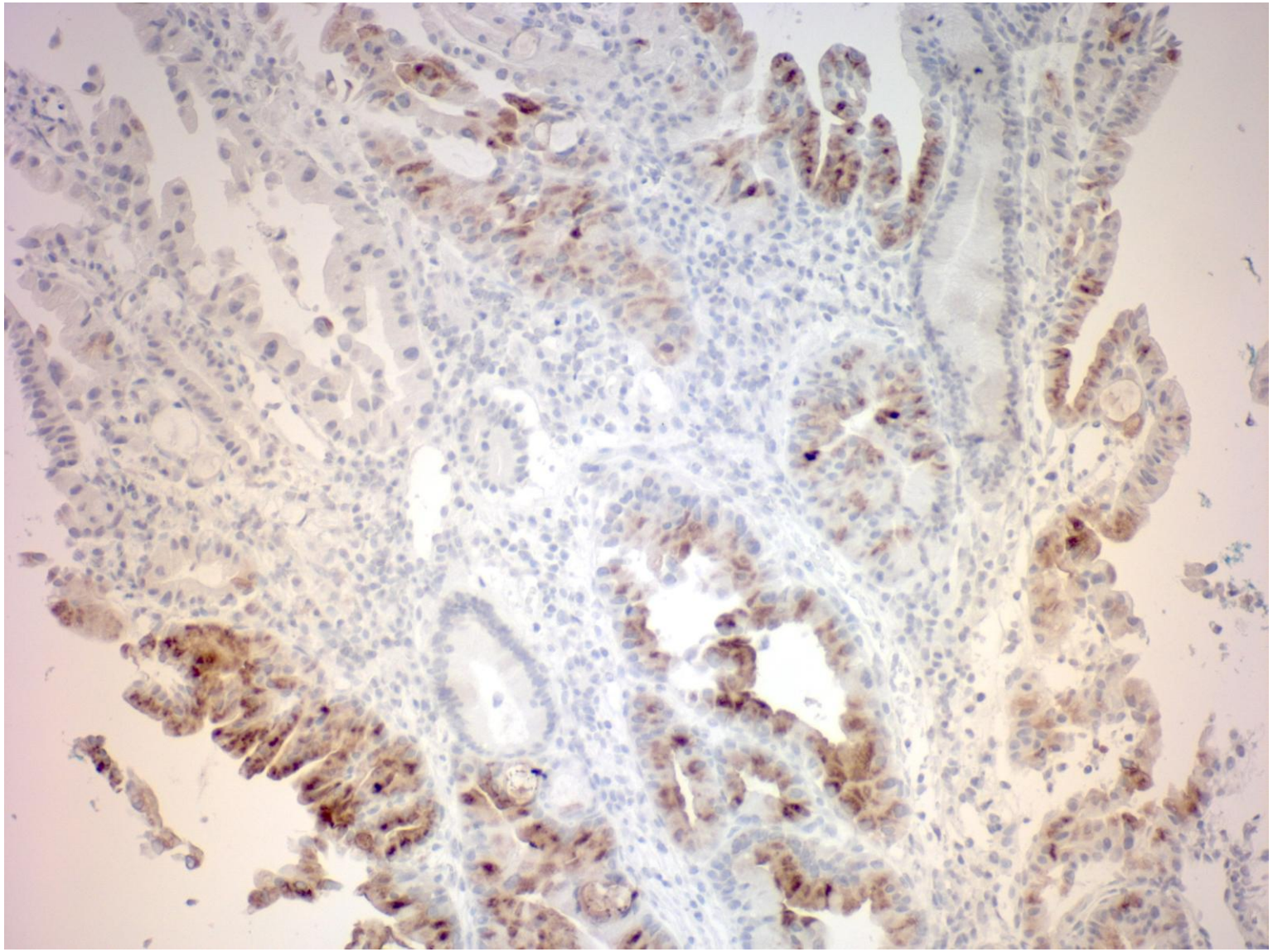
Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei. H&E-1

Case 1



Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei. The cytoplasm is plump and amphophilic. H&E-2

Case 1



Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei. Pepsinogen-I immunoreactive cells are distributed in the atypical gland with differentiation toward the chief cell in the fundic glands. Immunostaining for pepsinogen-I

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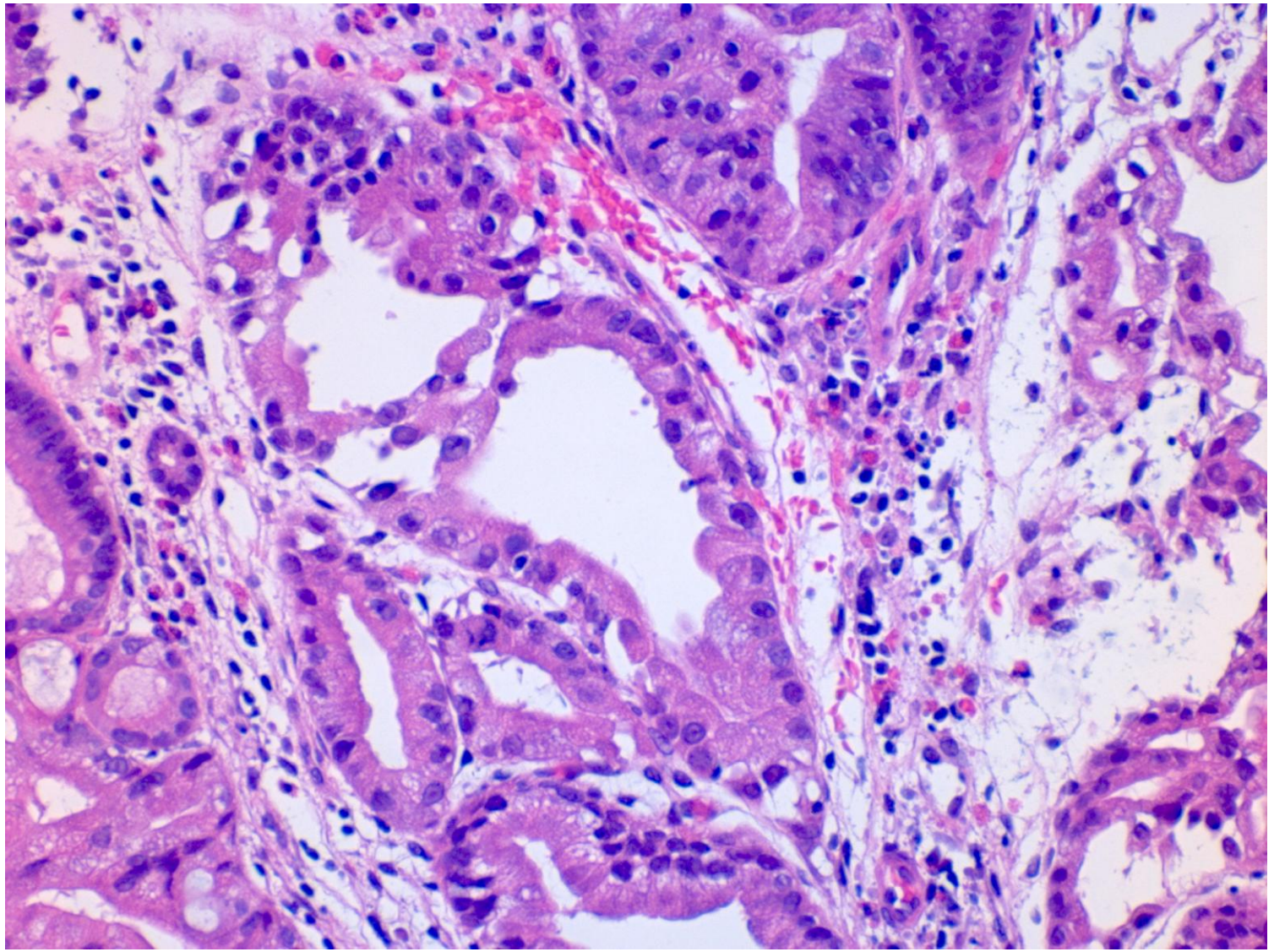
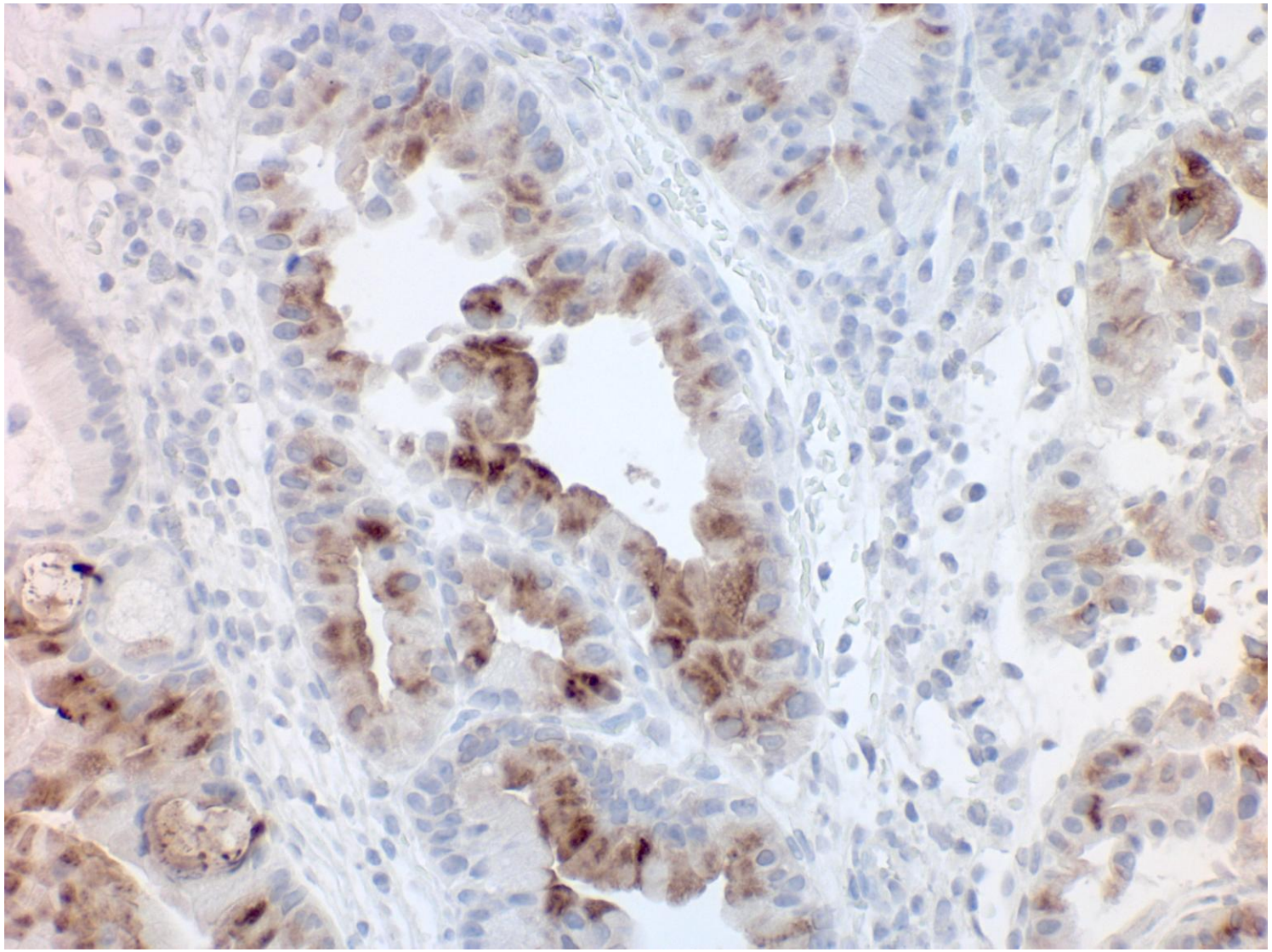


Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei and plump amphophilic cytoplasm. H&E-3

Case 1



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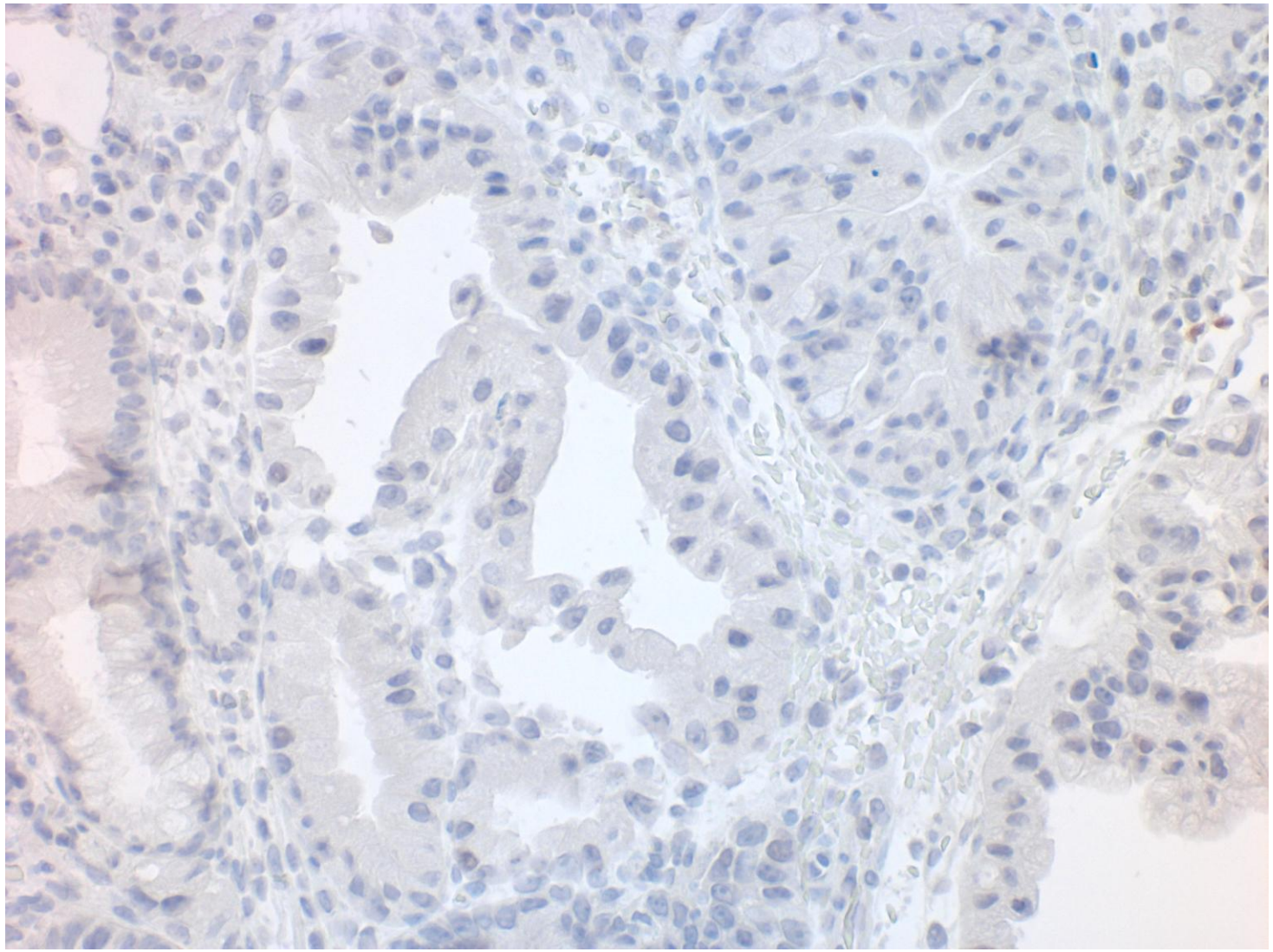

Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50's shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei. Proton pump, a marker of parietal cells of the fundic gland, is undetectable in the atypical gland. Immunostaining for proton pump

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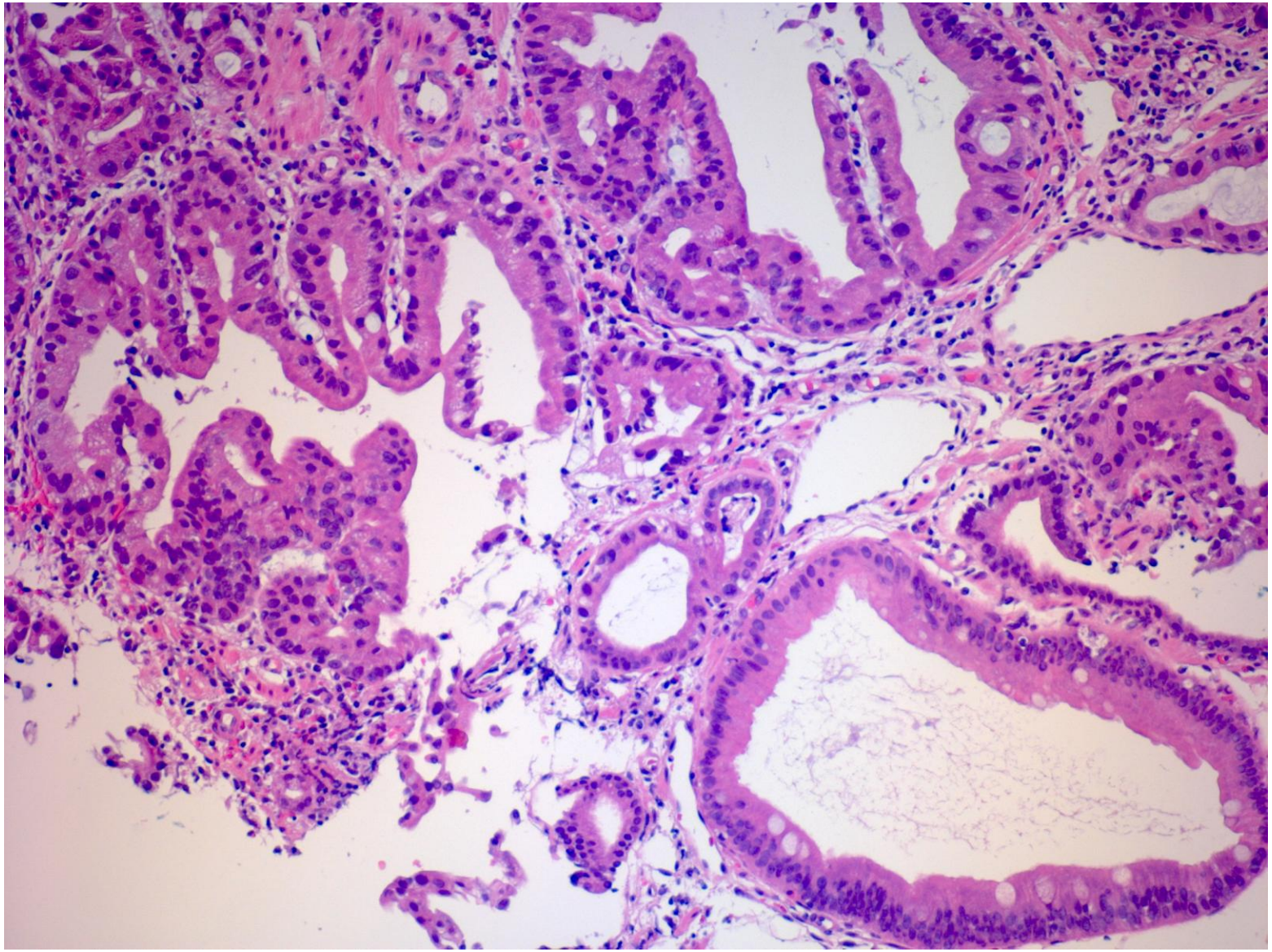
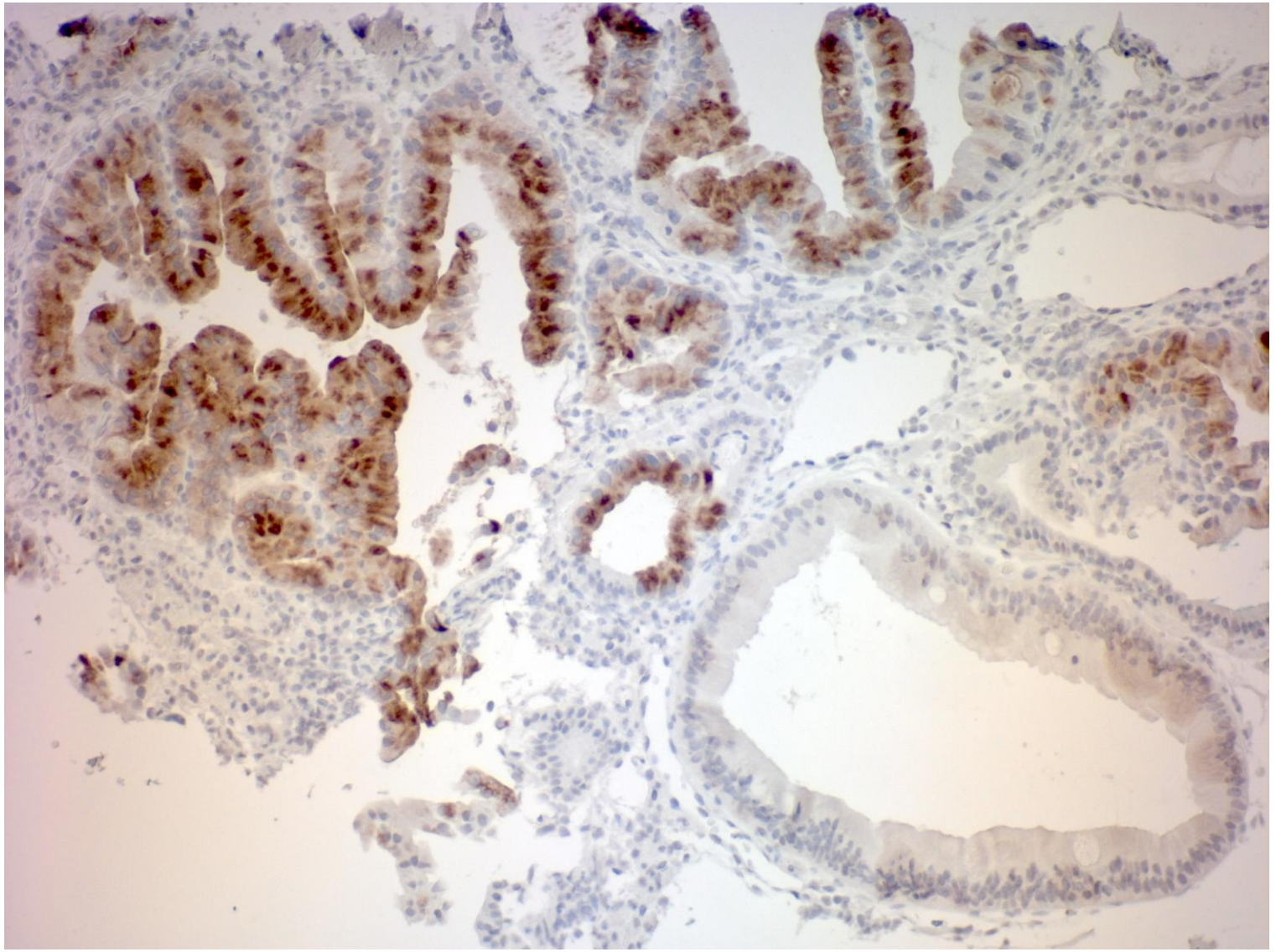


Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei and plump amphophilic cytoplasm. H&E-4

Case 1



Biopsy taken from an elevated lesion of the duodenum of a male patient aged 50’s shows non-invasive growth of papillotubular atypical glands with basally oriented nuclei. Pepsinogen-I immunoreactive cells are distributed in the atypical gland with differentiation toward the chief cell in the fundic glands. Immunostaining for pepsinogen-I

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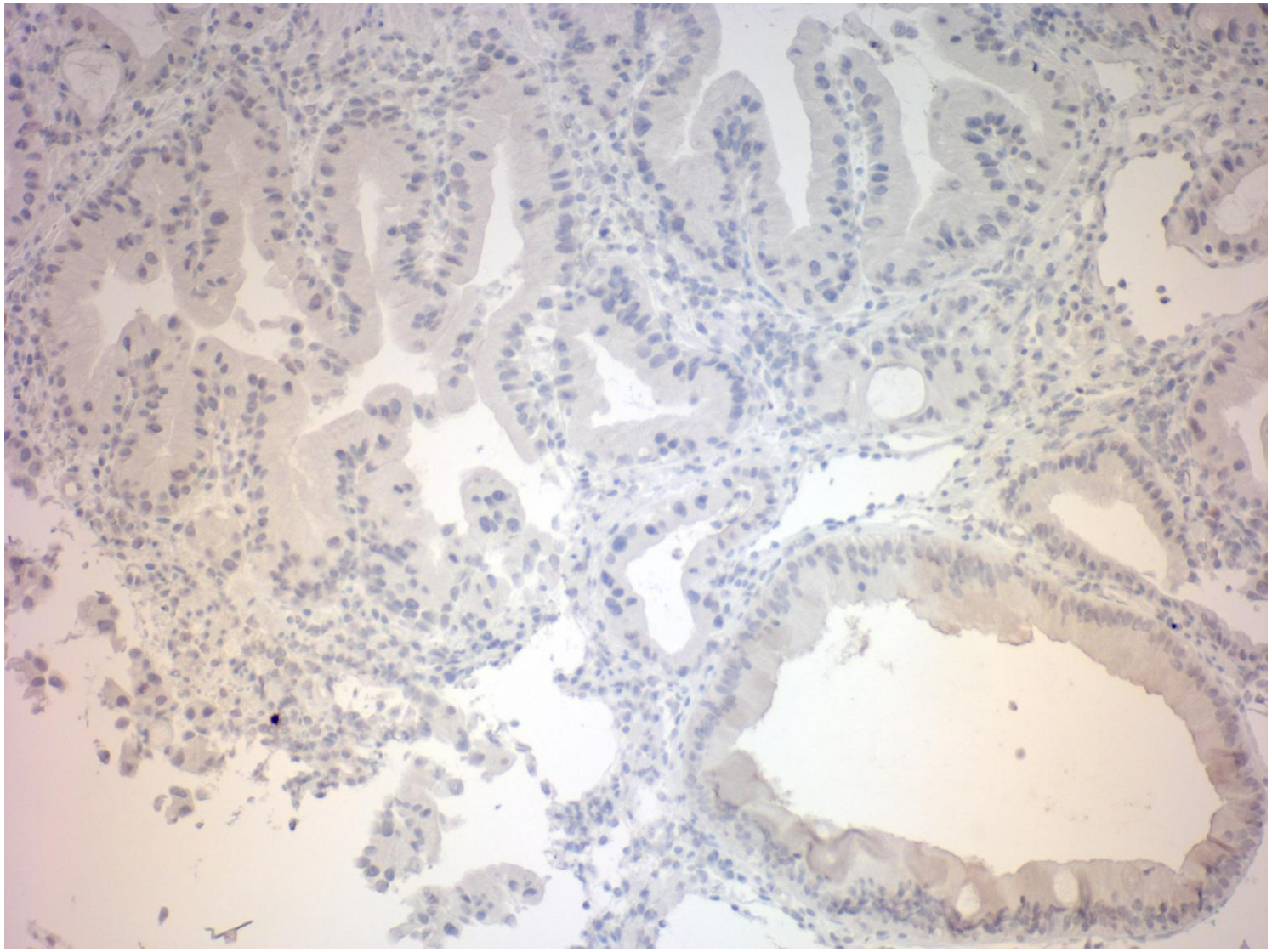

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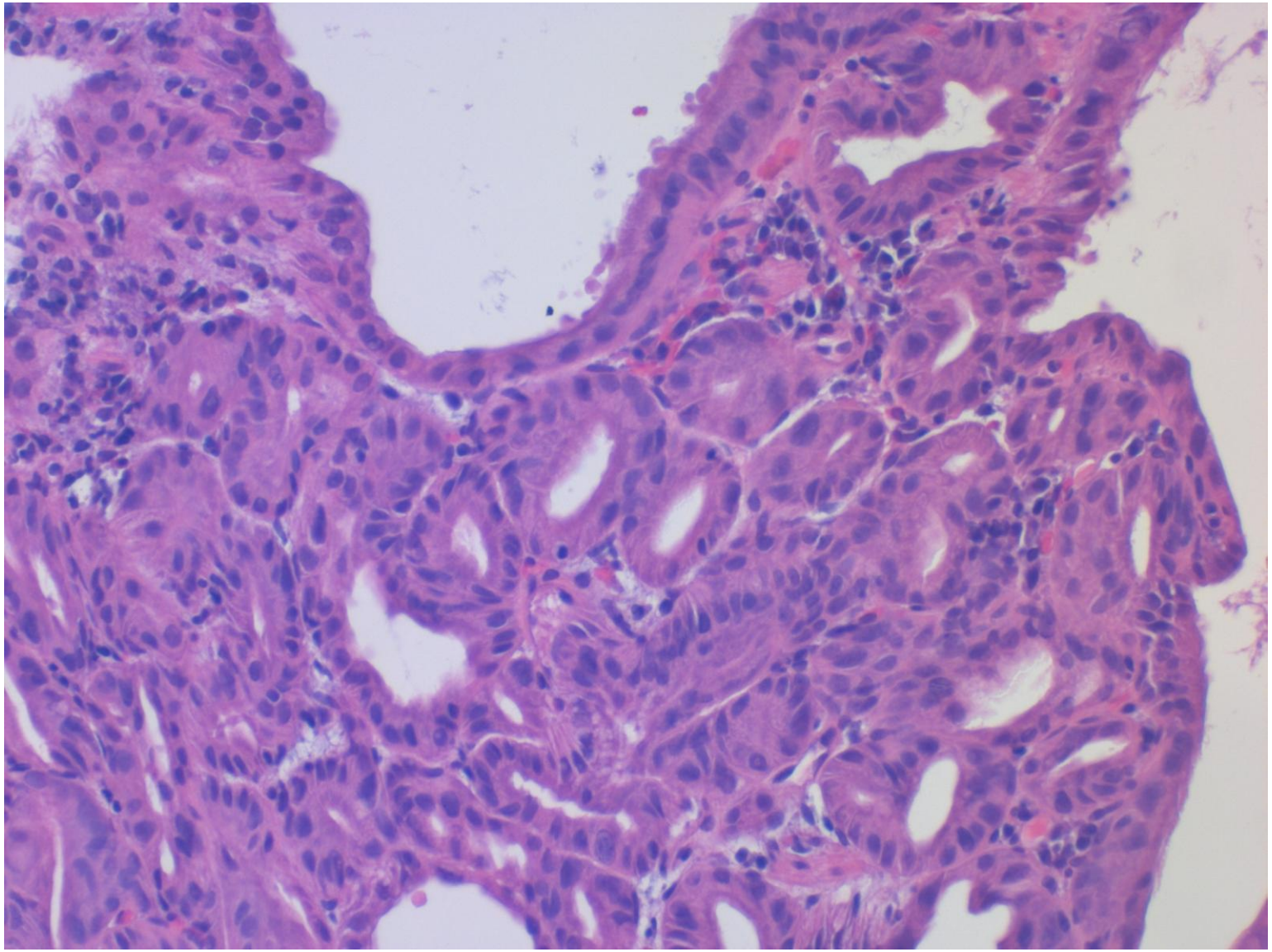
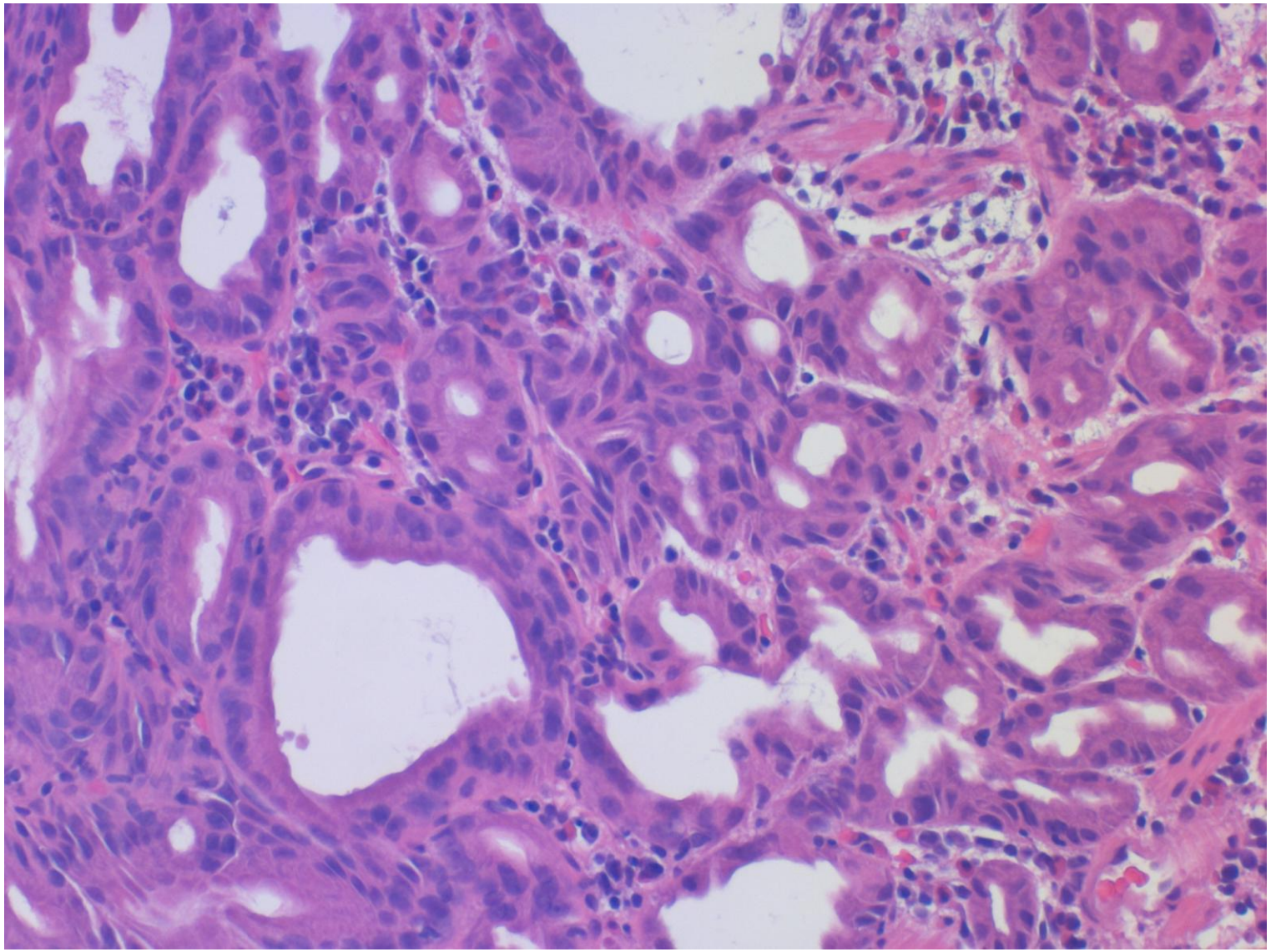
Case 2



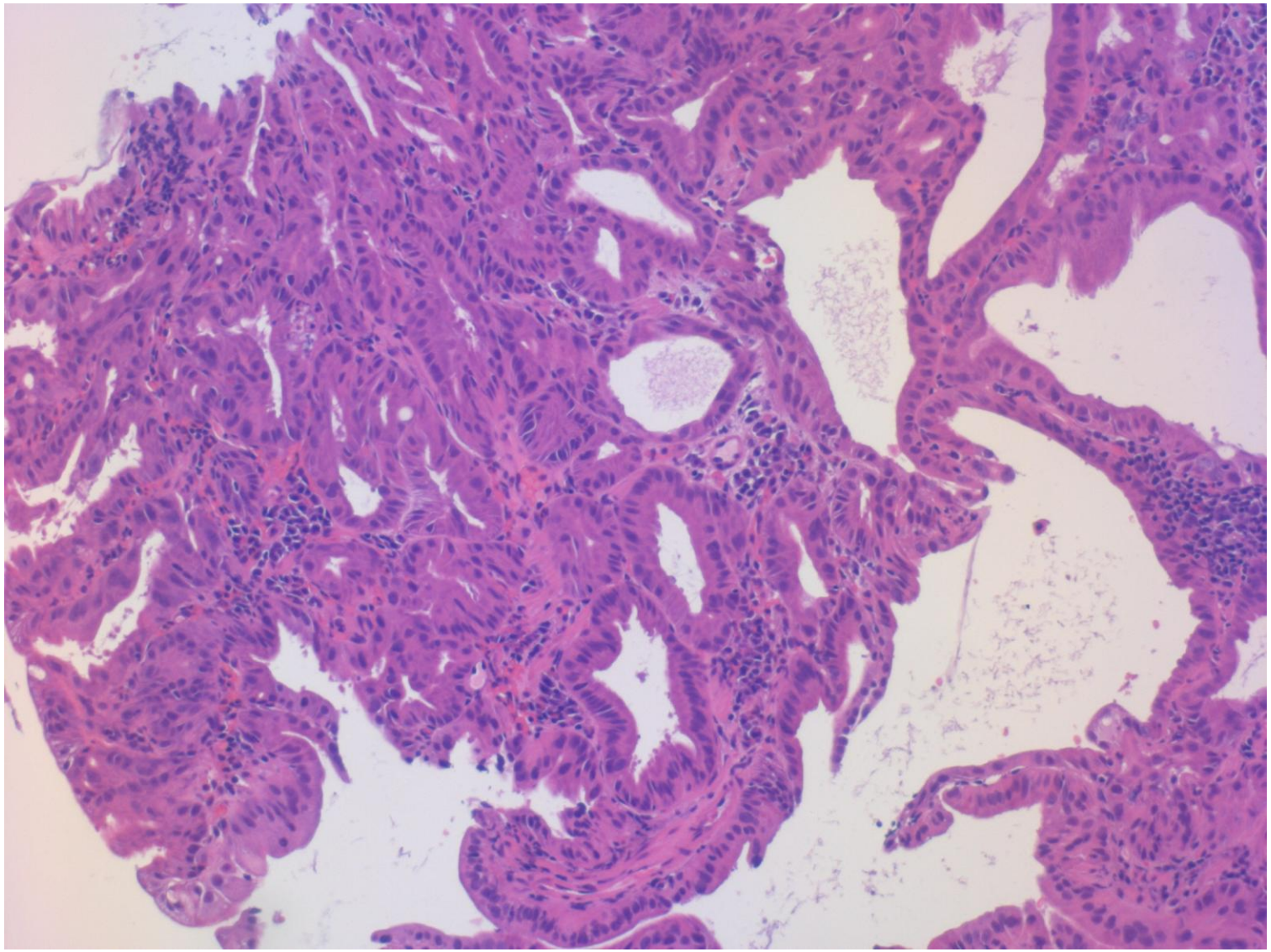
Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands with basally oriented hyperchromatic nuclei and amphophilic cytoplasm. H&E-1

Case 2



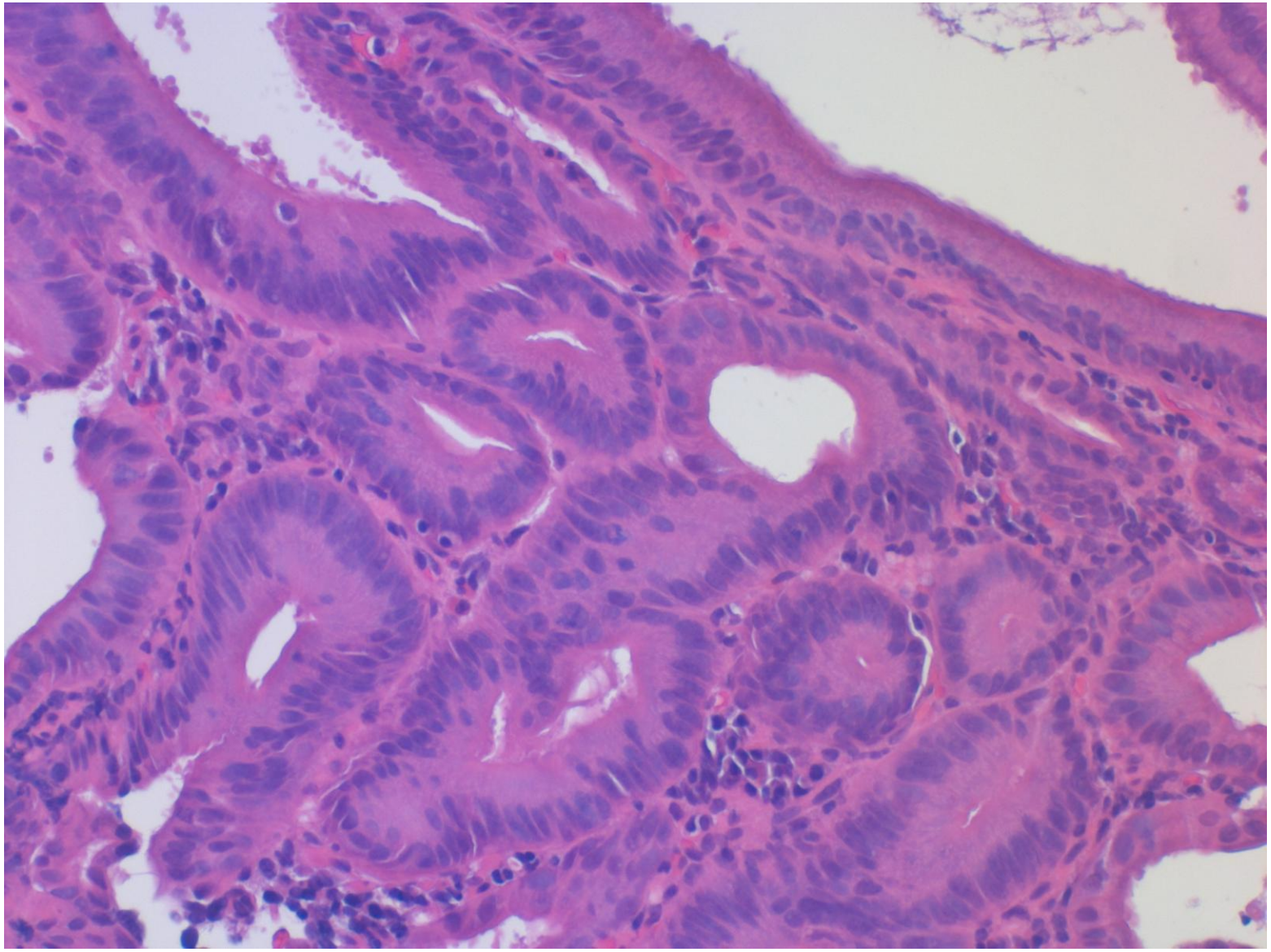
Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands with basally oriented hyperchromatic nuclei and amphophilic cytoplasm. H&E-2

Case 2



Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands with basally oriented hyperchromatic nuclei and amphophilic cytoplasm. H&E-3

Case 2



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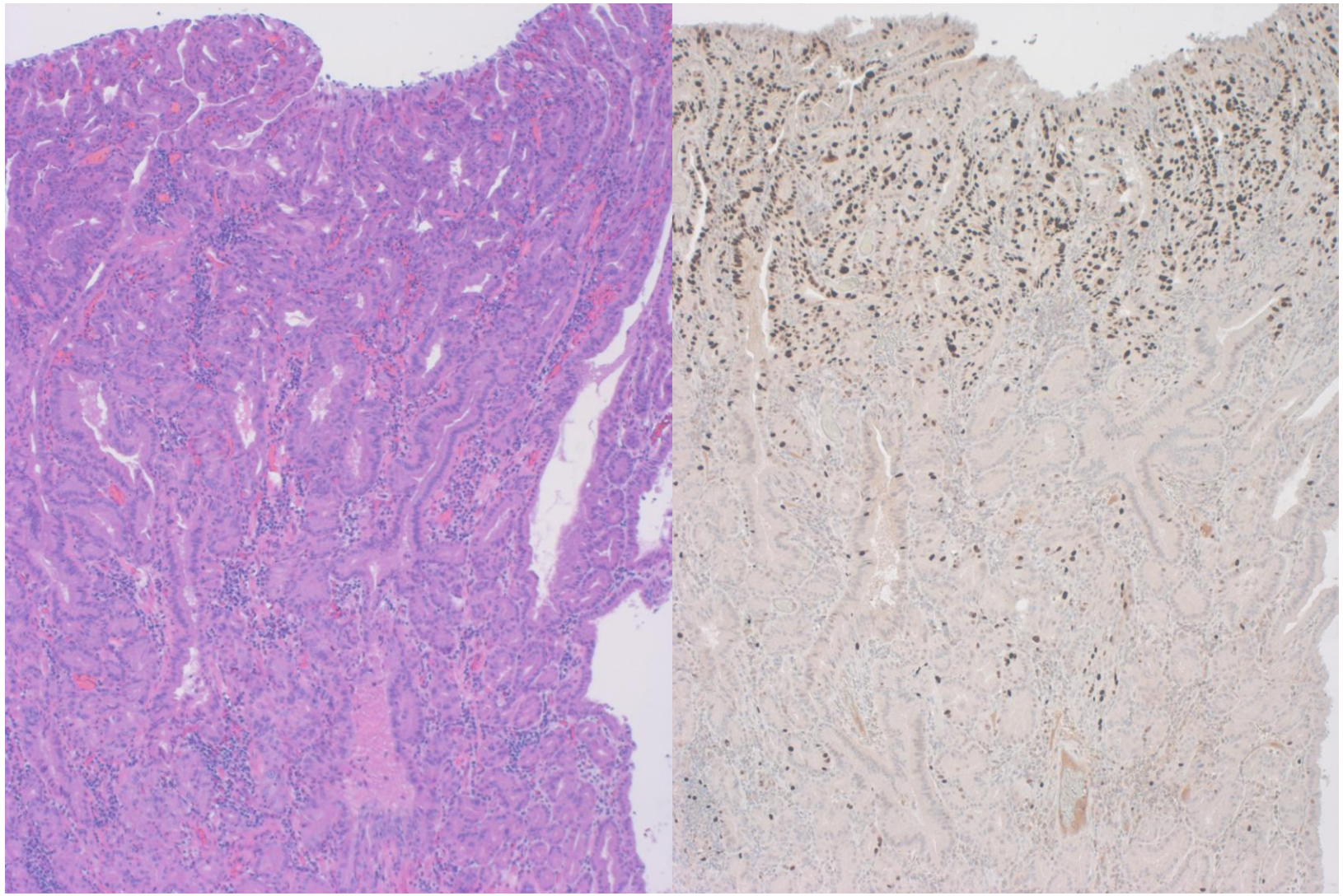
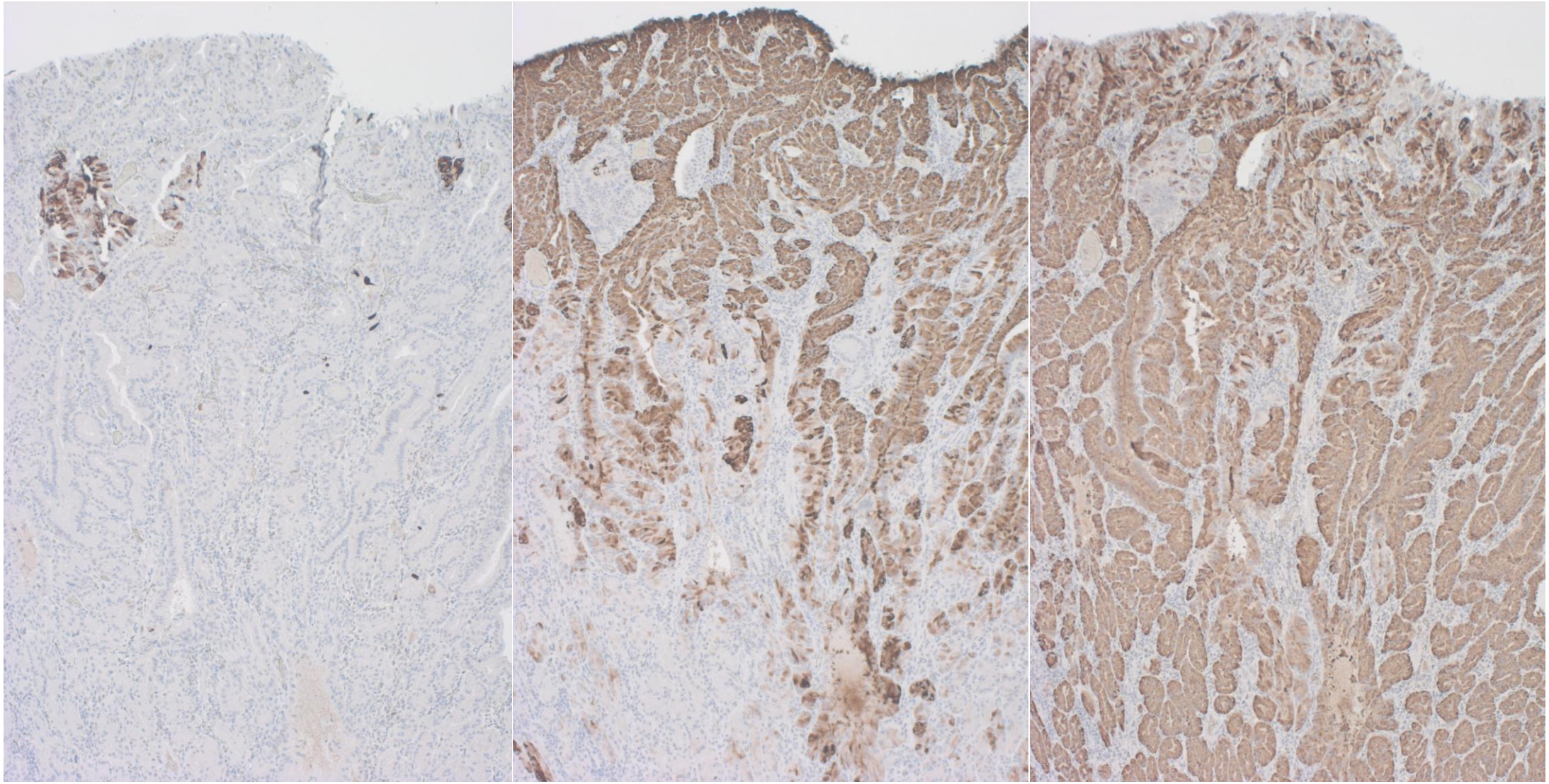


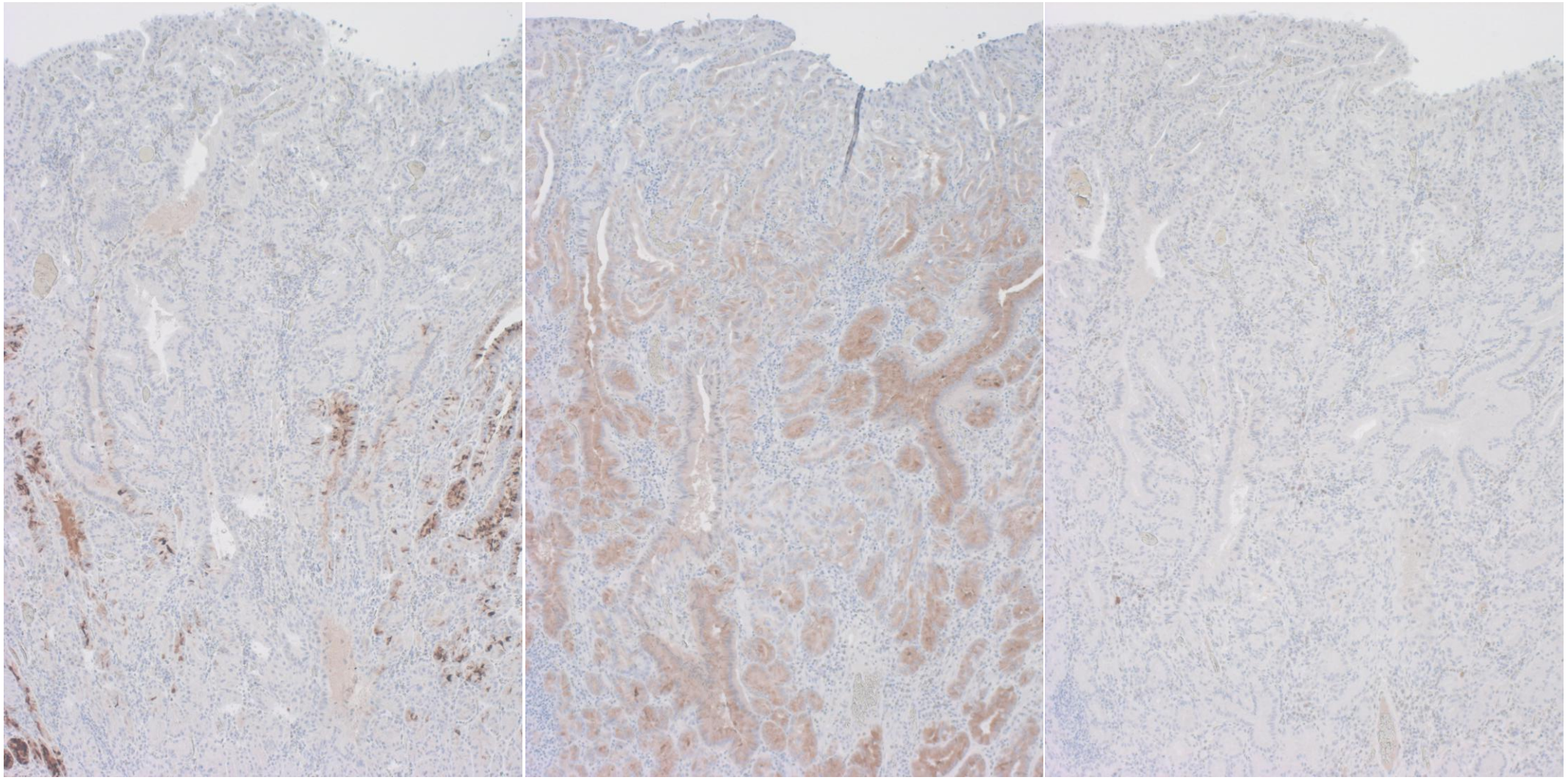
Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands with basally oriented hyperchromatic nuclei and amphophilic cytoplasm. Proliferative cells are clustered in the upper part of the lesion. Left: H&E, right: Ki-67

Case 2



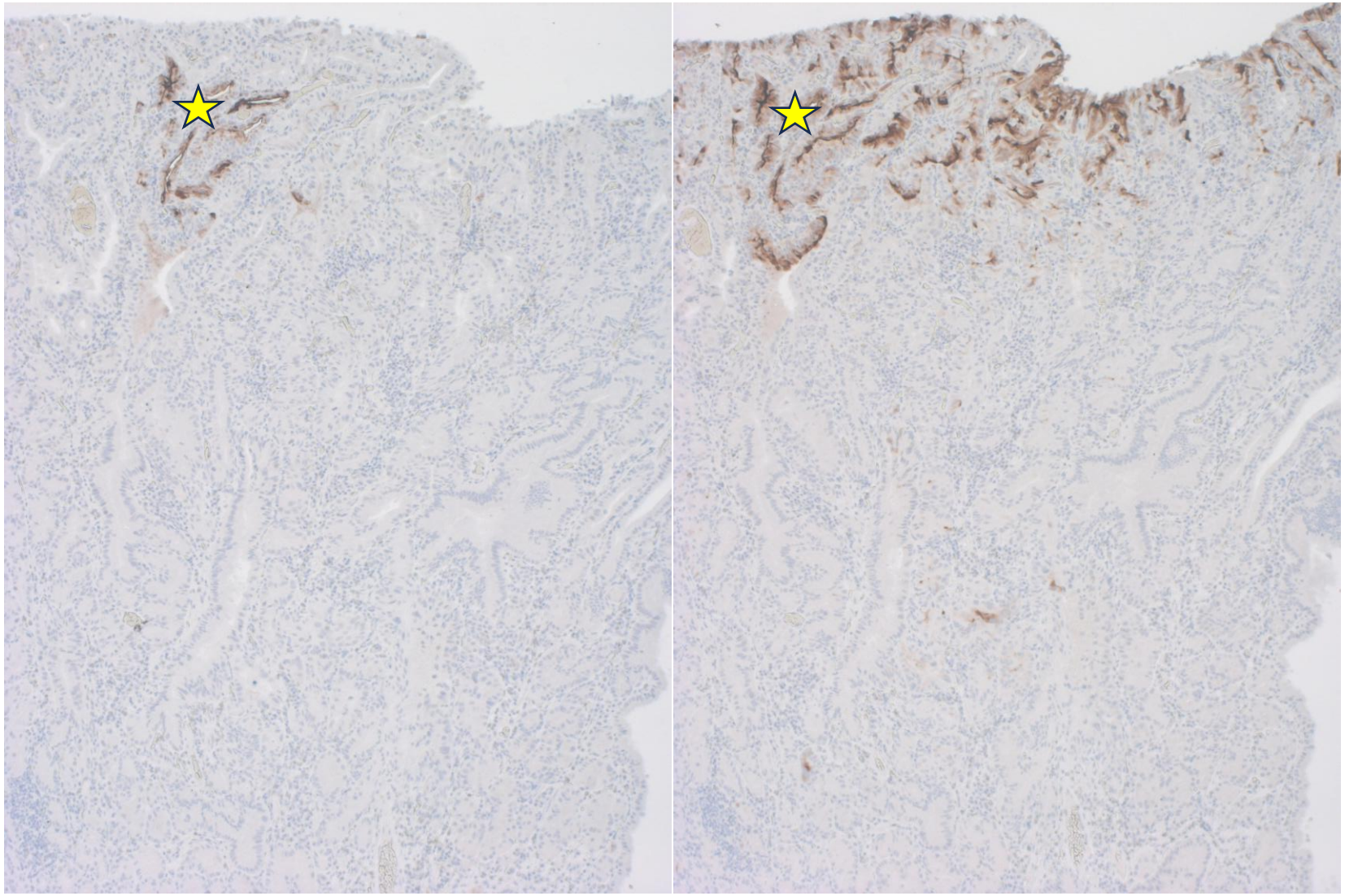
Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands. MUC2-positive intestinal-type cells (left) are only focally seen, while MUC5AC-positive (center) and MUC6-positive (right) gastric-type cells are predominant, Note many tumor cells express MUC5AC and MUC6 simultaneously. Left: MUC2, center: MUC5AC, right: MUC6

Case 2



Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands. The tumor cells express pepsinogen-I (chief-cell type, left) and pepsinogen-II (pyloric gland-type, center), with a predominance of pepsinogen II. Proton pump-positive parietal cells are not observed (right). Left: pepsinogen-I, center: pepsinogen-II, right: proton pump

Case 2



Biopsy taken from an elevated lesion of the duodenum of an 80-year-old male patient shows non-invasive growth of tubular atypical glands. CA19-9 (left) and CEA (right) are expressed in tumor cells located at the superficial part. CA19-9-positive cells correspond to MUC2-positive intestinal-type cells (asterisks). Left: CA19-9, right: CEA