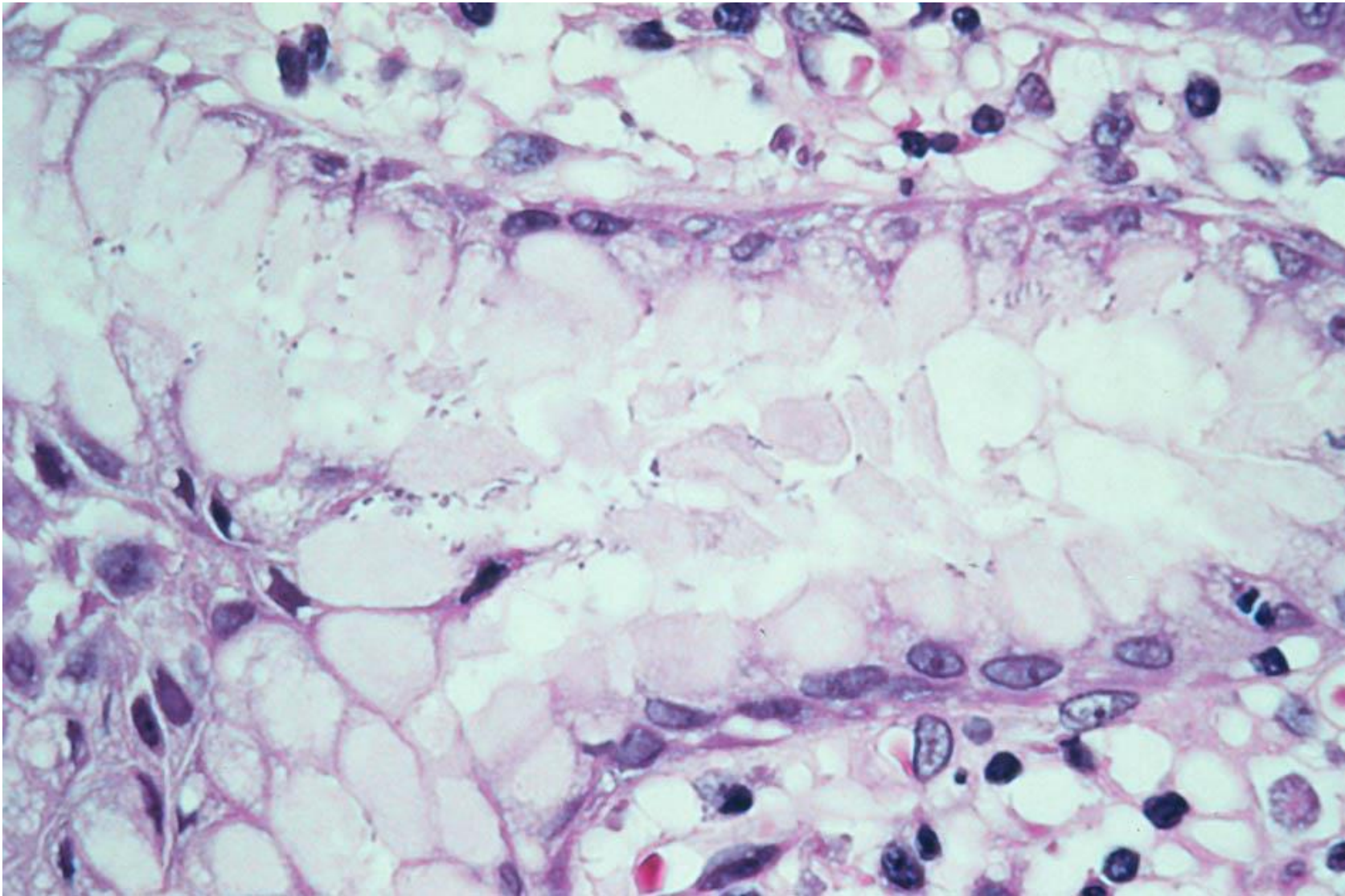


Gastric xanthoma and lamina propria penetration of *Helicobacter pylori*

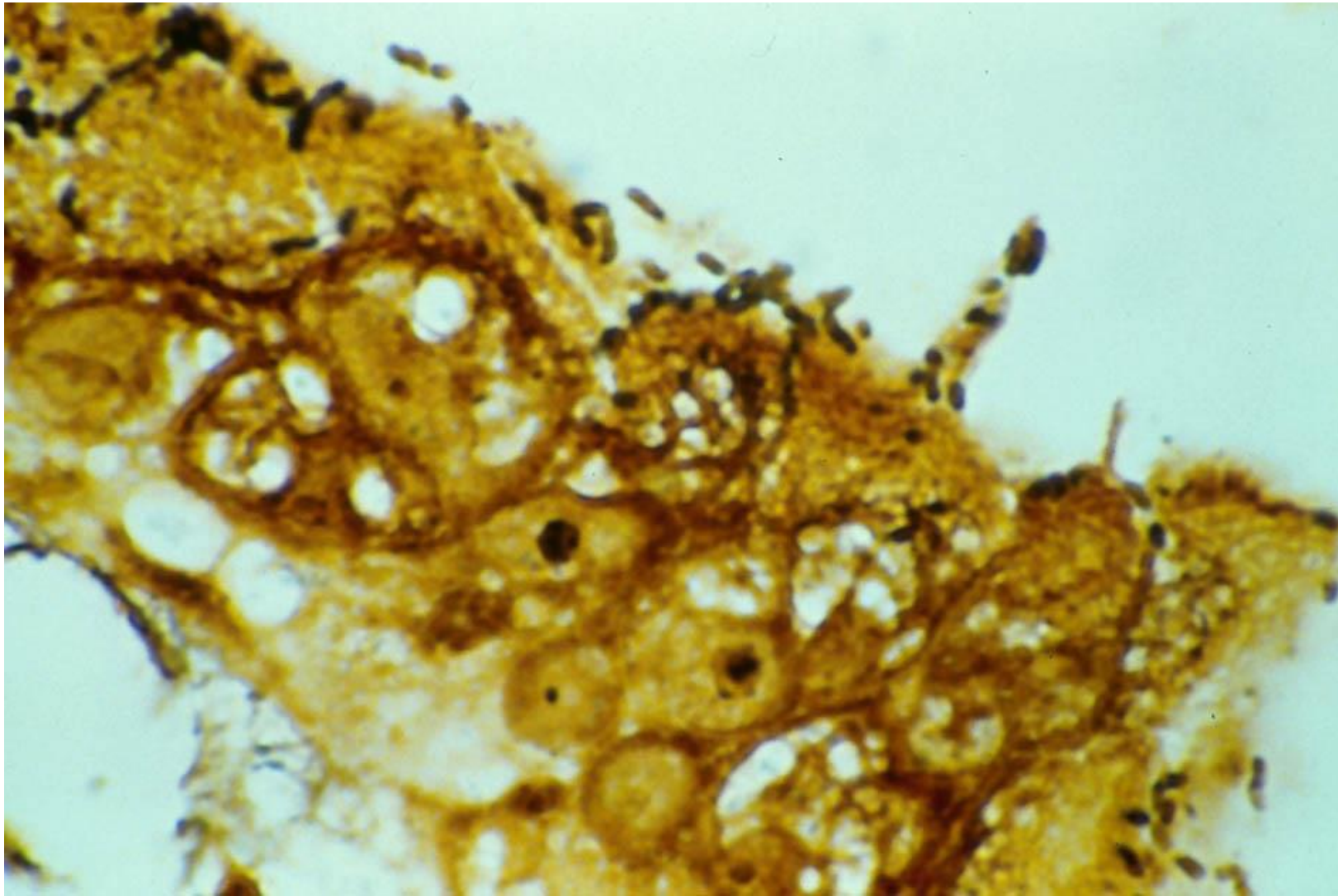
Gastric xanthoma, localized non-neoplastic accumulation of foamy macrophages in the lamina propria of the inflamed gastric mucosa and endoscopically observed as a yellowish mucosal nodule, is closely related to *Helicobacter pylori* infection. Foamy transformation of macrophages is secondary to phagocytosis of the bacteria penetrated into the lamina propria mucosae. The pathogens phagocytized by the foamy cells are immunolabeled with antibodies to *H. pylori*, and immunoelectron microscopic study demonstrates immunolabeled pathogens in paraffin-embedded biopsy specimens.

Other examples of lamina propria penetration of *H. pylori* are also presented.

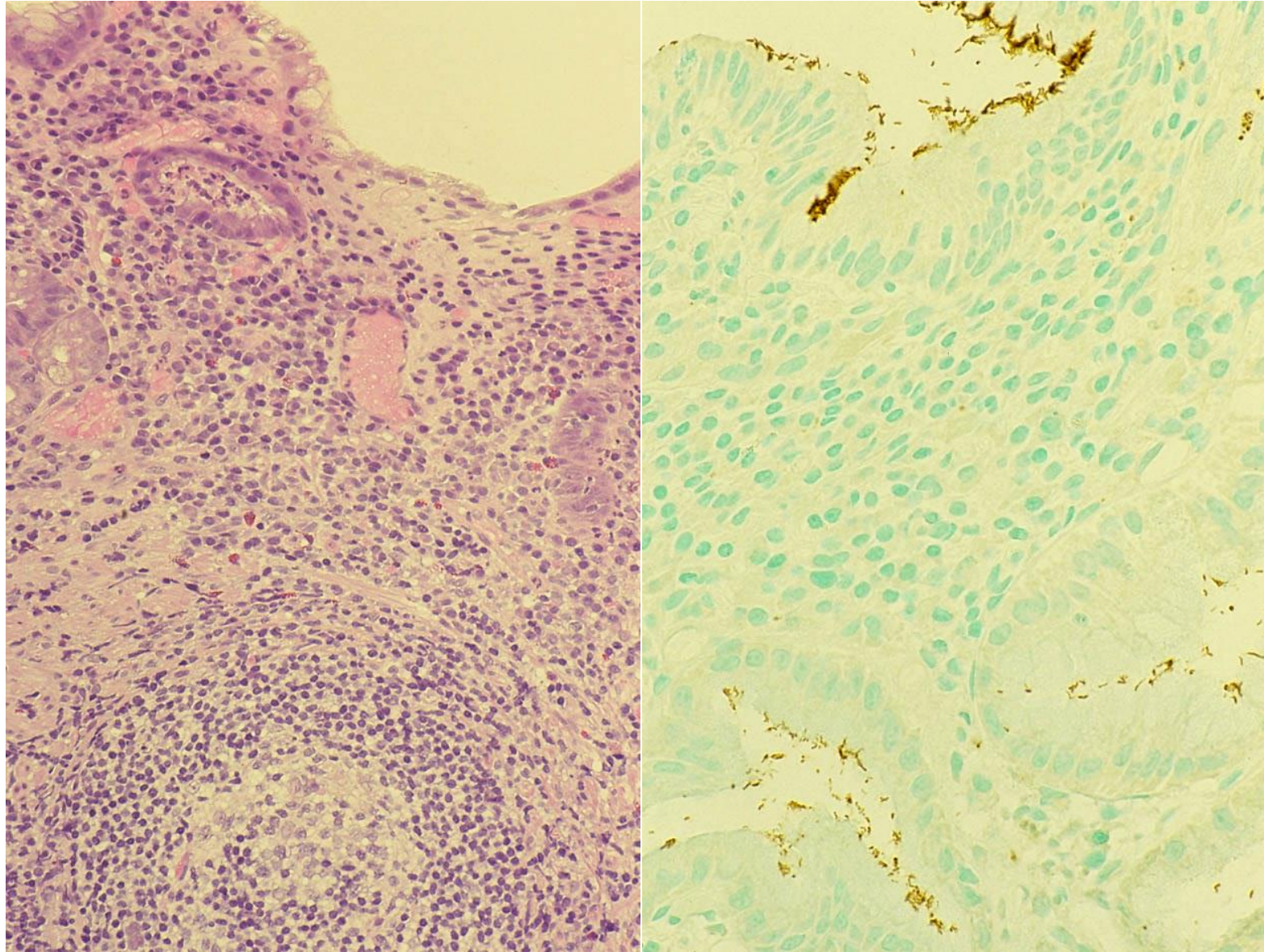
Ref.: Hori S, Tsutsumi Y. *Helicobacter pylori* infection in gastric xanthomas: Immunohistochemical analysis of 145 lesion. *Pathol Int* 1996; 46: 589-593. doi: 10.1111/j.1440-1827.1996.tb03658.x.



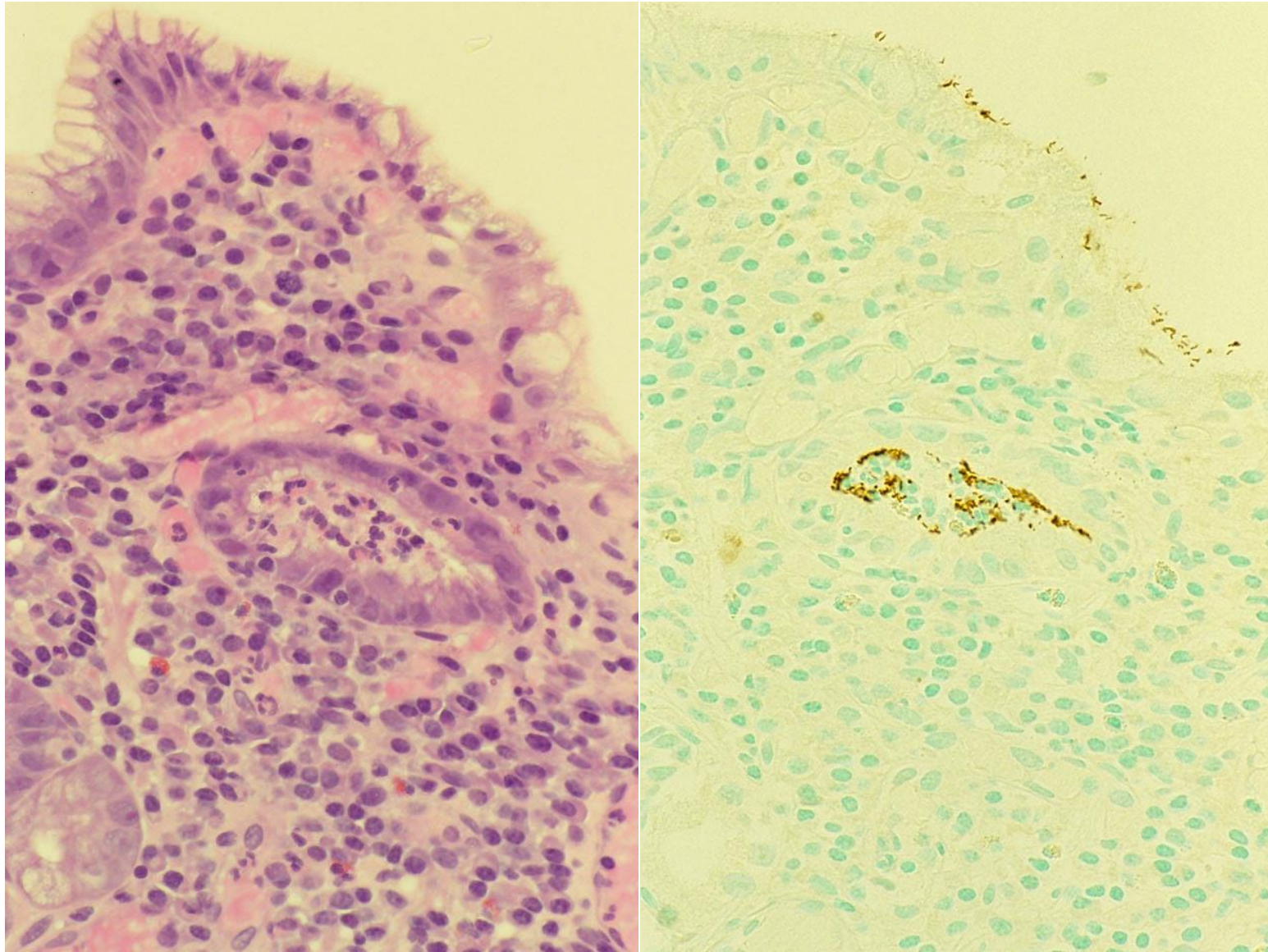
Chronic active gastritis with *Helicobacter pylori* infection. Spiral bacteria adhere to the mucous surface cells of the gastric mucosa. H&E-1



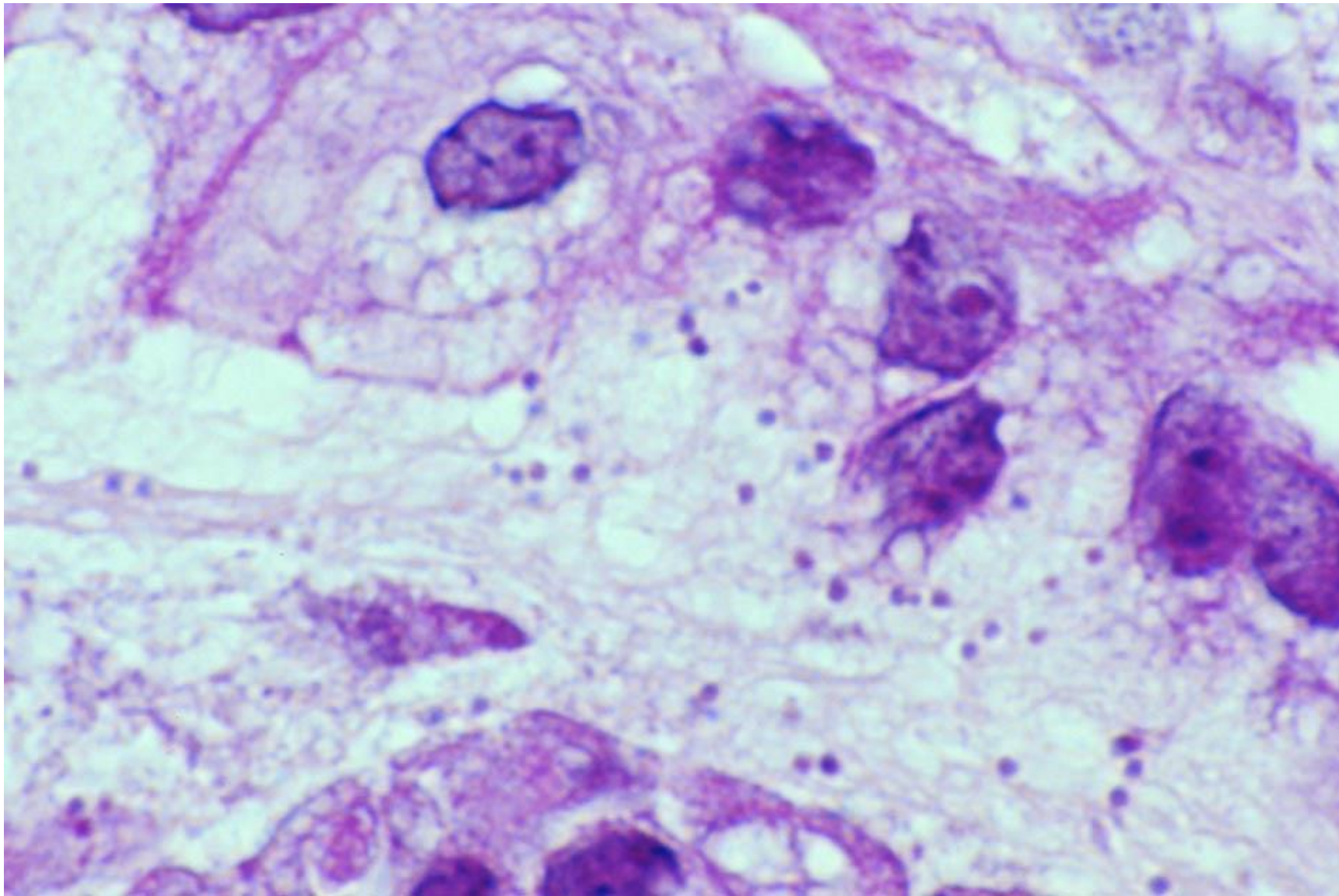
Chronic active gastritis with *Helicobacter pylori* infection. Warthin-Starry's silver demonstrates spiral bacteria on the inflamed gastric mucosa. Warthin-Starry



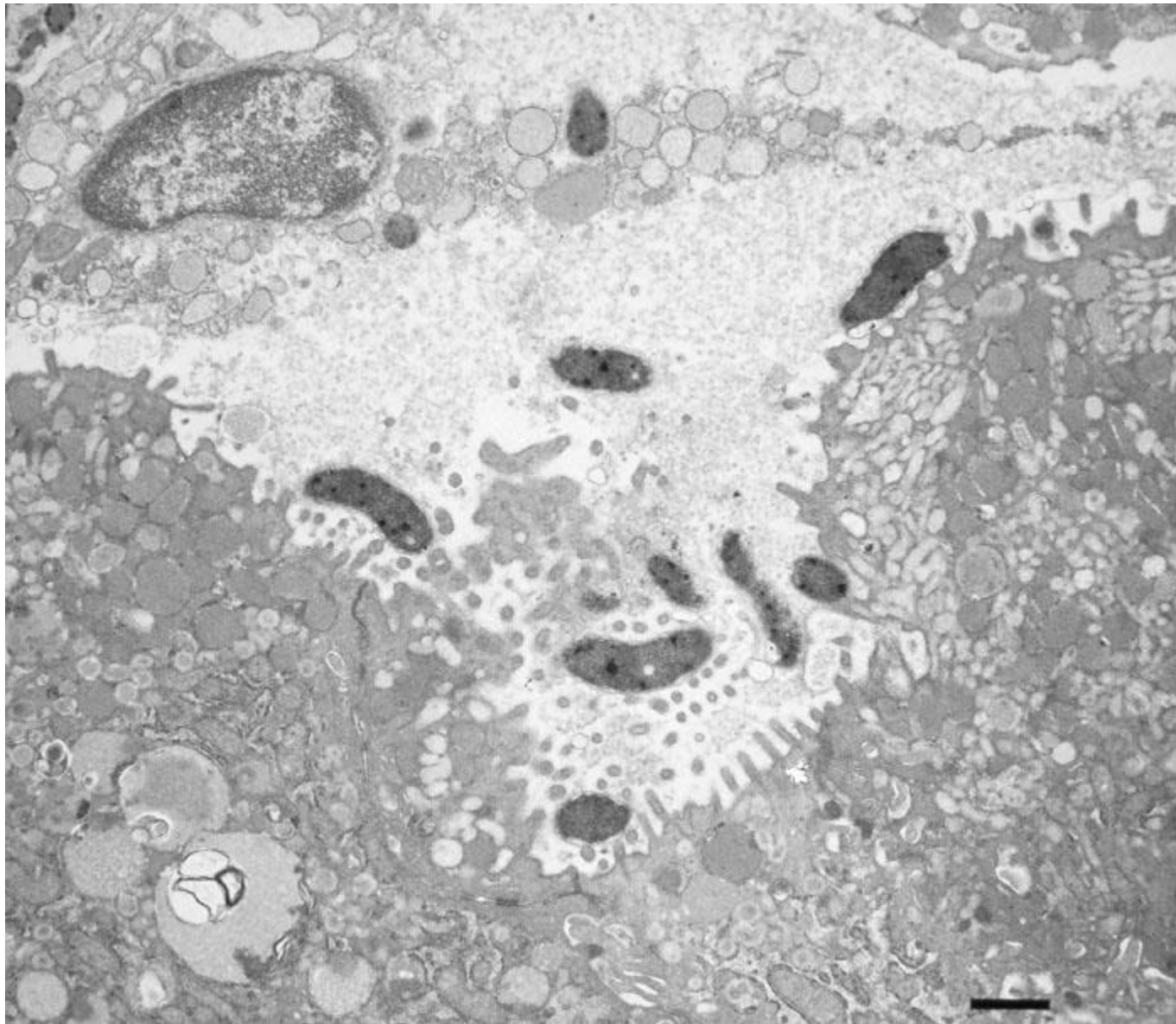
Chronic active gastritis with lymphoid follicle formation. *H. pylori* infection is observed. left: H&E, right: immunostaining for *H. pylori* Ag



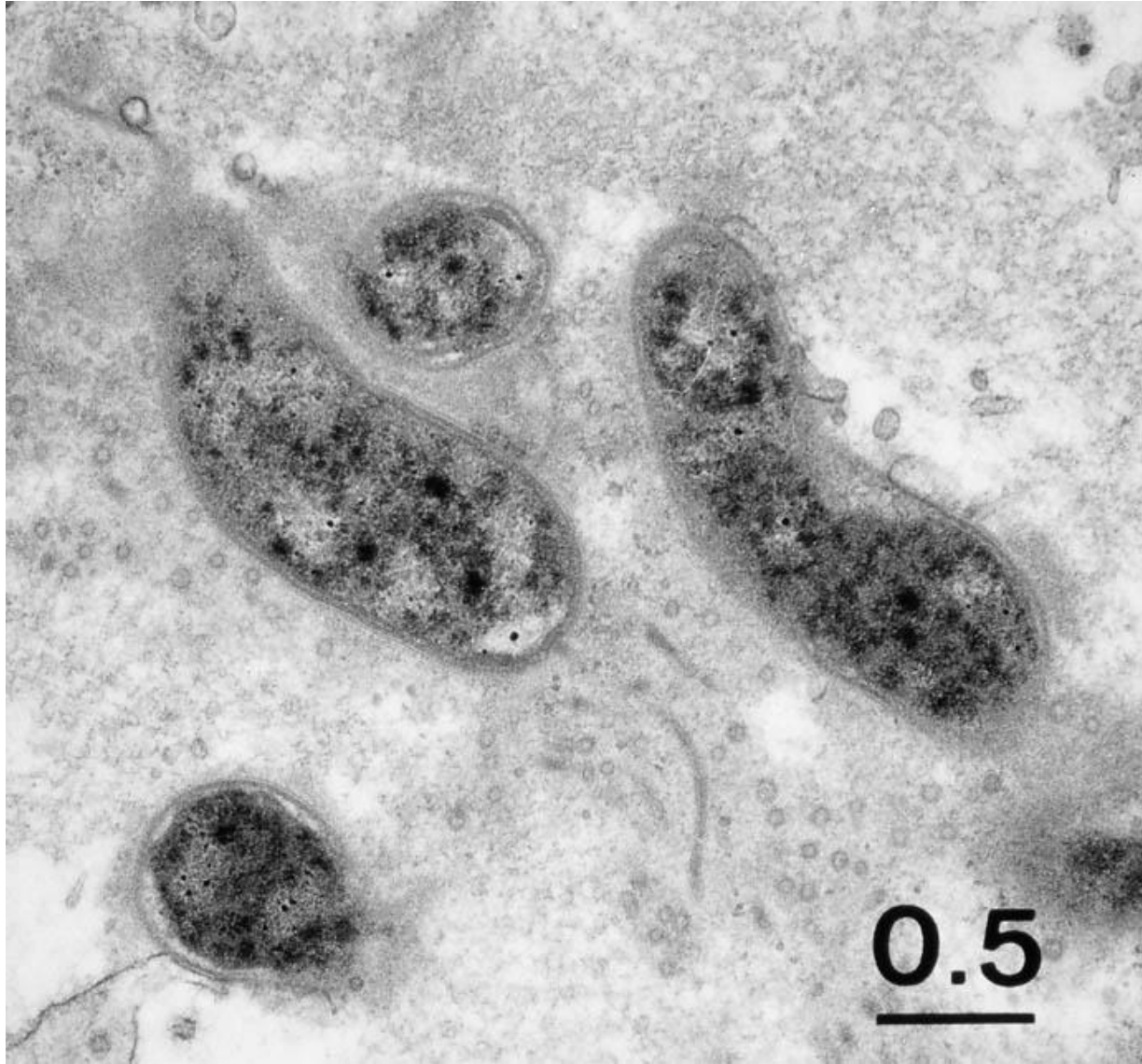
Chronic active gastritis with *Helicobacter pylori* infection. Spiral bacteria are phagocytized by neutrophils on the mucosal surface (left: H&E, right: immunostaining for *H. pylori* Ag)



Chronic active gastritis with *Helicobacter pylori* infection. Coccoid form of *H. pylori* is observed on the mucosal surface. H&E-2



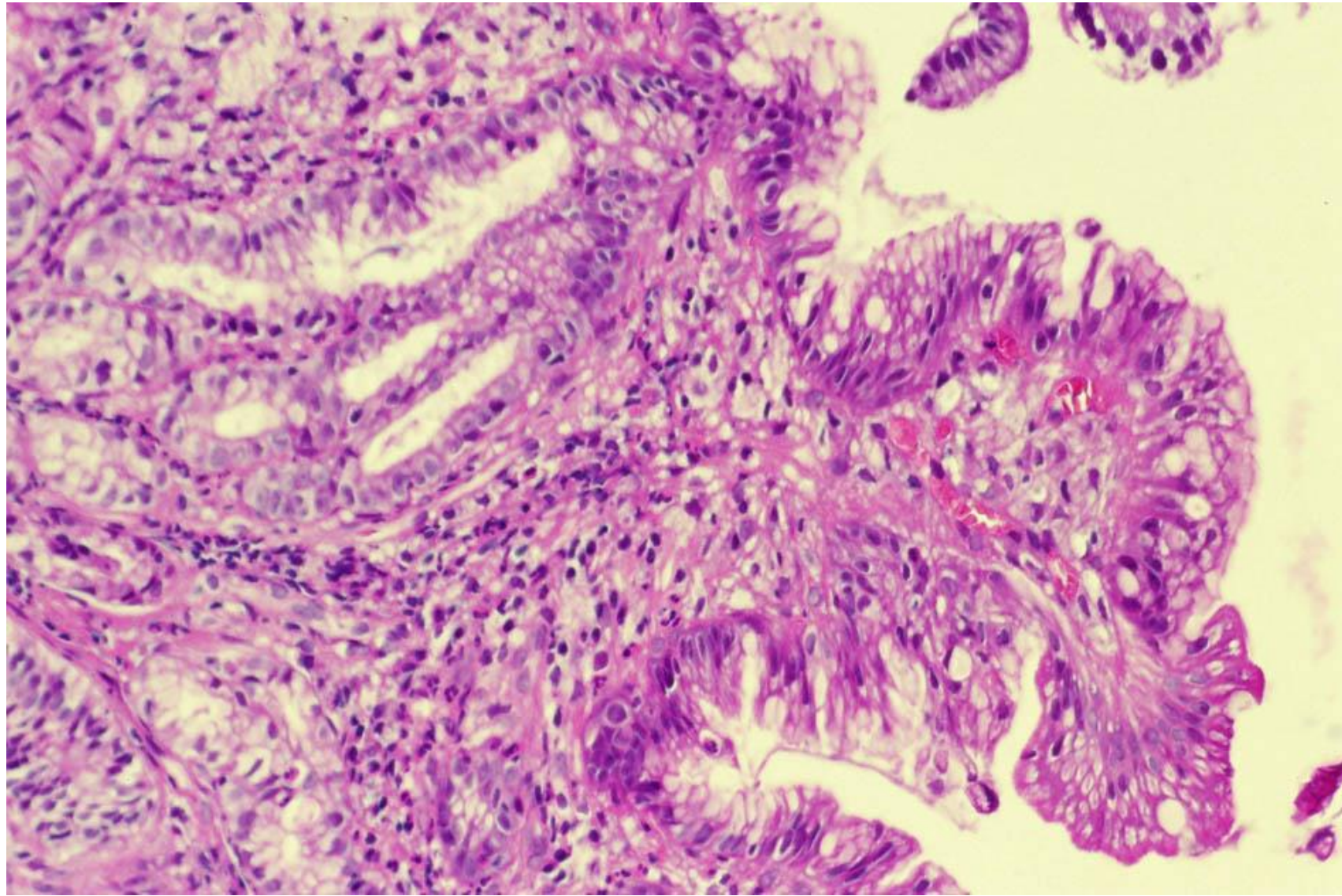
EM features of *H. pylori* on the mucosal surface. The spiral bacteria are located in the mucous layer on the mucosa. EM-1



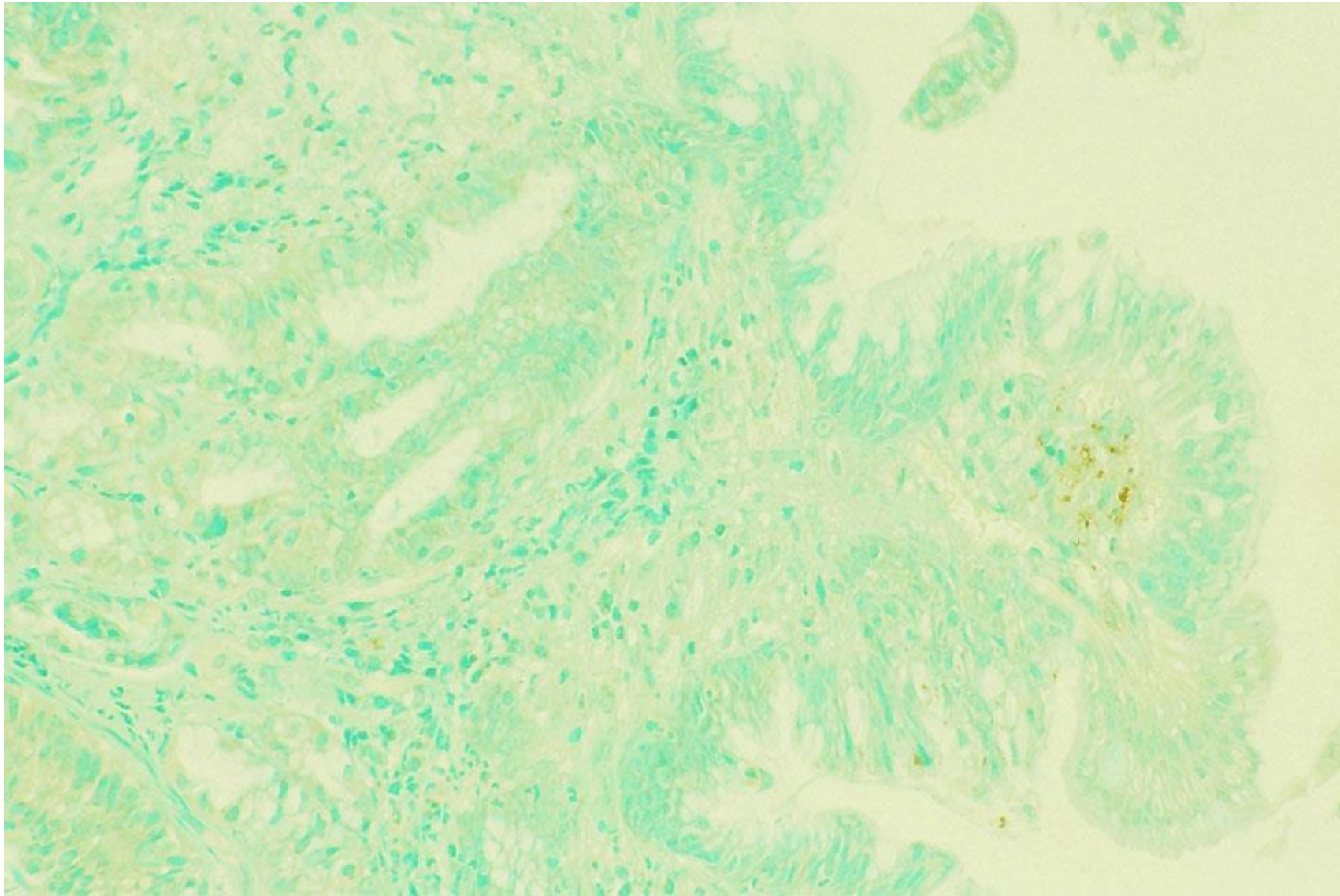
EM features of *H. pylori* on the mucosal surface. The spiral bacteria in the mucous layer on the mucosa possess flagellae. EM-2



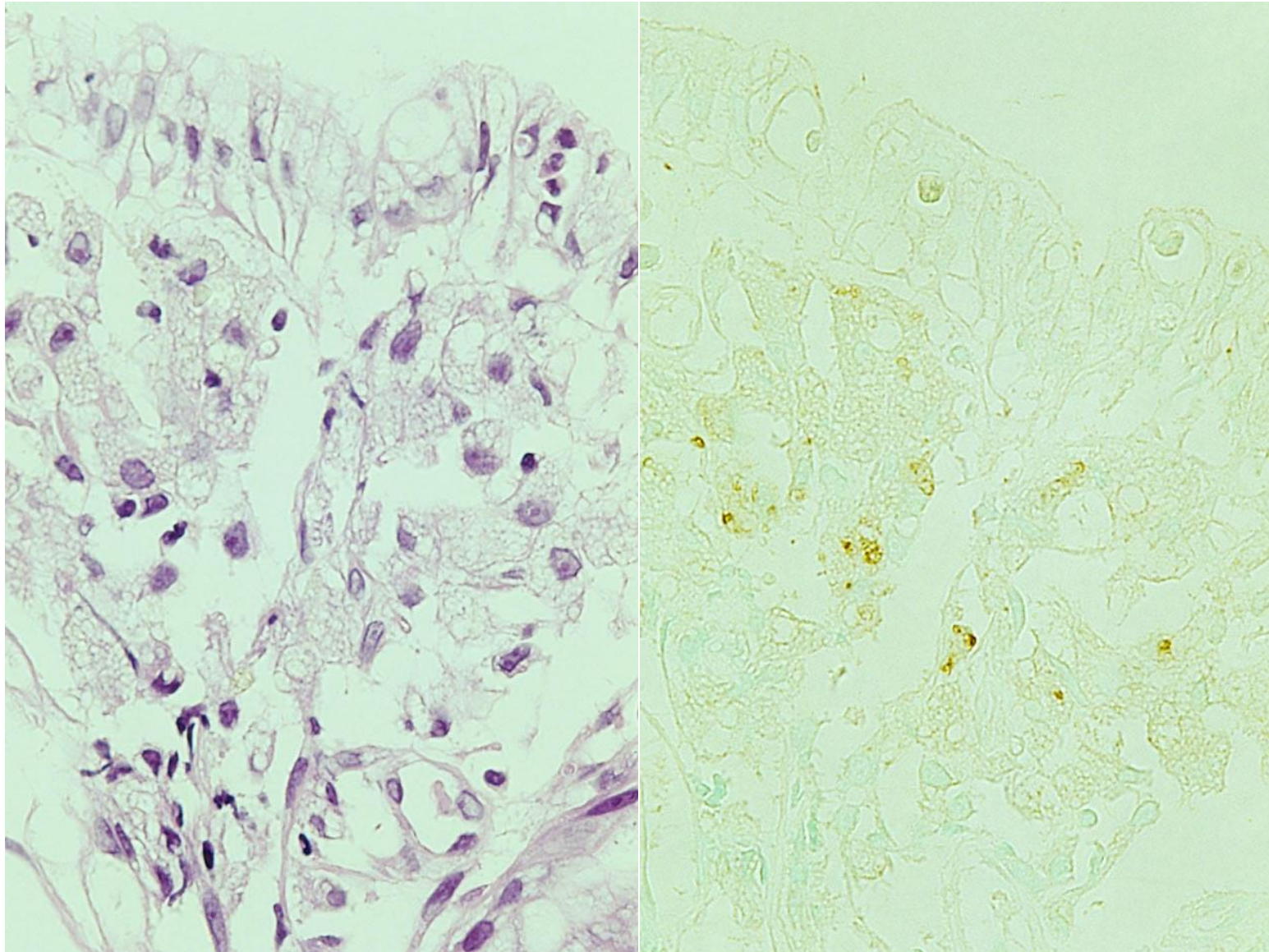
Endoscopic findings of gastric xanthoma. A yellowish mucosal patch is noted.



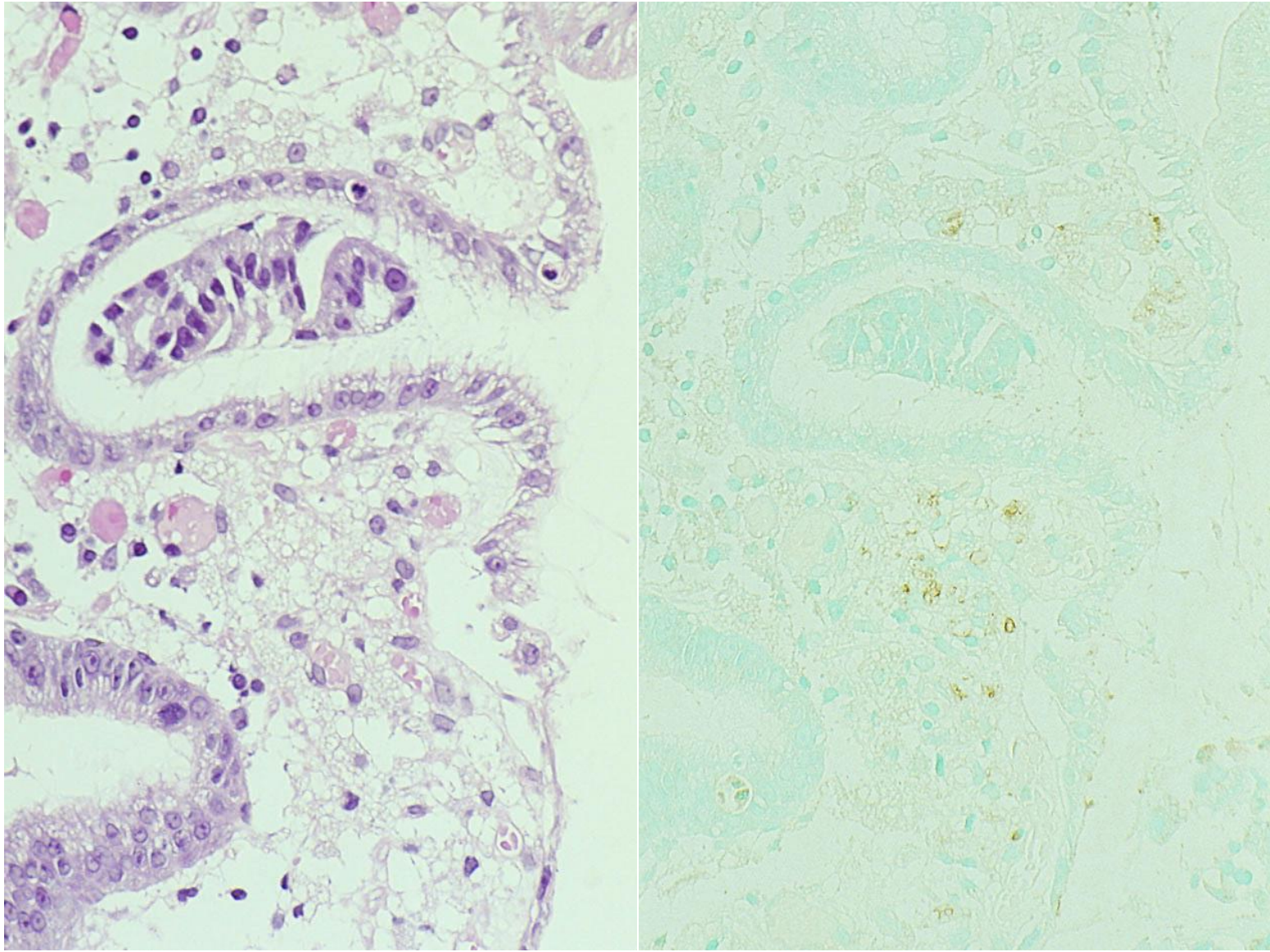
Microscopic findings of gastric xanthoma. Clustering of foamy macrophages is seen in the lamina propria mucosae. H&E-3



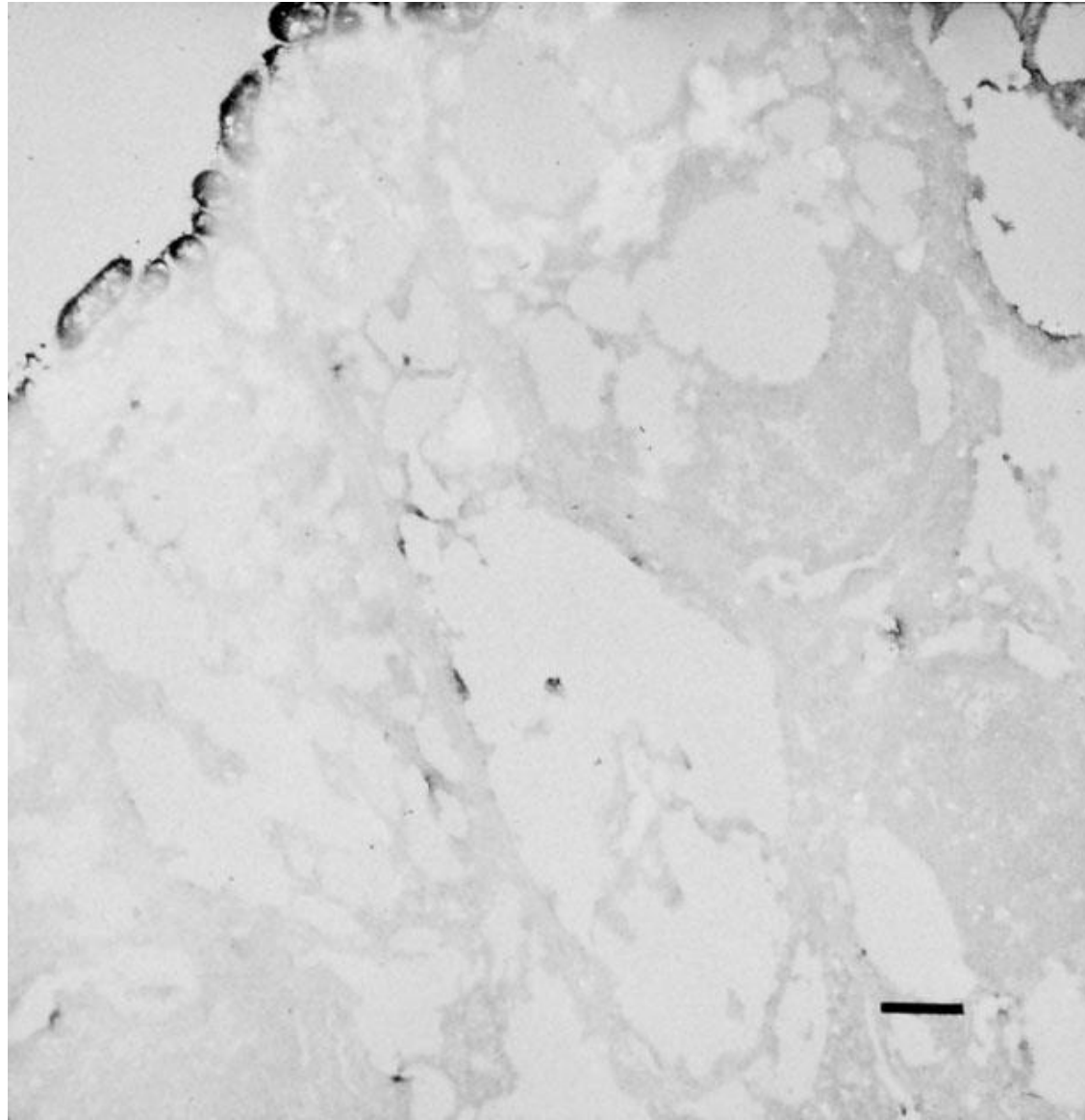
Microscopic findings of gastric xanthoma. Foamy macrophages clustered in the lamina propria mucosae are immunoreactive for *H. pylori* Ag. Immunostaining for *H. pylori* Ag



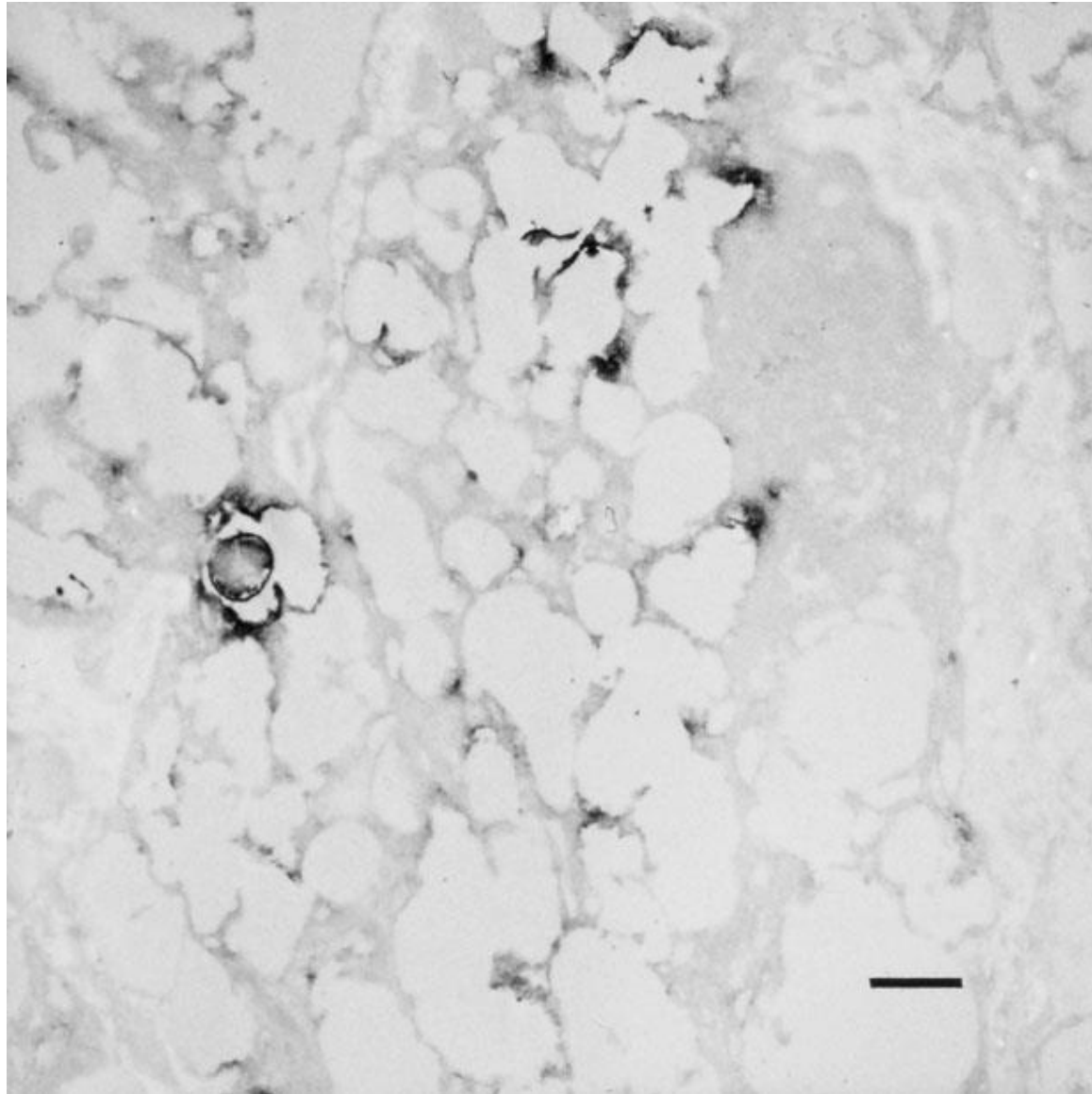
In gastric xanthoma, foamy macrophages are clustered in the lamina propria mucosae (left), and they are immunoreactive for *H. pylori* Ag (right). H&E and Immunostaining for *H. pylori* Ag



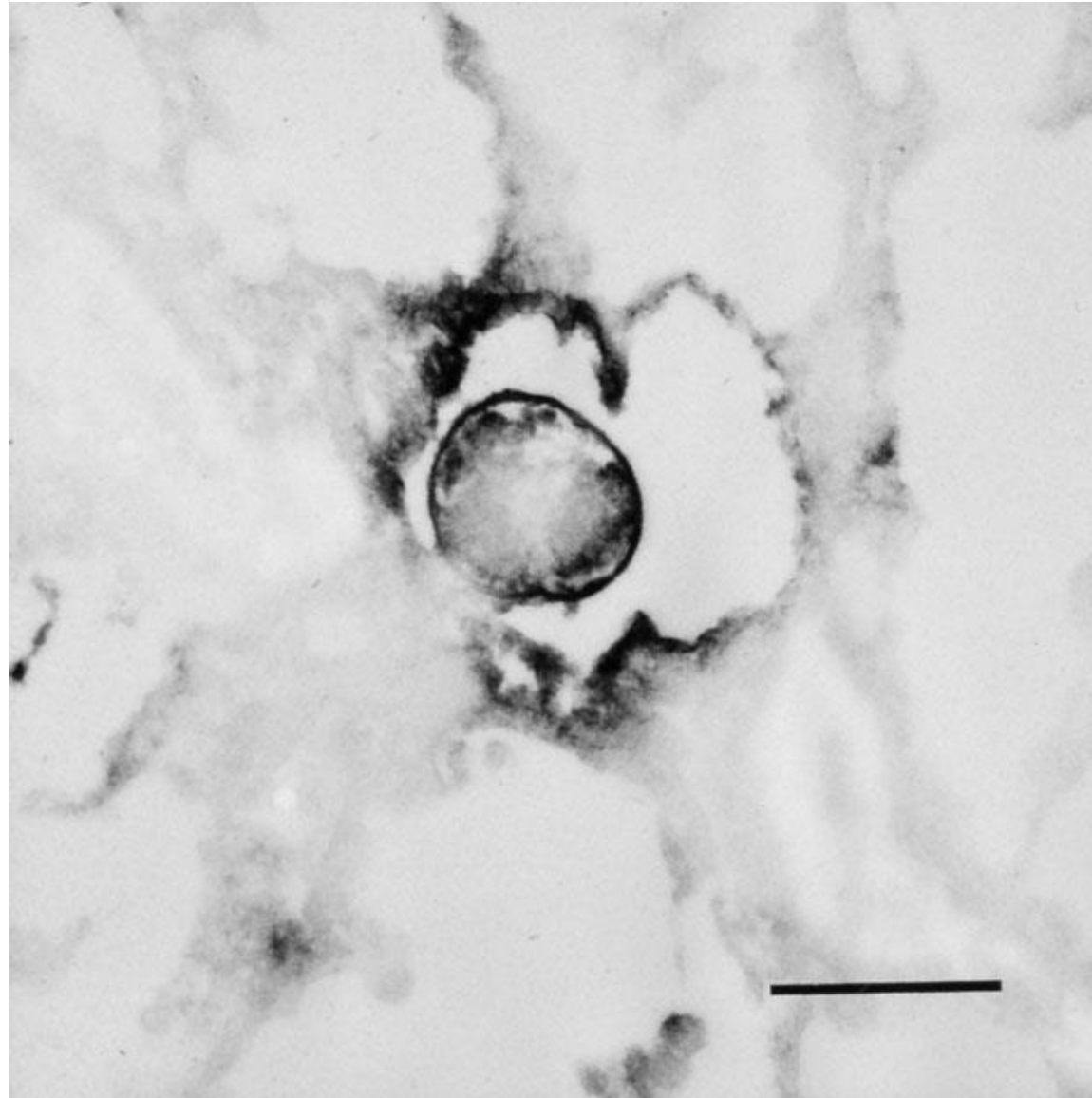
In gastric xanthoma, foamy macrophages are clustered in the lamina propria mucosae (left), and they are immunoreactive for *H. pylori* Ag (right). H&E and Immunostaining for *H. pylori* Ag



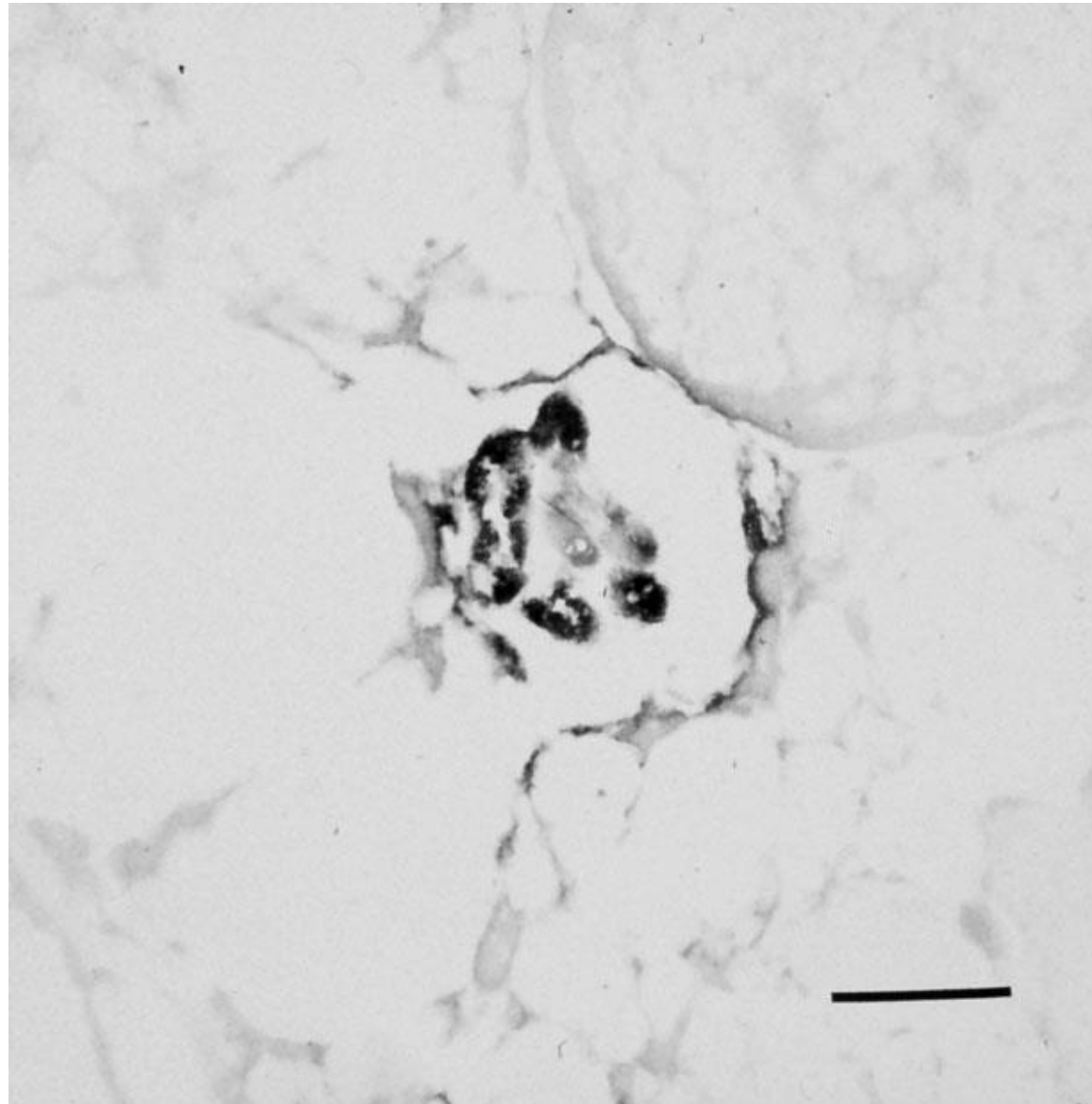
Immunoelectron microscopy, pre-embedding method, for *H. pylori* Ag, using paraffin section of gastric biopsy (1). *H. pylori* on the mucosal surface are immunolabeled.



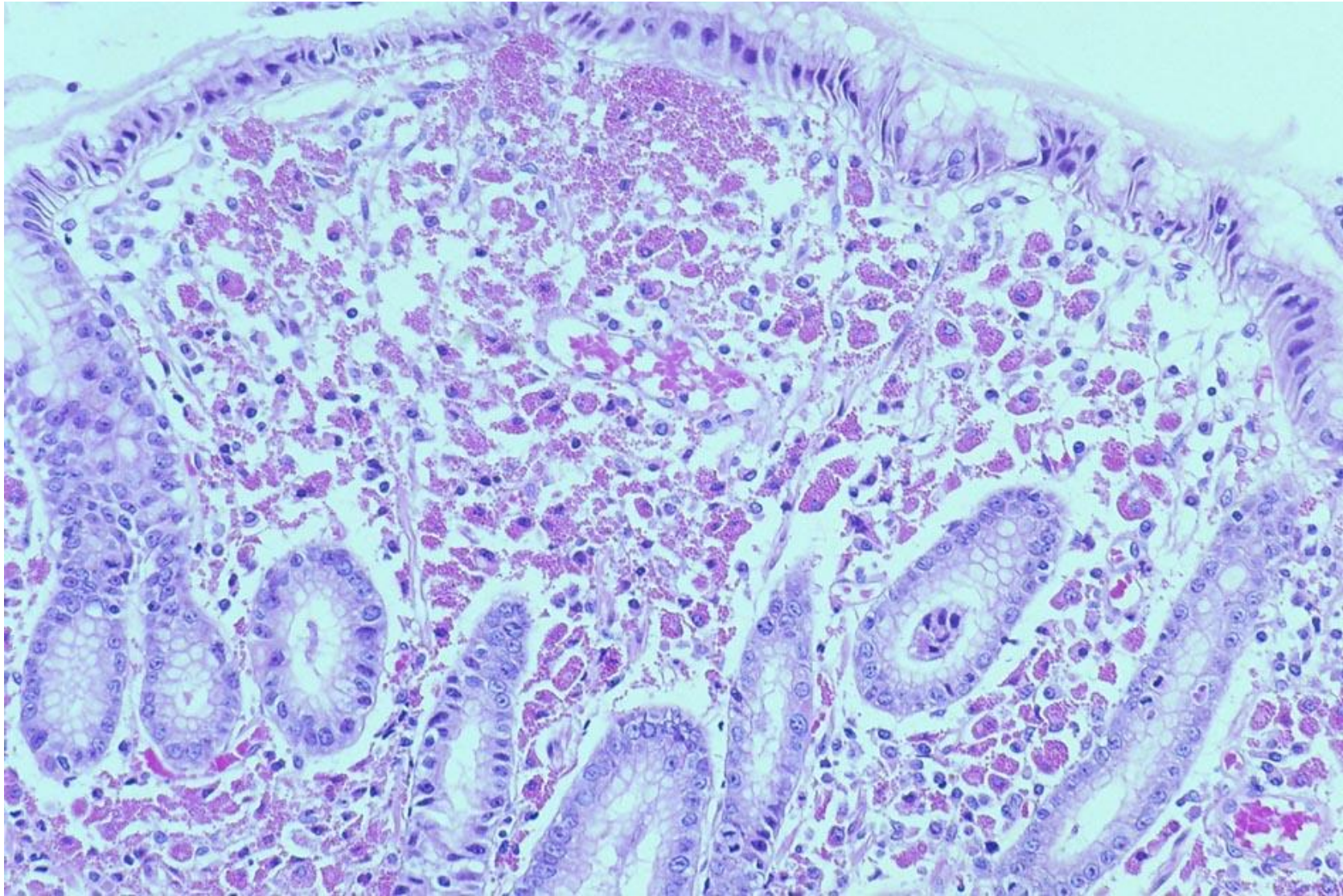
Immunoelectron microscopy, pre-embedding method, for *H. pylori* Ag, using paraffin section of gastric biopsy (2). *H. pylori* and its debris are immunolabeled in the cytoplasm of xanthoma cells.



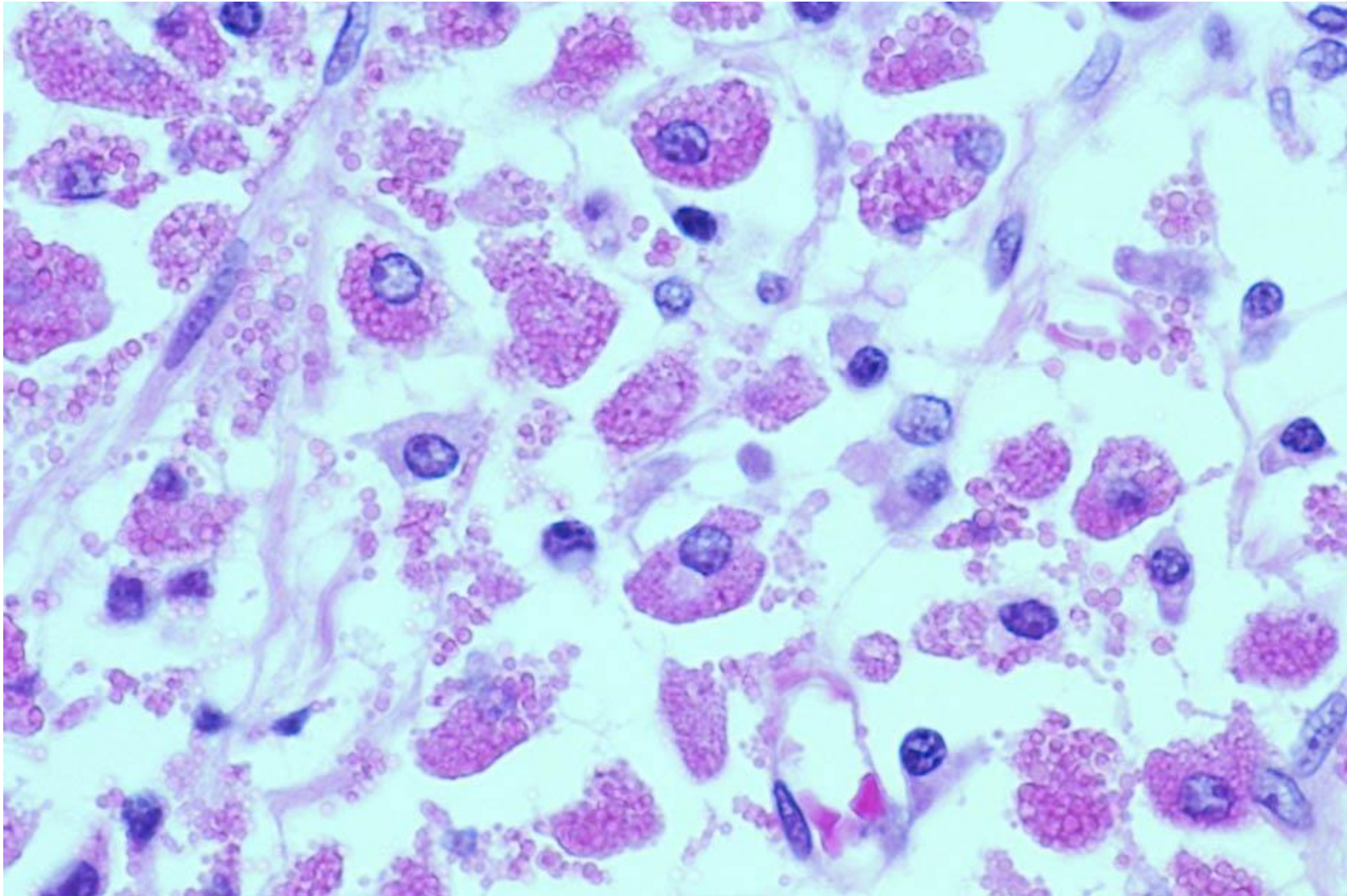
Immunoelectron microscopy, pre-embedding method, for *H. pylori* Ag, using paraffin section of gastric biopsy (3). *H. pylori* is positively immunolabeled in the cytoplasm of xanthoma cells.



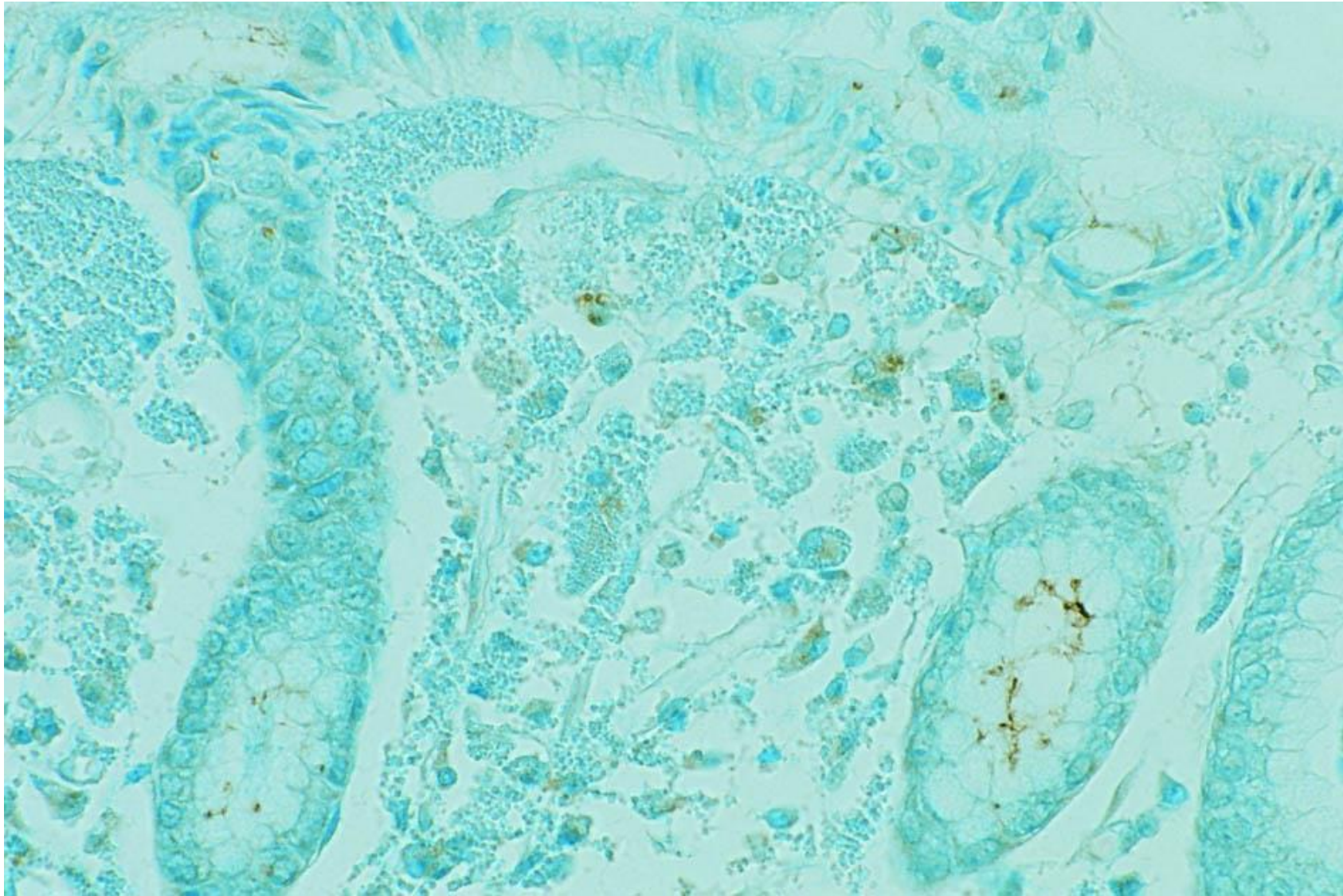
Immunoelectron microscopy, pre-embedding method, for *H. pylori* Ag, using paraffin section of gastric biopsy (4). *H. pylori* is positively immunolabeled in the cytoplasm of xanthoma cells.



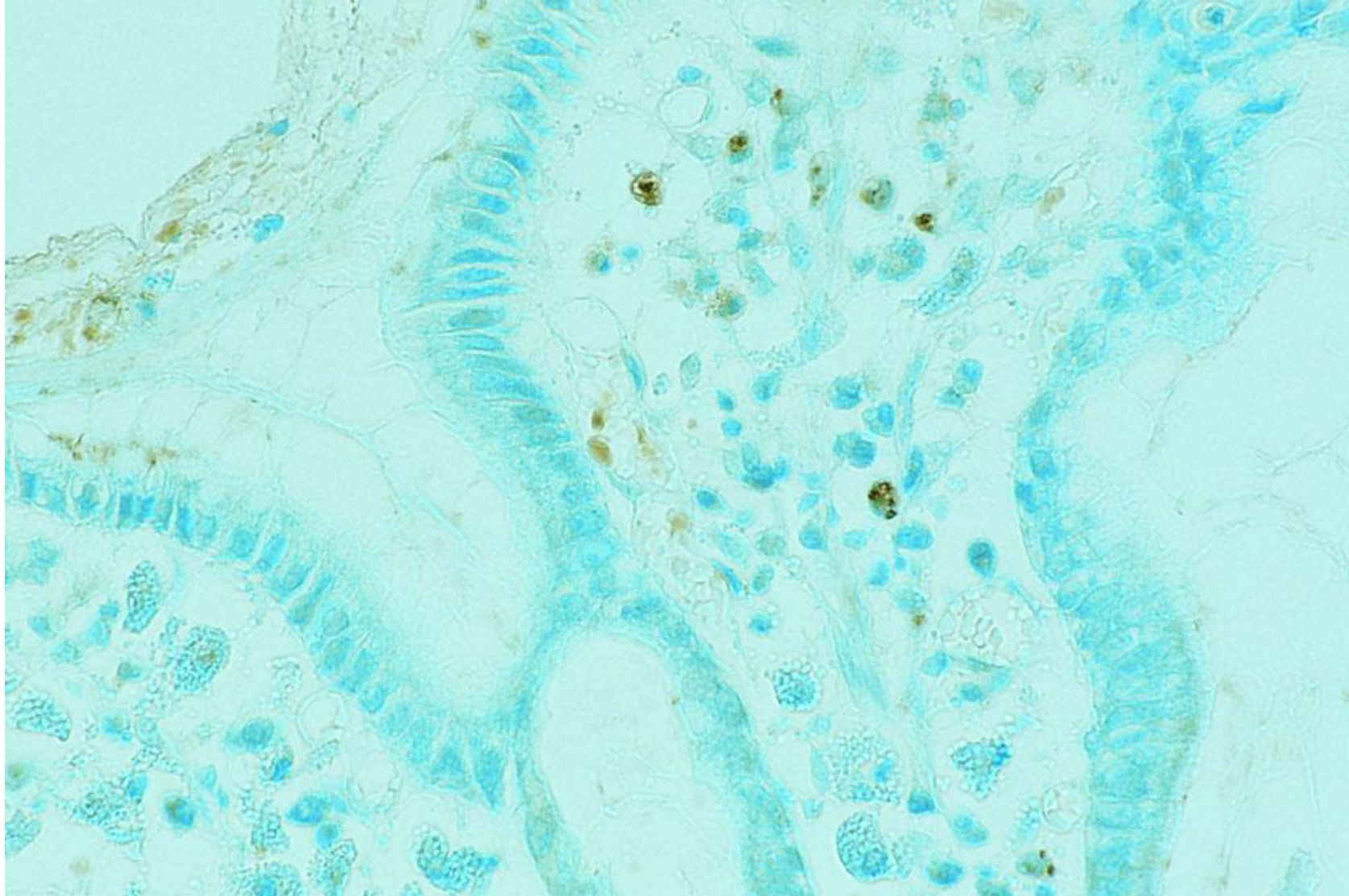
Other example of lamina propria penetration of *H. pylori*. Russell body gastritis is characterized by infiltration of mature plasma cells with eosinophilic Russell bodies. H&E-4



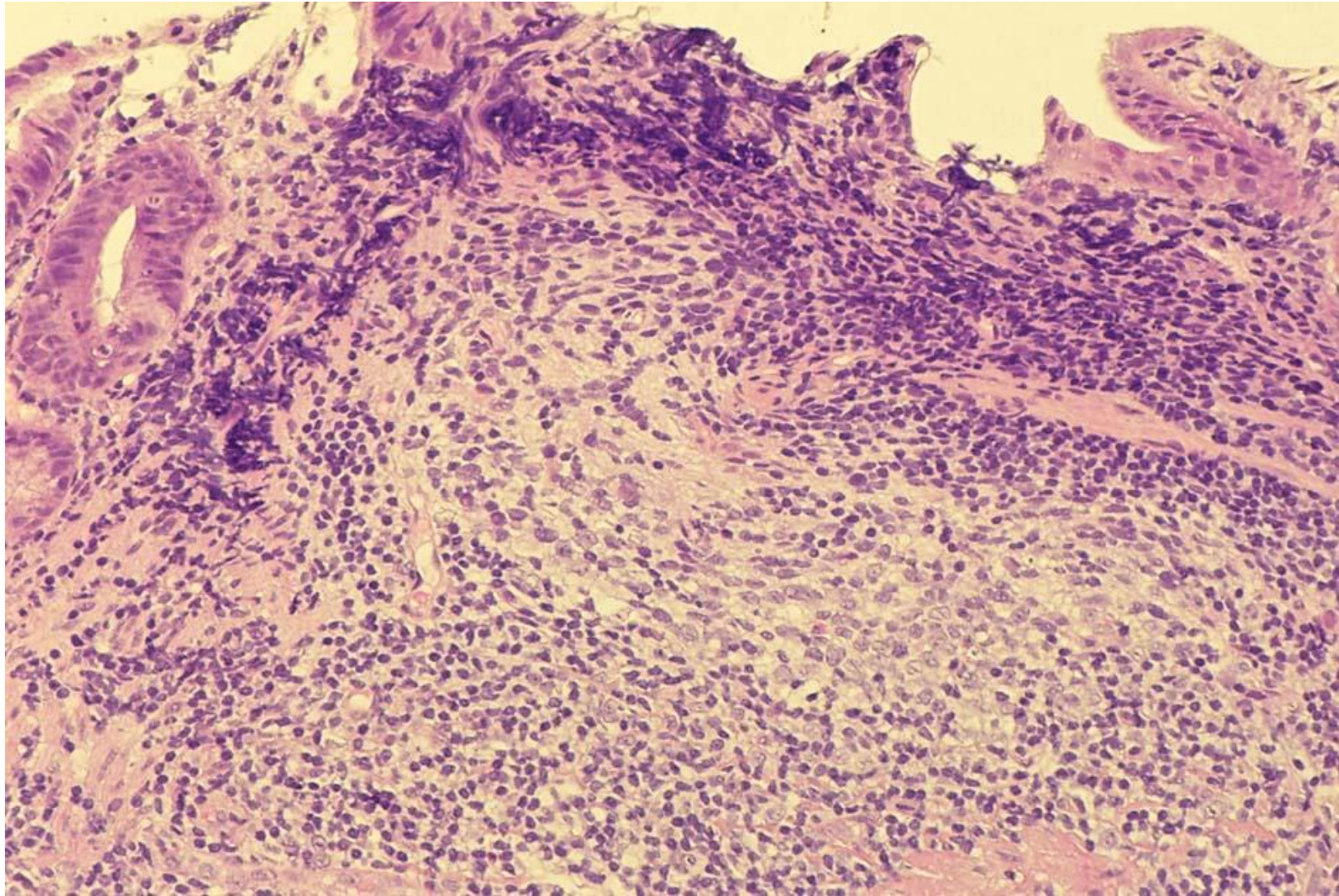
Russell body gastritis. Mature plasma cells contain eosinophilic Russell bodies in the cytoplasm. H&E-5



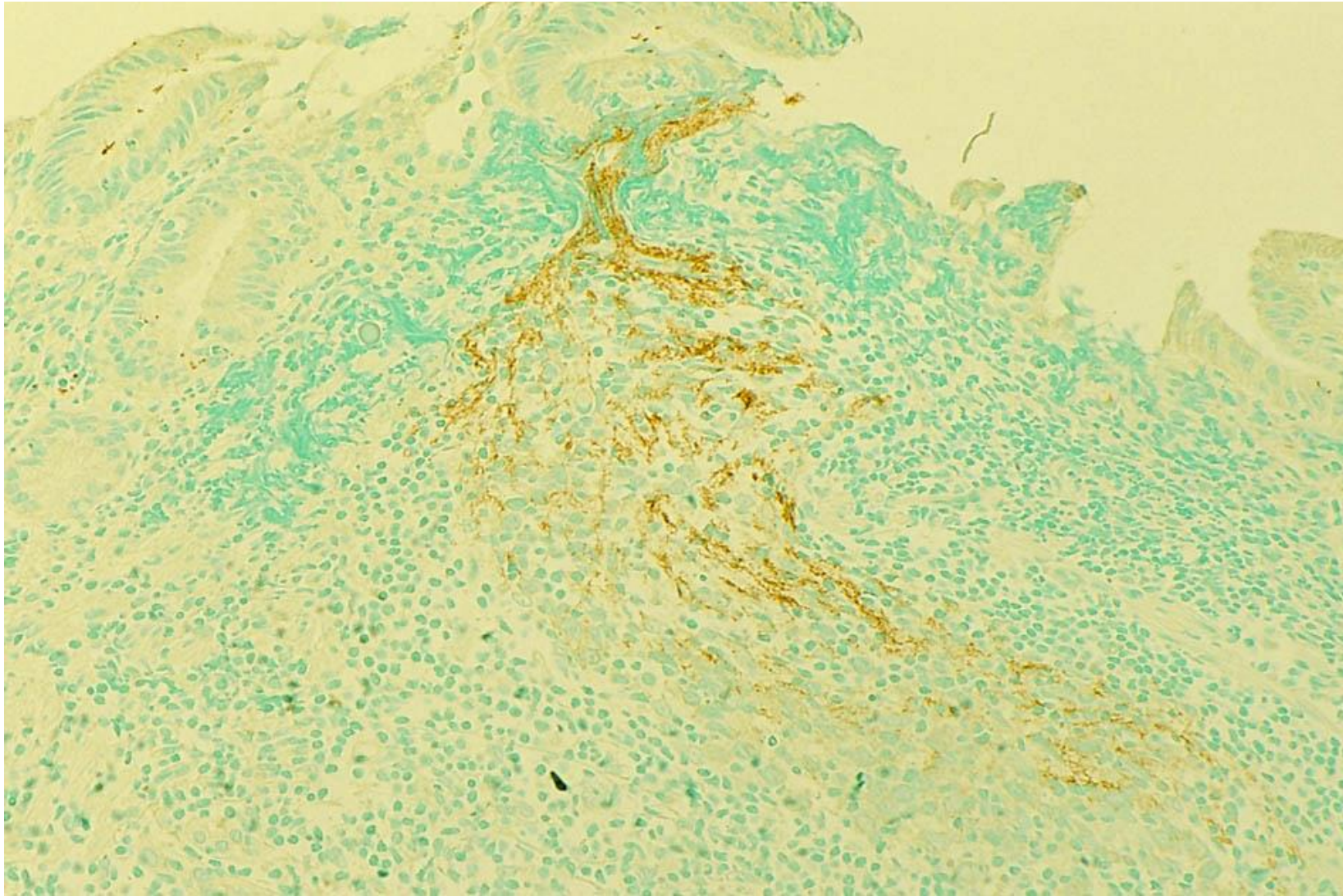
Russell body gastritis. *H. pylori* infection is observed on the mucosal surface, and lamina propria penetration of the bacteria is associated. Immunostaining for *H. pylori* Ag



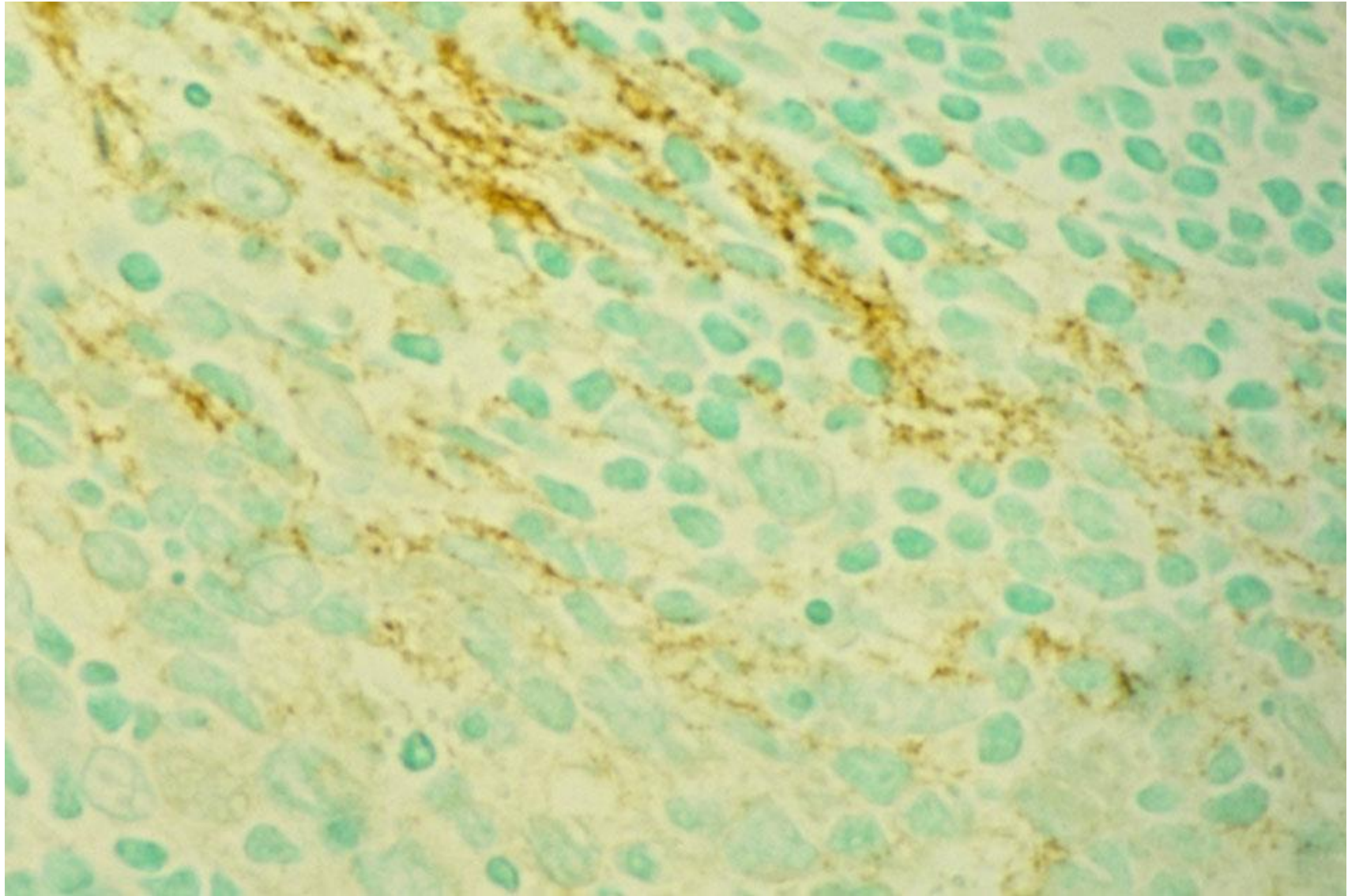
Russell body gastritis. *H. pylori* infection is observed on the mucosal surface, and lamina propria penetration of the bacteria is associated. Immunostaining for *H. pylori* Ag



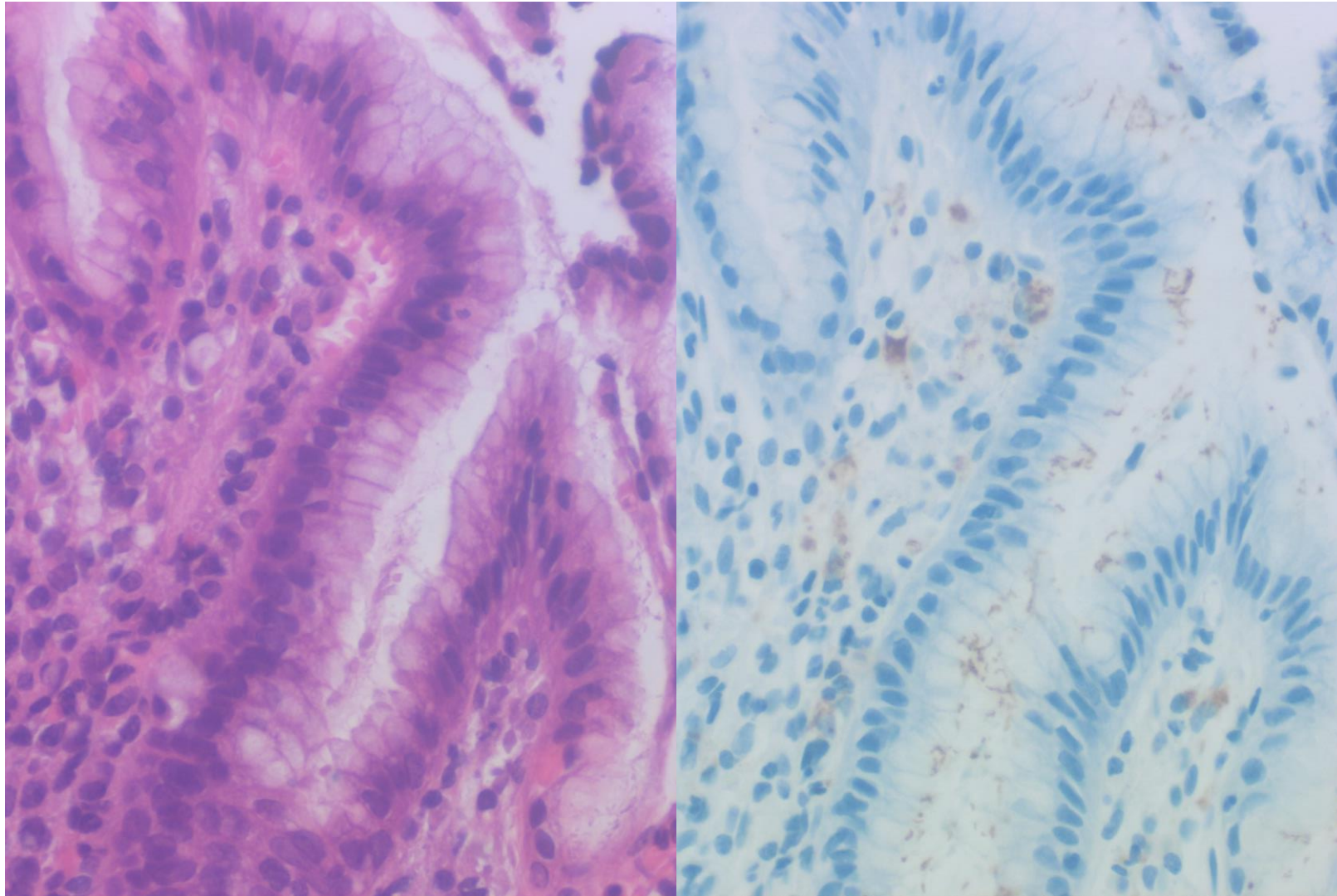
Chronic active gastritis with lymphoid follicle formation. H&E



Chronic active gastritis with lymphoid follicle formation.
Immunostaining for *H. pylori* Ag visualizes marked penetration of *H. pylori* in the lamina propria mucosae.



Chronic active gastritis with lymphoid follicle formation. High-powered view reveals lamina propria penetration of bacteria with *H. pylori* immunoreactivity.



Chronic active gastritis with *H. pylori* infection. Immunostaining for *H. pylori* Ag visualizes penetration of *H. pylori* in the lamina propria mucosae. Left: H&E, right: immunostaining for *H. pylori* Ag