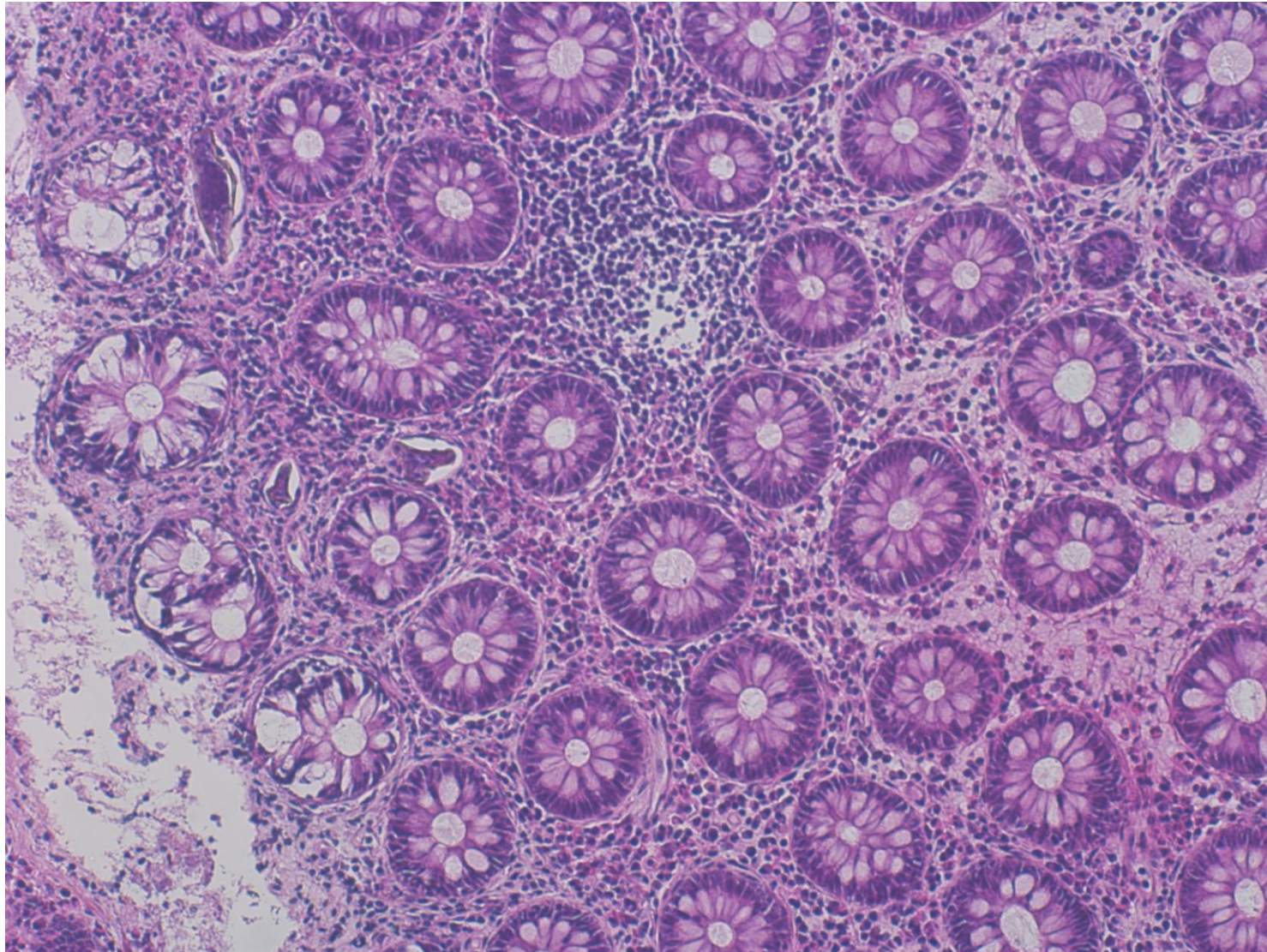


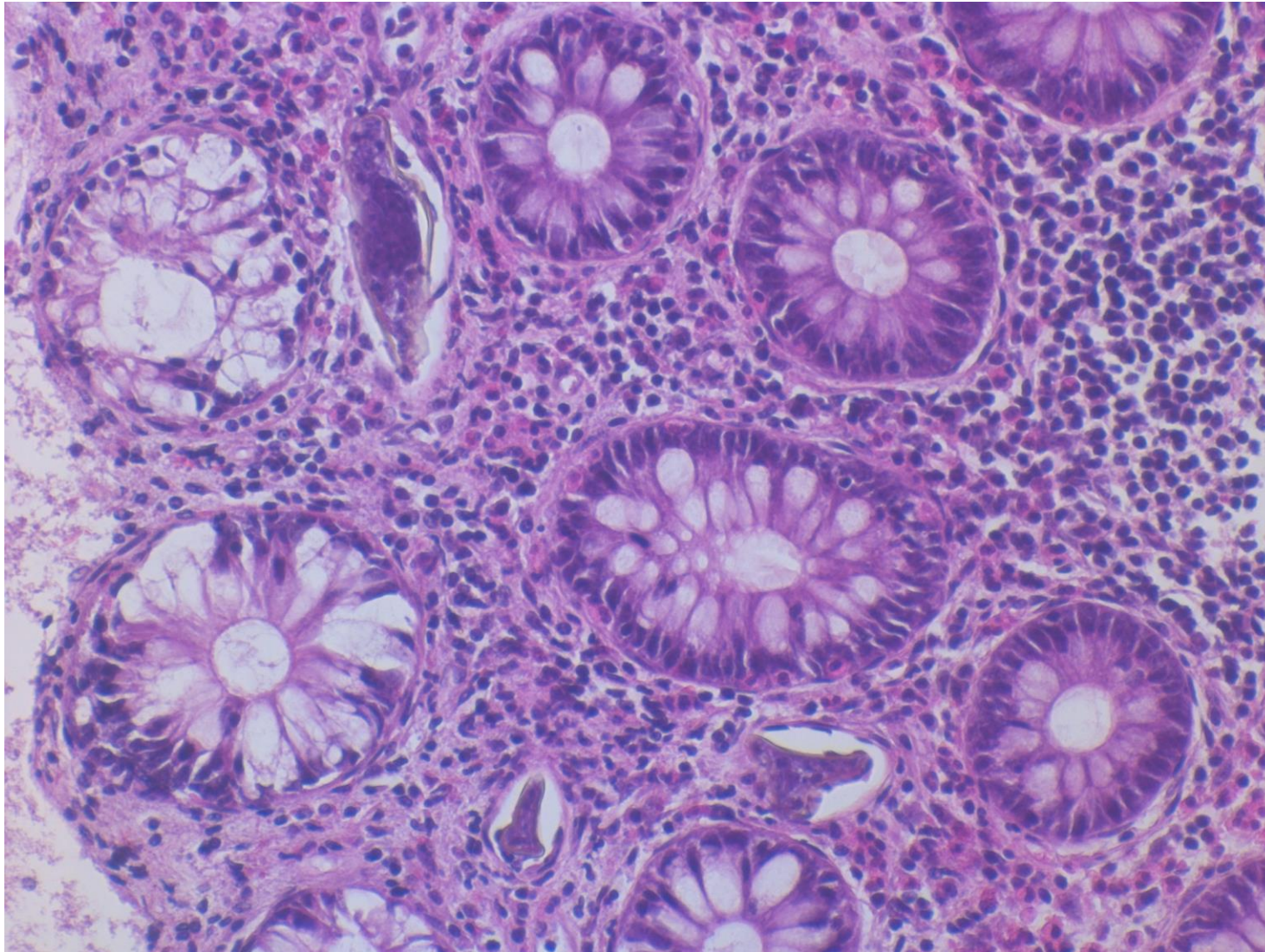
# Colonic strongyloidiasis with intestinal spirochetosis

A 47-year-old man complained of chronic diarrhea. The patient was born in Okinawa, Japan. The peripheral blood has white blood cells 3,800/ $\mu$ L with 20% eosinophils. No atypical lymphocytes are observed, excluding the possibility of adult T-cell leukemia. Colon biopsy reveals tissue-invading larvae of *Strongyloides stercoralis* provoking eosinophilic infiltration around the parasites. Small epithelioid granulomas with eosinophilic are formed in the mucosa and submucosa. Strongyloidiasis is usually seen in the small intestine. The microscopic appearance, as well as the colonic involvement of the infection, indicate autoinfection/hyperinfection of *S. stercoralis*. In addition, intestinal spirochetosis is observed on the colonic surface mucosa (GI-383-1-1-colorectum, GI-383-1-2-colorectum and GI-383-2-colorectum). Long basophilic pathogens (*Brachyspira aalborgi*) are densely attached onto the colonic mucosal surface. Giemsa and Warthin-Starry's silver stains decorate the pathogens. Opportunistic dual infections of *S. stercoralis* and *B. aalborgi* are indicated in the present Japanese case.

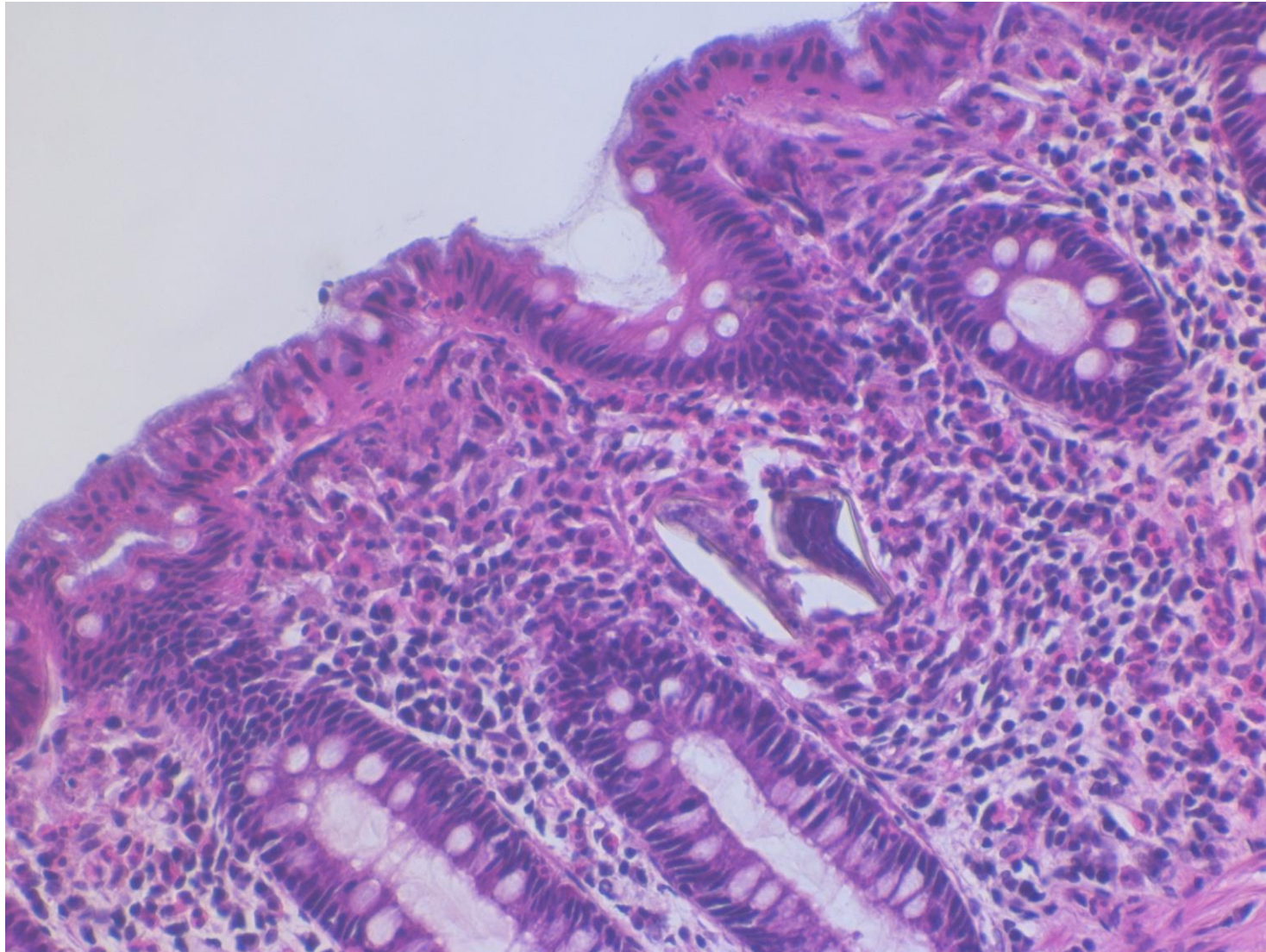
Ref.: Greaves D, et al. Strongyloides stercoralis infection. BMJ 2013; 347:f4610. doi: 10.1136/bmj.f4610



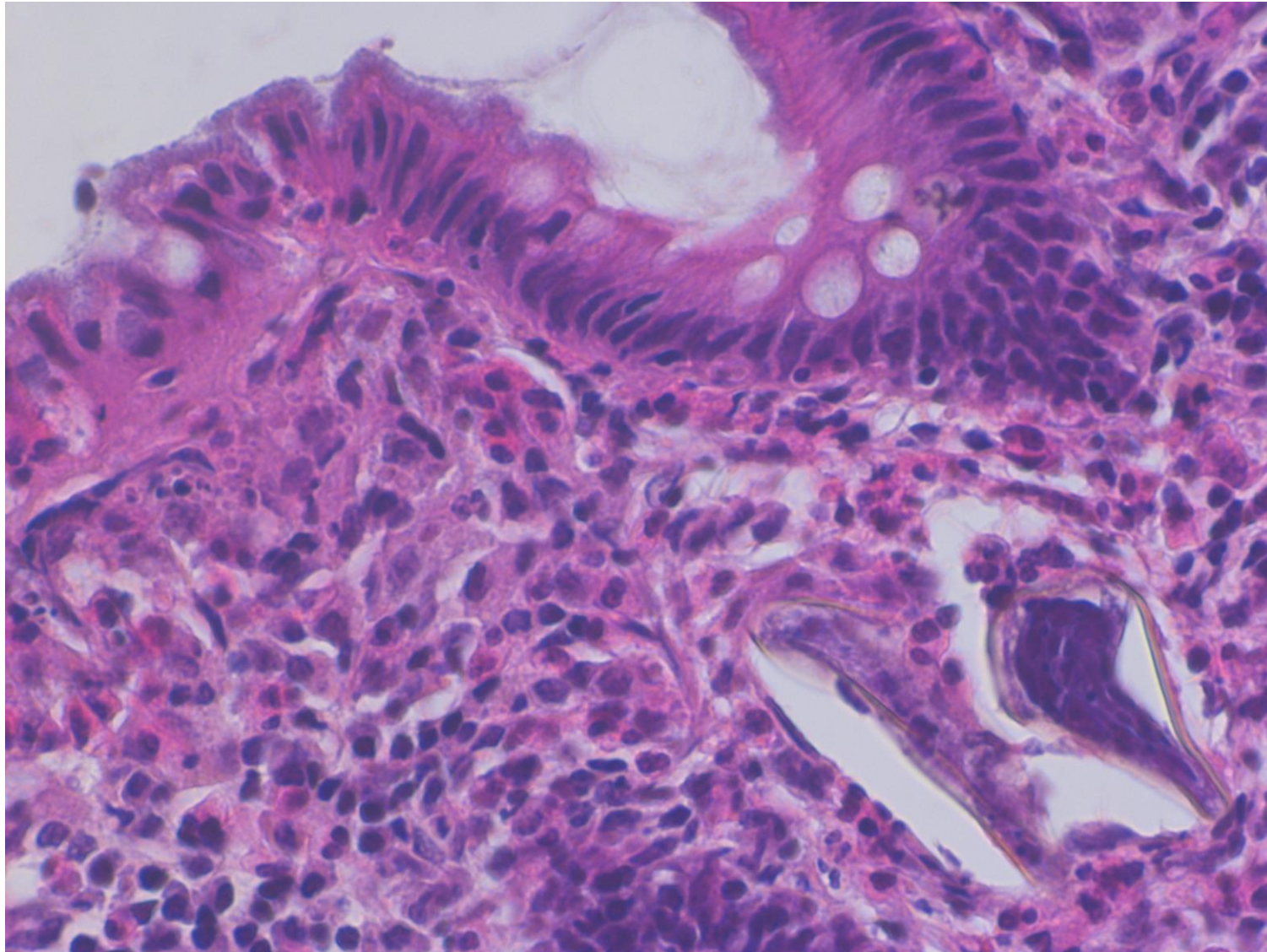
Colonic strongyloidiasis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small nematode larvae are focally seen in the lamina propria, in association with eosinophilic infiltration and lymphoid follicle formation. H&E-1



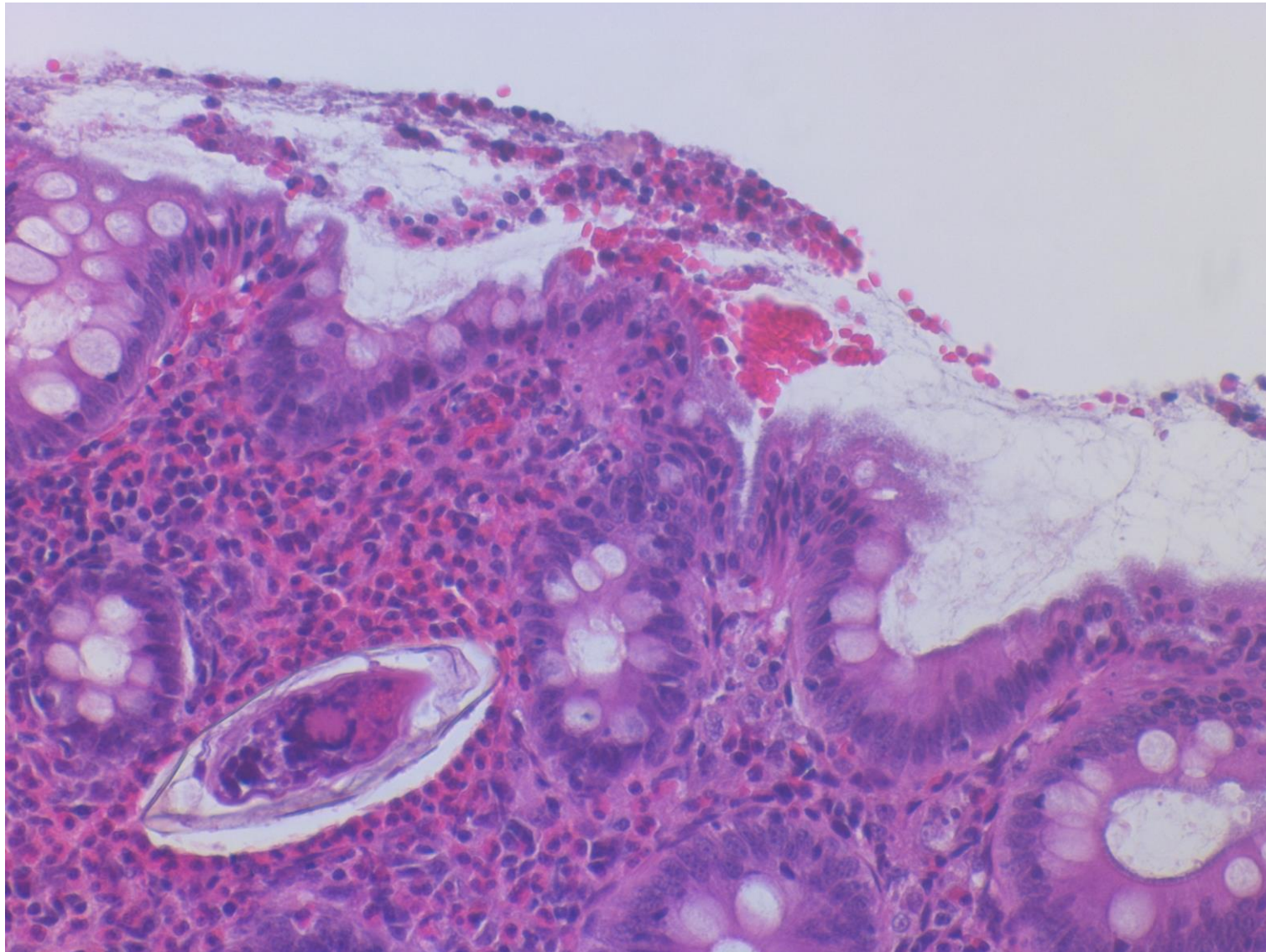
Colonic strongyloidiasis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small nematode larvae are focally seen in the lamina propria, in association with eosinophilic infiltration and lymphoid follicle formation. H&E-2



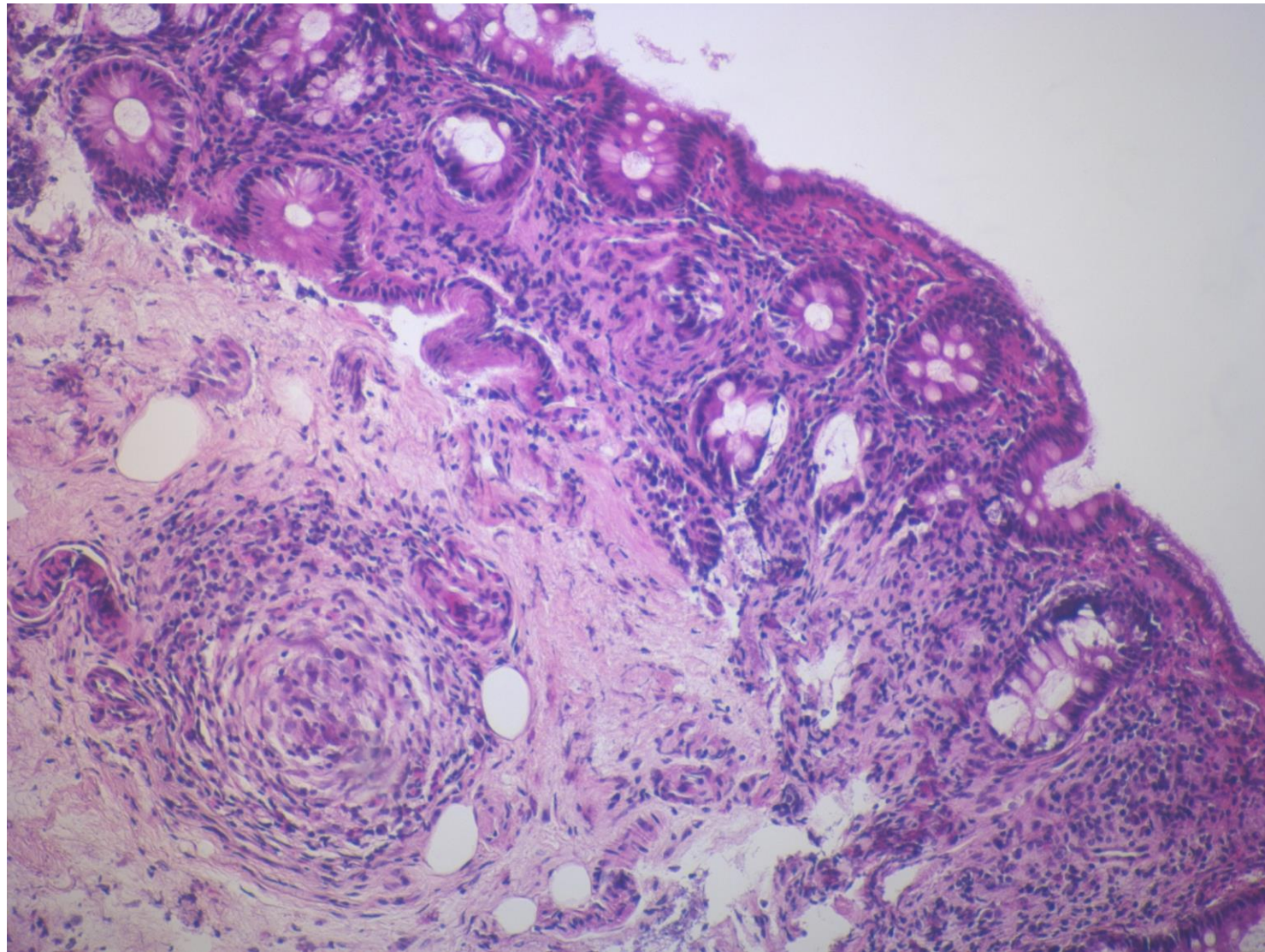
Colonic strongyloidiasis with intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. A small nematode larva is focally seen in the lamina propria, in association with eosinophilic infiltration. Note basophilic clusters of long bacteria on the mucosal surface. H&E-3



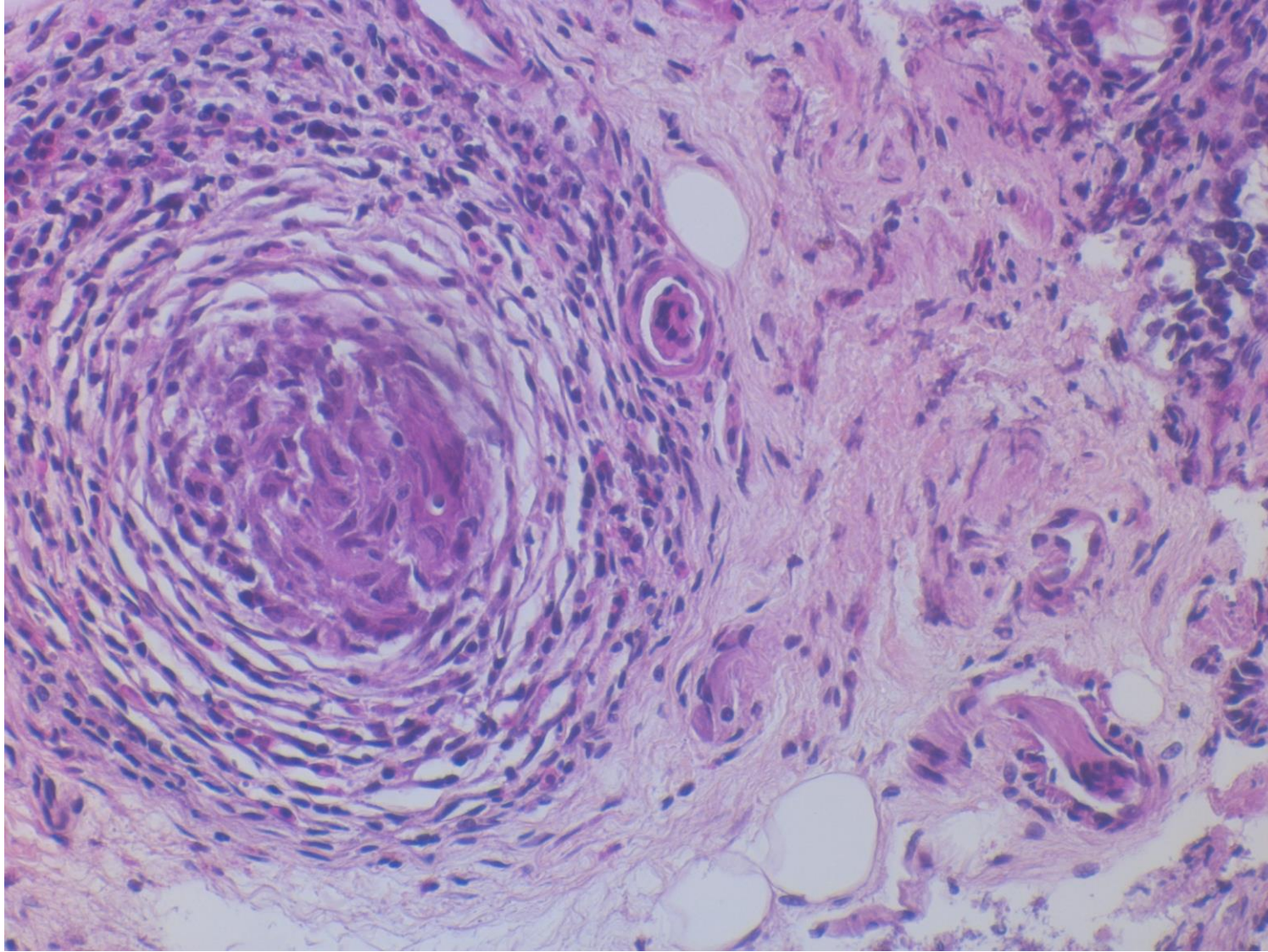
Colonic strongyloidiasis with intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small nematode larvae are focally seen in the lamina propria, in association with eosinophilic infiltration. Note basophilic clusters of long bacteria on the mucosal surface. H&E-4



Colonic strongyloidiasis with intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small nematode larvae are focally seen in the lamina propria, in association with eosinophilic infiltration. Note basophilic clusters of long bacteria on the mucosal surface. H&E-5

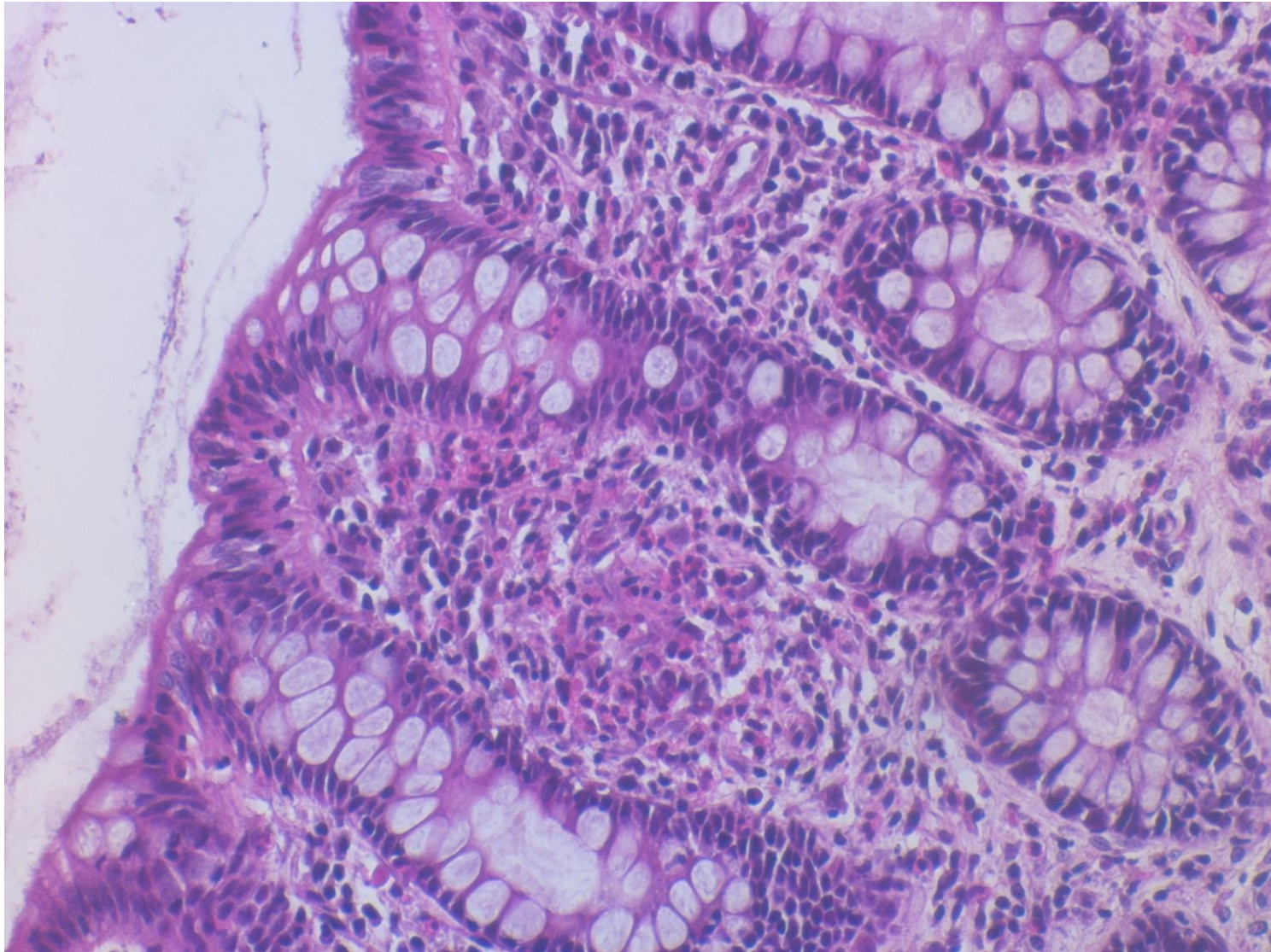


Colonic strongyloidiasis with intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small epithelioid granuloma is formed in the submucosa, and mild eosinophilic infiltration is associated. Note basophilic clusters of long bacteria on the mucosal surface. H&E-6

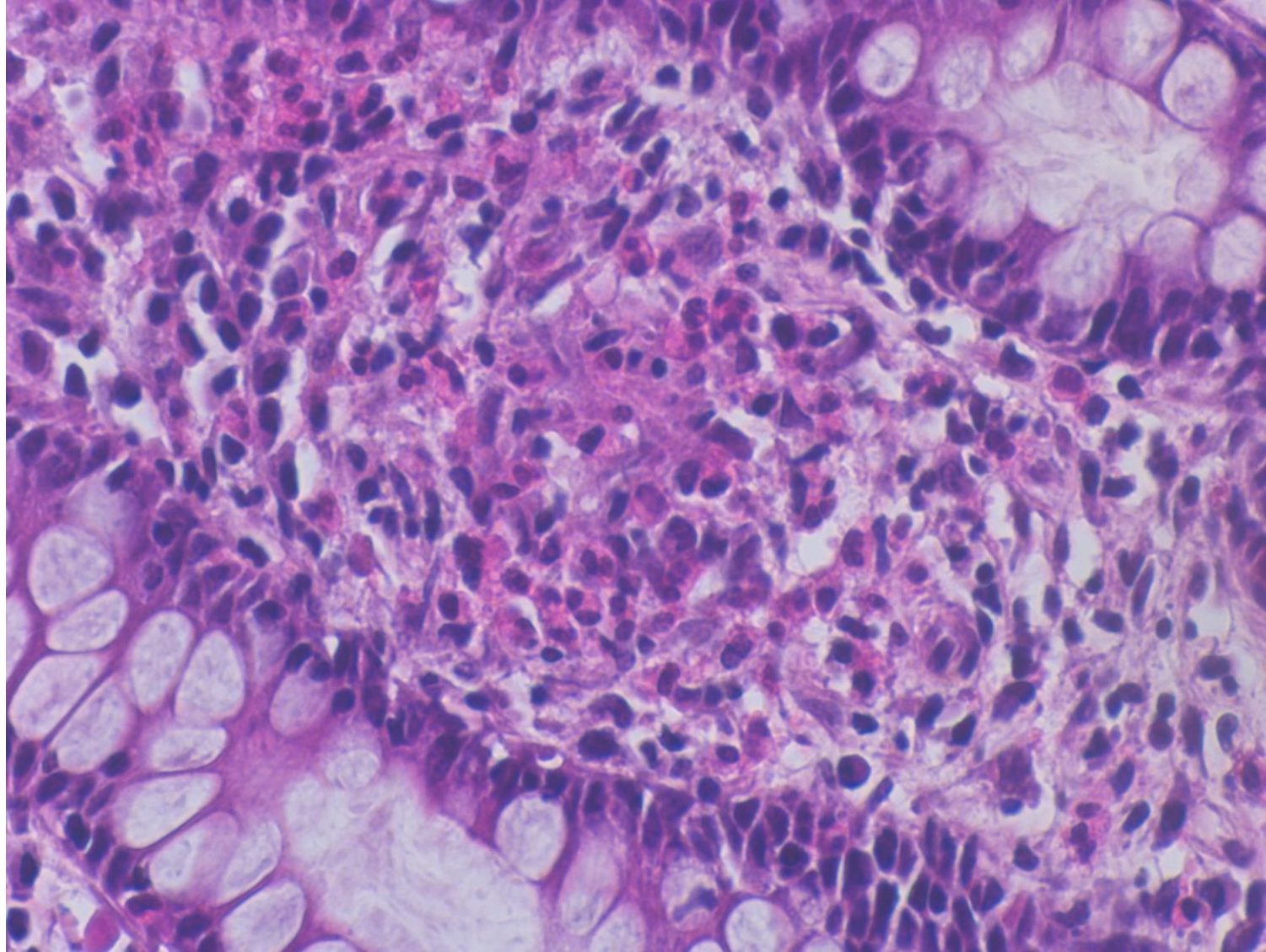


Colonic strongyloidiasis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small epithelioid granuloma is formed in the submucosa, and mild eosinophilic infiltration is associated. H&E-7

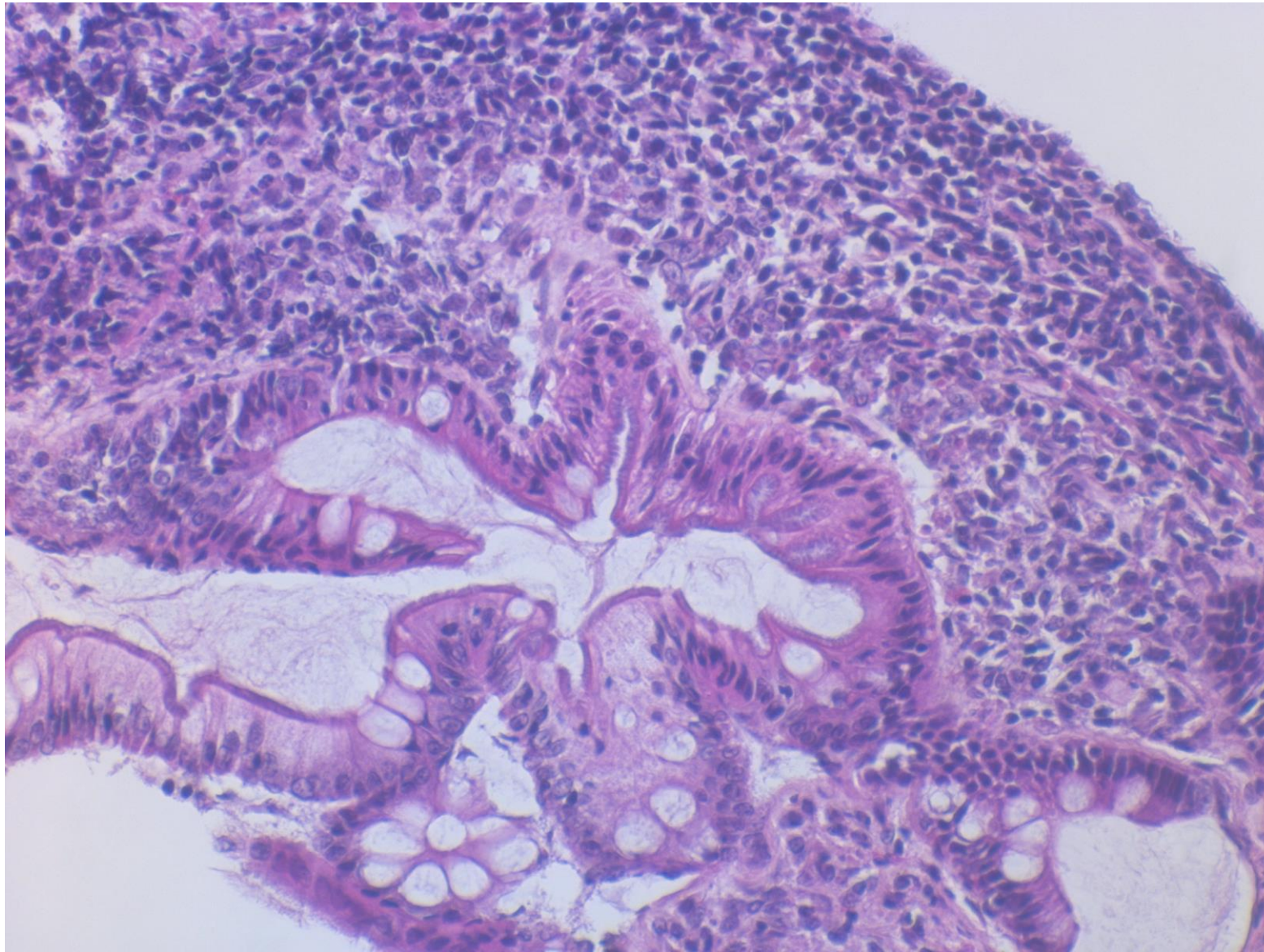




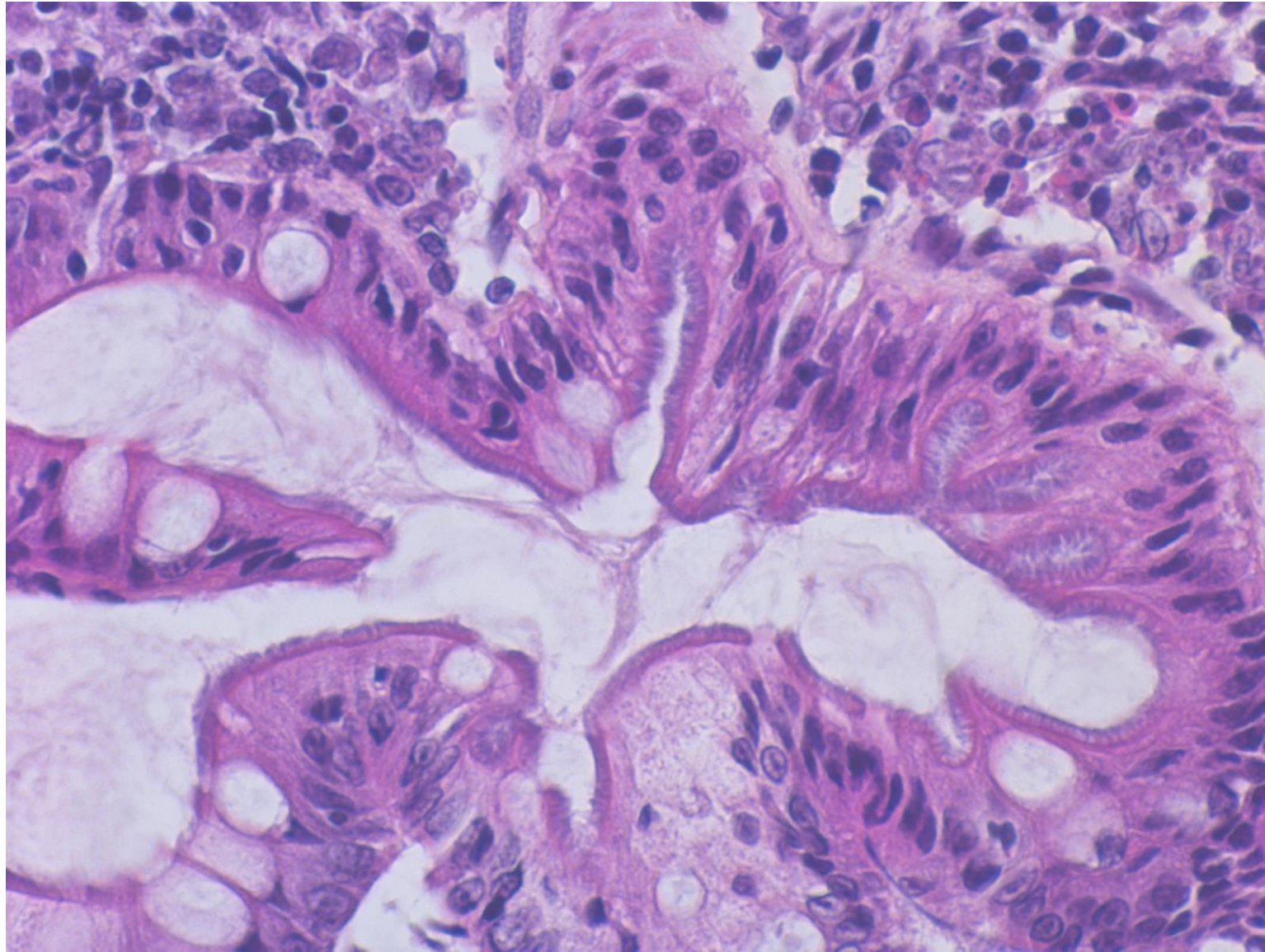
Colonic strongyloidiasis with intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small epithelioid granuloma is formed in the lamina propria mucosae, and eosinophilic infiltration is associated. Note basophilic clusters of long bacteria on the mucosal surface. H&E-8



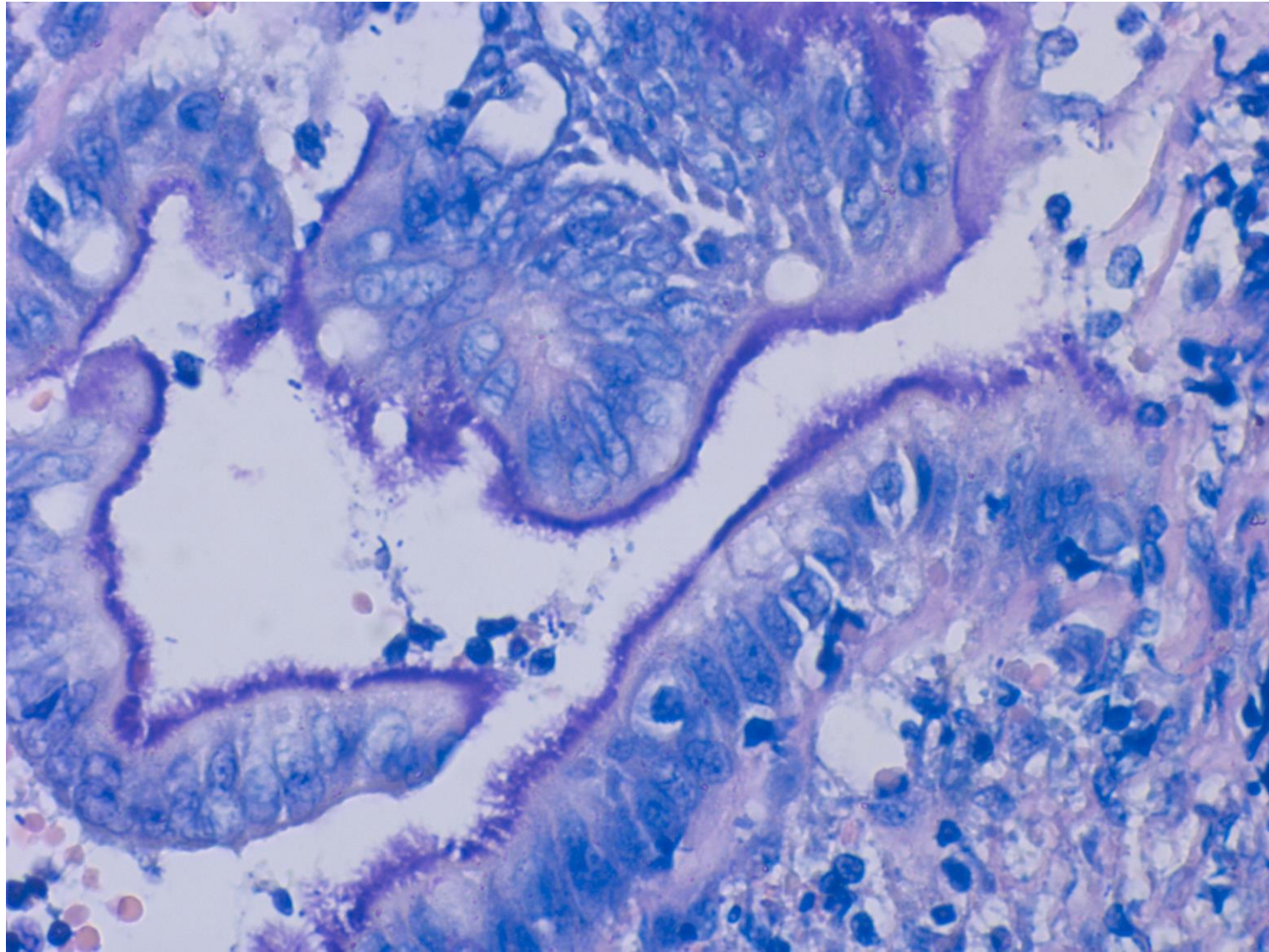
Colonic strongyloidiasis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Small epithelioid granuloma is formed in the lamina propria mucosae, and eosinophilic infiltration is associated. H&E-9



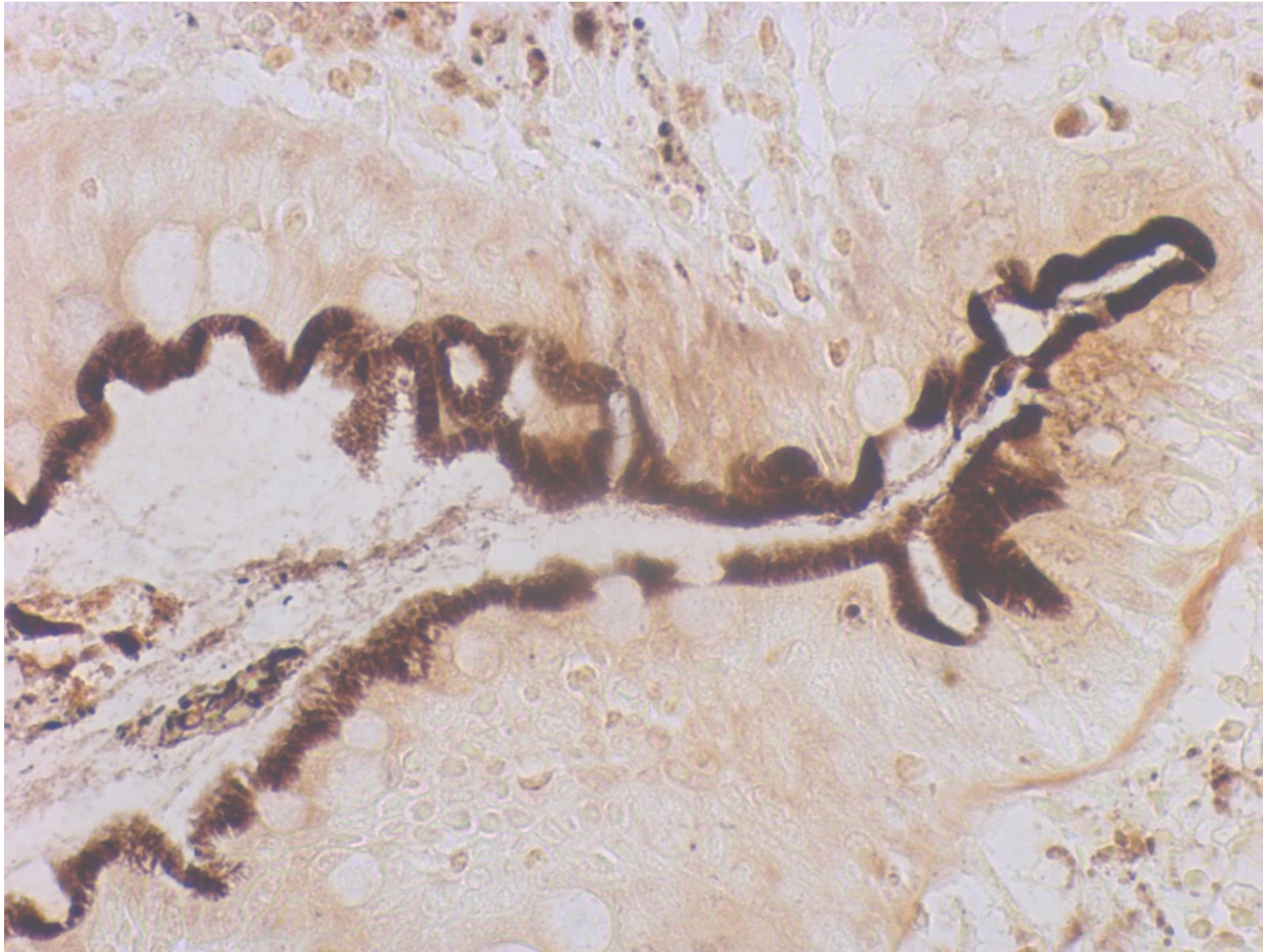
Colonic intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Note basophilic clusters of long bacteria on the mucosal surface. Chronic active inflammation is due to complicated strongyloidiasis. H&E-10



Colonic intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Note basophilic clusters of long bacteria on the mucosal surface. Chronic active inflammation is due to complicated strongyloidiasis. H&E-11



Colonic intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Note basophilic clusters of long bacteria stained with reddish purple color on the mucosal surface. Giemsa



Colonic intestinal spirochetosis. Colonic biopsy was taken from a 47-year-old man complaining of chronic diarrhea. Note silver-impregnated black clusters of long bacteria on the mucosal surface. Warthin-Starry's silver