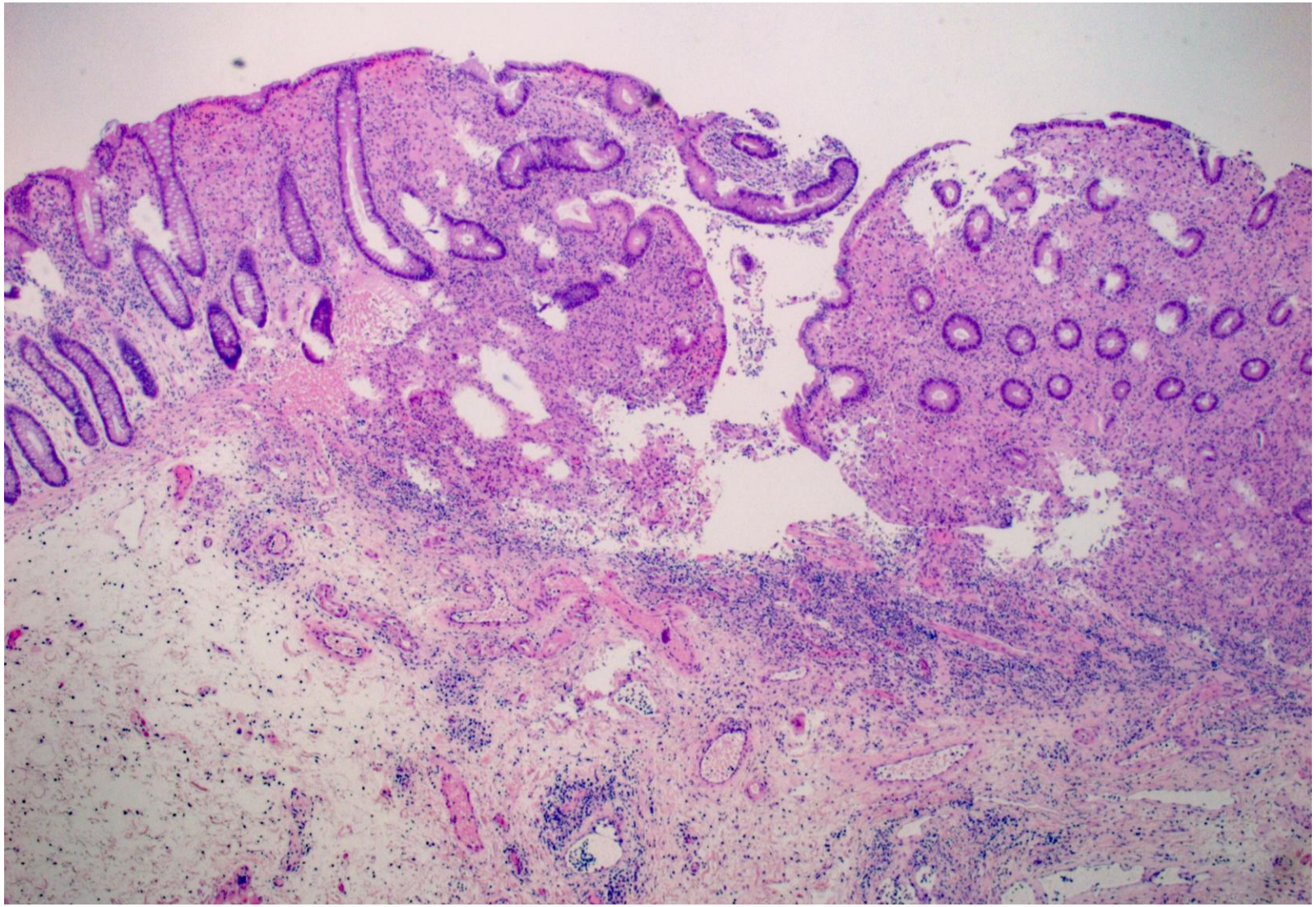
Colonic histoplasmosis

Histoplasmosis is caused by inhaling the microconidia (spores) of *Histoplasma capsulatum*, endemic not only in the Ohio and Mississippi River Valleys in the United States but also in other areas, including Southeastern Asia, Africa and Brazil. The infection is not endemic in Japan. *H. capsulatum* has the ability to remain within the host for years after the initial infection. The fungal reactivation occurs when cellular immunity is diminished, sometimes long after the individual has left the endemic region. Risk factors for the dissemination include age, AIDS, hematologic malignancies, bone marrow or solid organ transplantation, the use of corticosteroids or immunosuppressive agents and hemodialysis for chronic renal insufficiency. Gastrointestinal histoplasmosis represents a manifestation of disseminated disease. The lesion may occur in throughout the GI tract from the mouth to the anus. The terminal ileum and the colon are the most frequently involved sites.

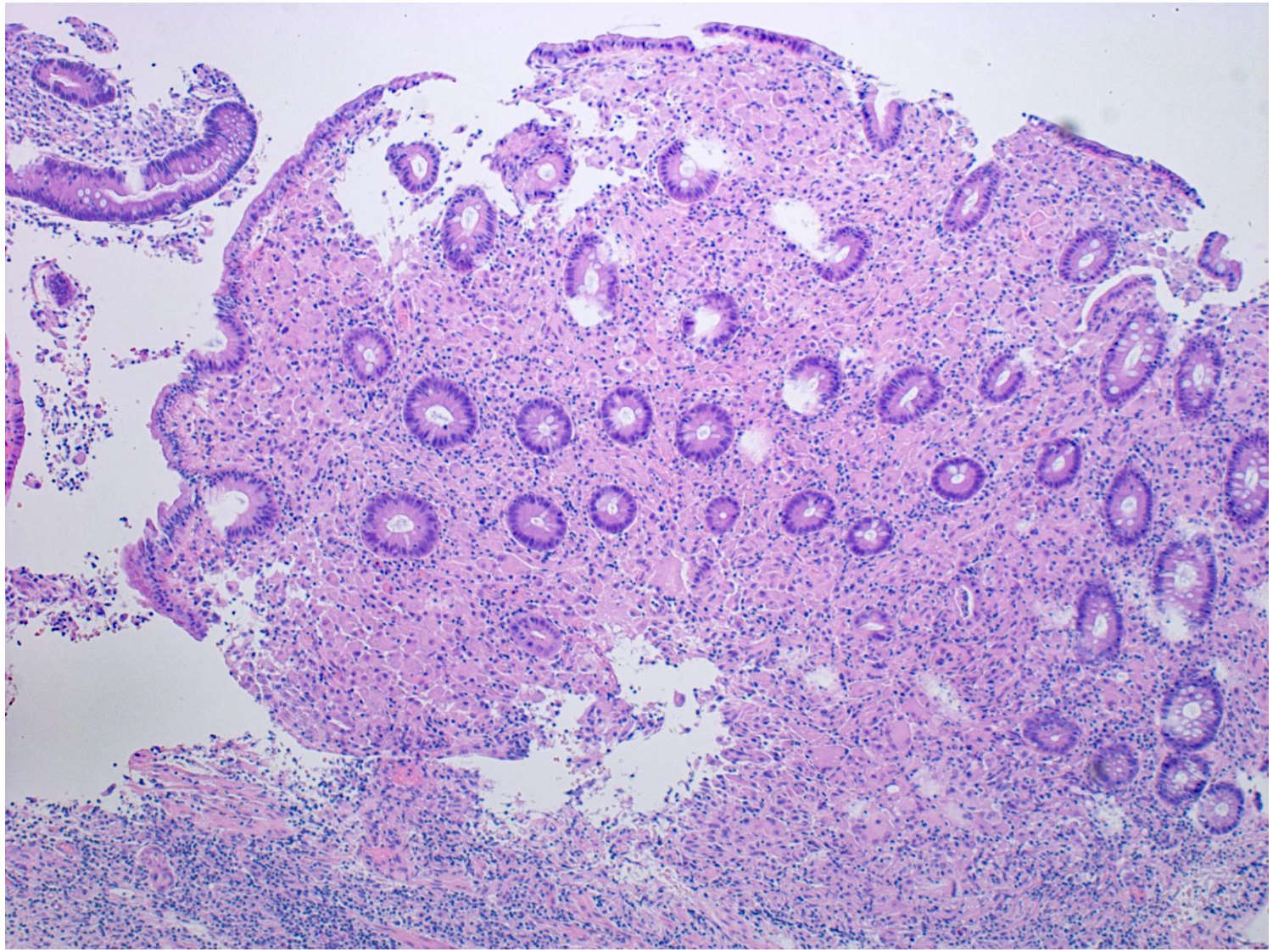
Here presented is a 75 y-o Japanese male case under hemodialysis for 8 years. He has a history of visiting Brazil 30 years ago. The cecal polypoid lesion was excised by EMR. An ulcerating infectious lesion was caused by infection of *H. capsulatum*. Numerous small yeast-form fungi were phagocytized by macrophages clustered in the lamina propria mucosae. The pathogens were positive with PAS and Grocott stains, but negative with Alcian blue and Ziehl-Neelsen stains. Candidal and cryptococcal antigens were undetectable. PCR analysis using formalin-fixed paraffin-embedded sections identified *H. capsulatum* DNA. *H. capsulatum* latent for 30 years probably in the lung or lymph nodes must have been activated by hemodialysis. An adrenal lesion was also detected, representing systemic fungal dissemination.

Ref.-1: Psarros G, Kauffman CA. Colonic histoplasmosis: a difficult diagnostic problem. Gastroenterol Hepatol (NY) 2007; 3(6): 461-463. PMID: 23329906

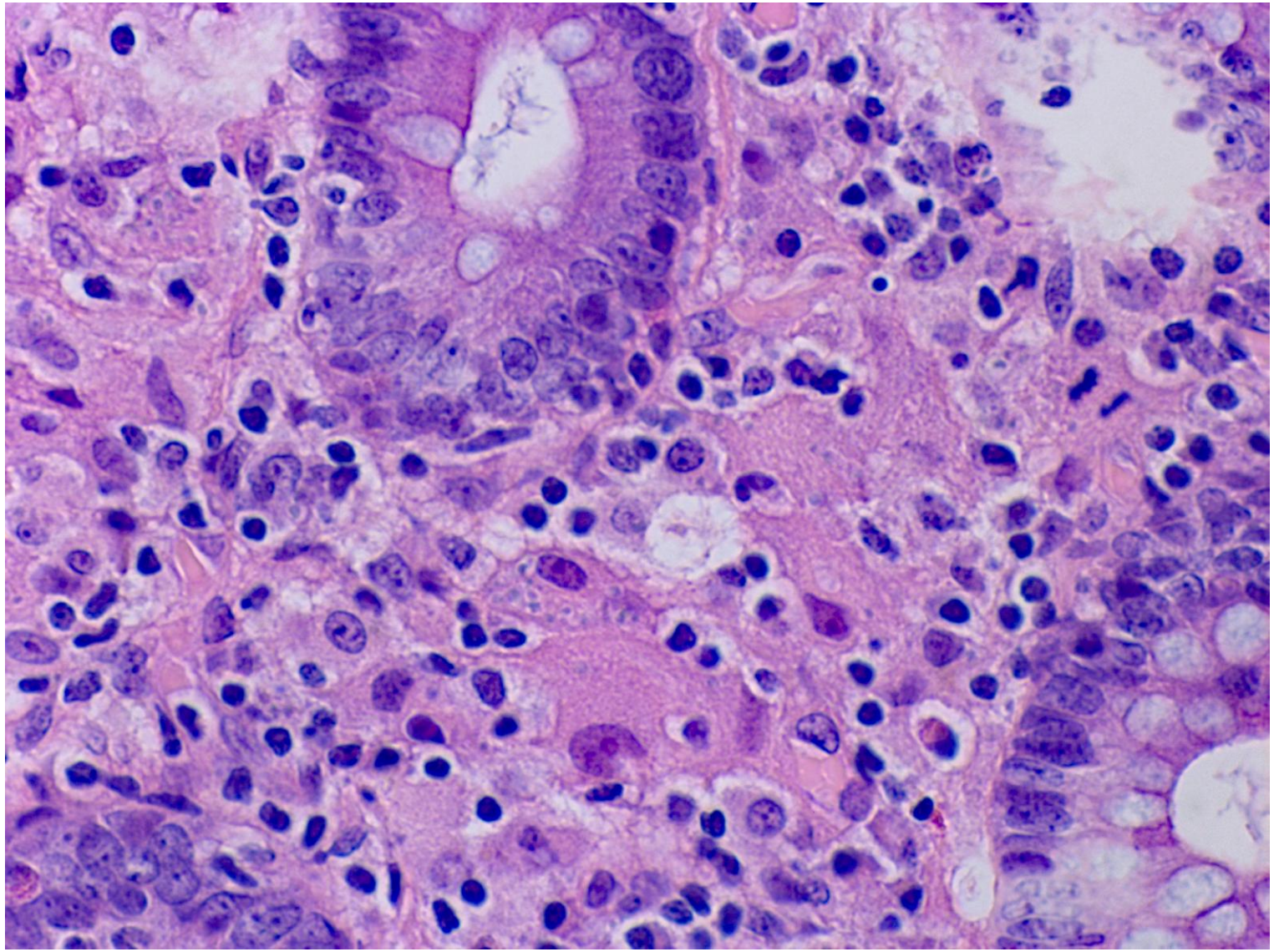
Ref.-2: Almeida MdA, et al, The occurrence of histoplasmosis in Brazil: a systematic review, Int J Infect Dis 2019; 86: 147-156. doi: 10.1016/j.ijid.2019.07.009



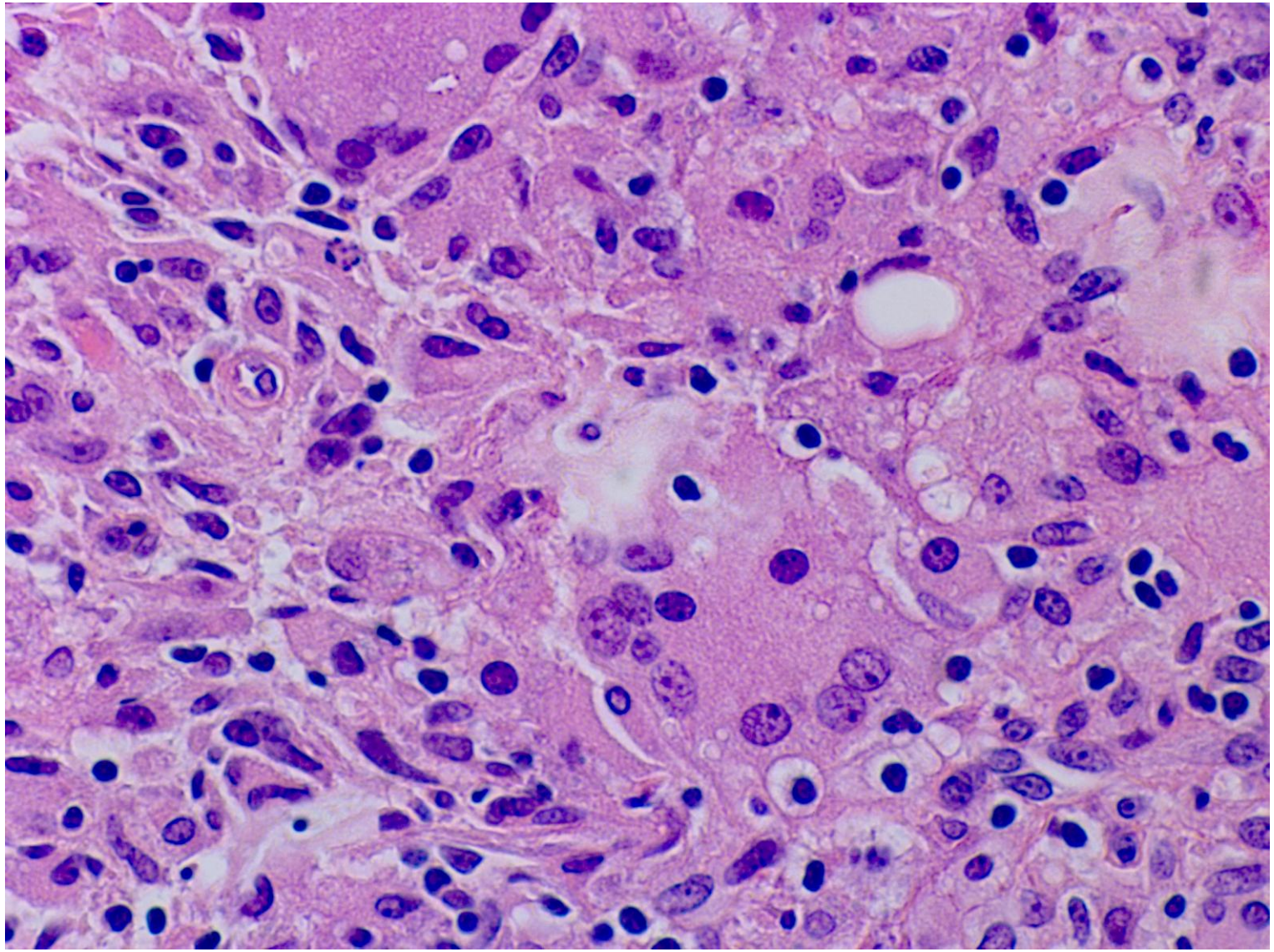
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The cecal mucosa reveals an ulcerating inflammatory lesion with lamina proprial accumulation of macrophages (H&E-1).



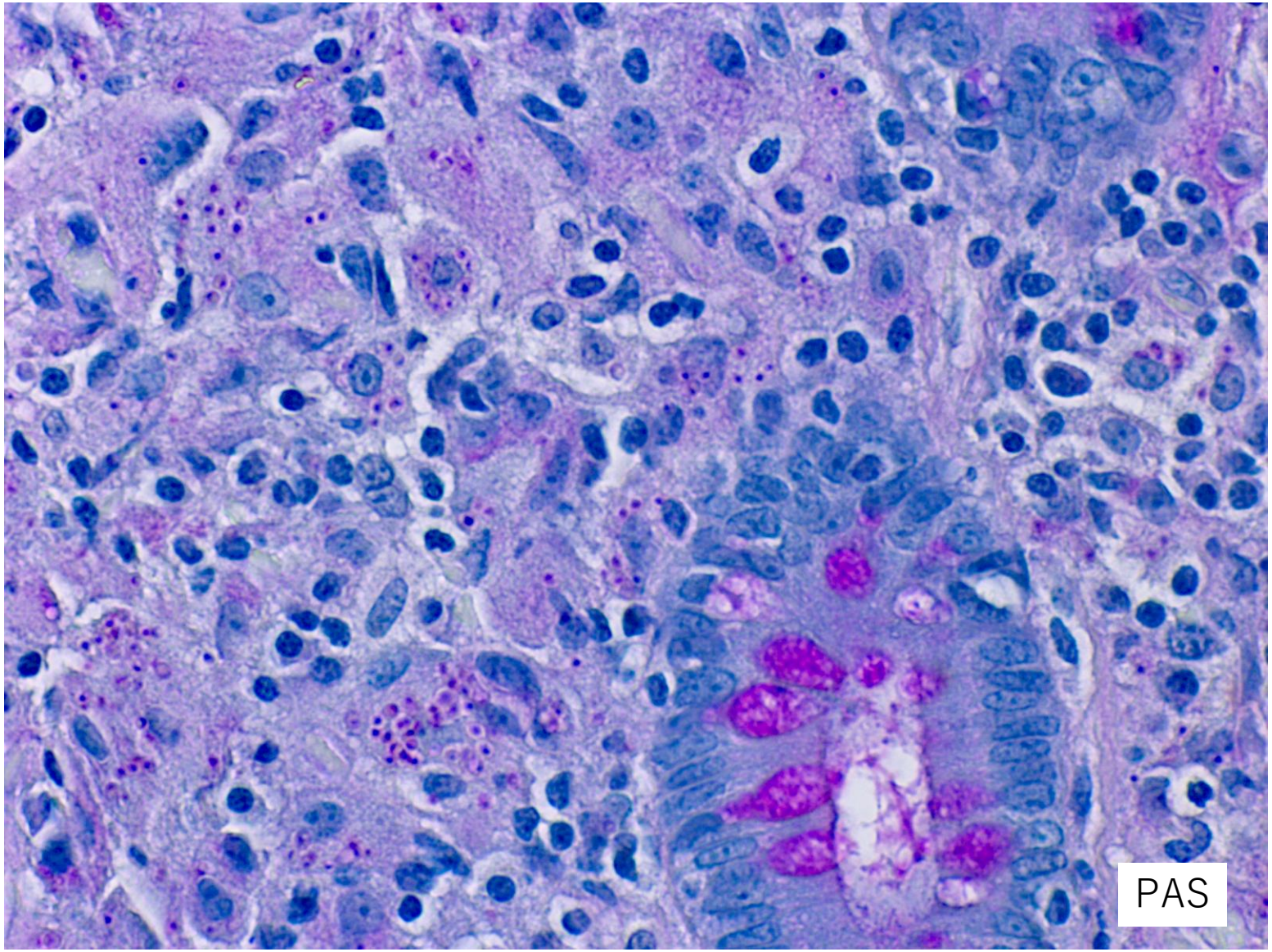
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The cecal mucosa reveals an ulcerating inflammatory lesion with lamina proprial accumulation of macrophages (H&E-2).



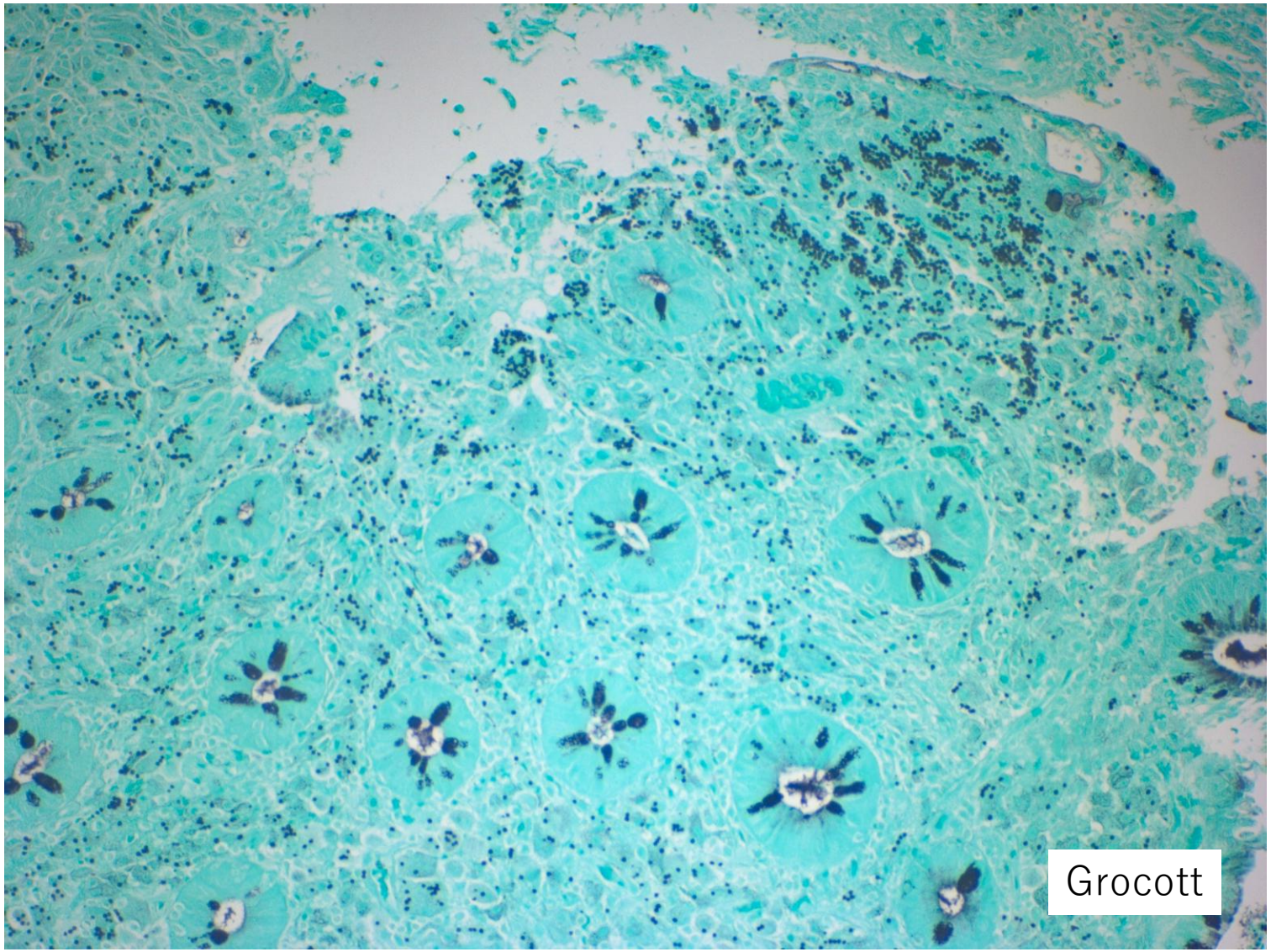
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis.
The lamina propria of the cecal mucosa reveals accumulation of macrophages.
Finely basophilic yeast-like structures are recognized in the cytoplasm (H&E-3).



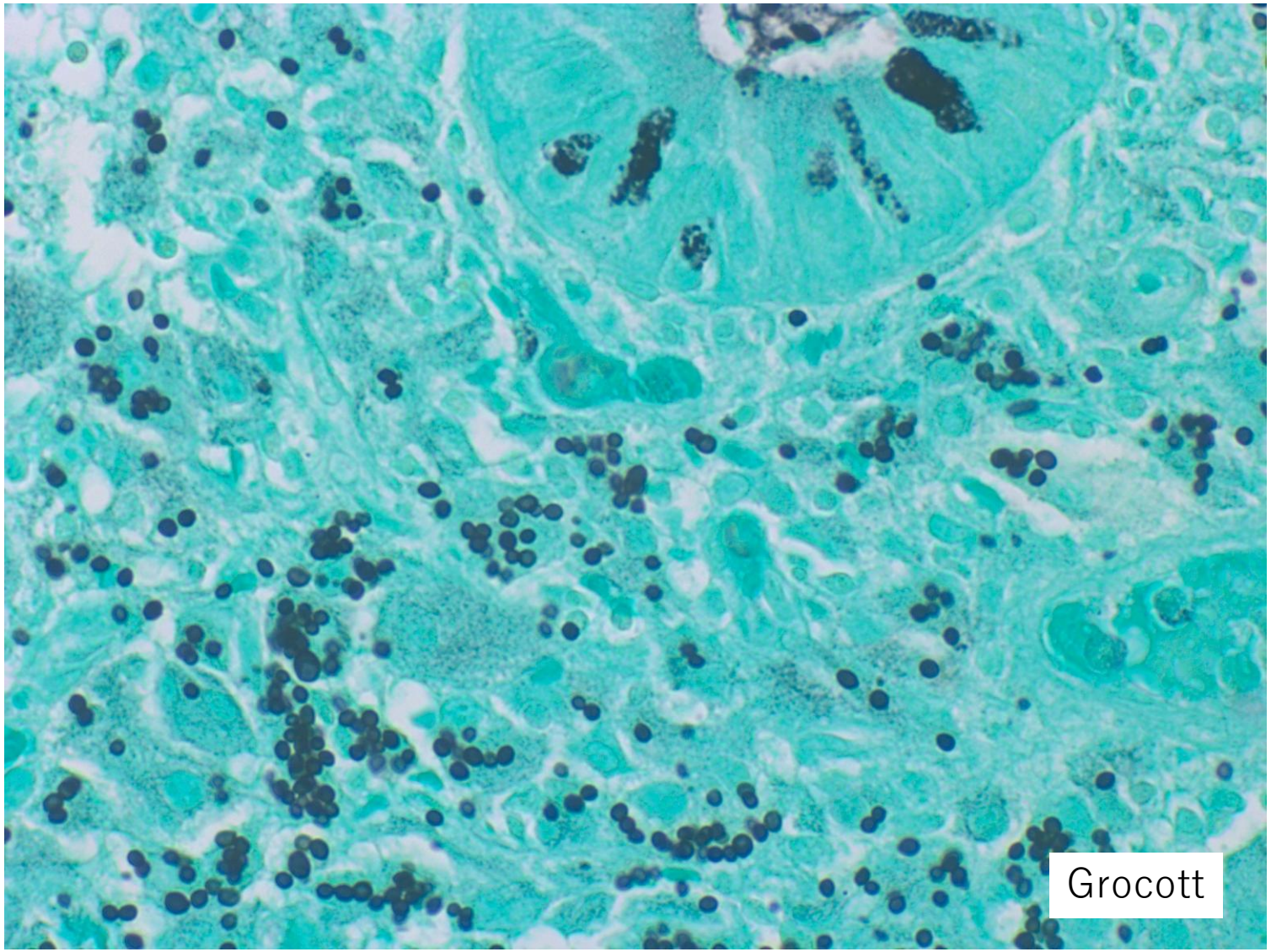
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The lamina propria of the cecal mucosa reveals accumulation of macrophages. Finely basophilic or translucent yeast-like structures are recognized in the cytoplasm (H&E-4).



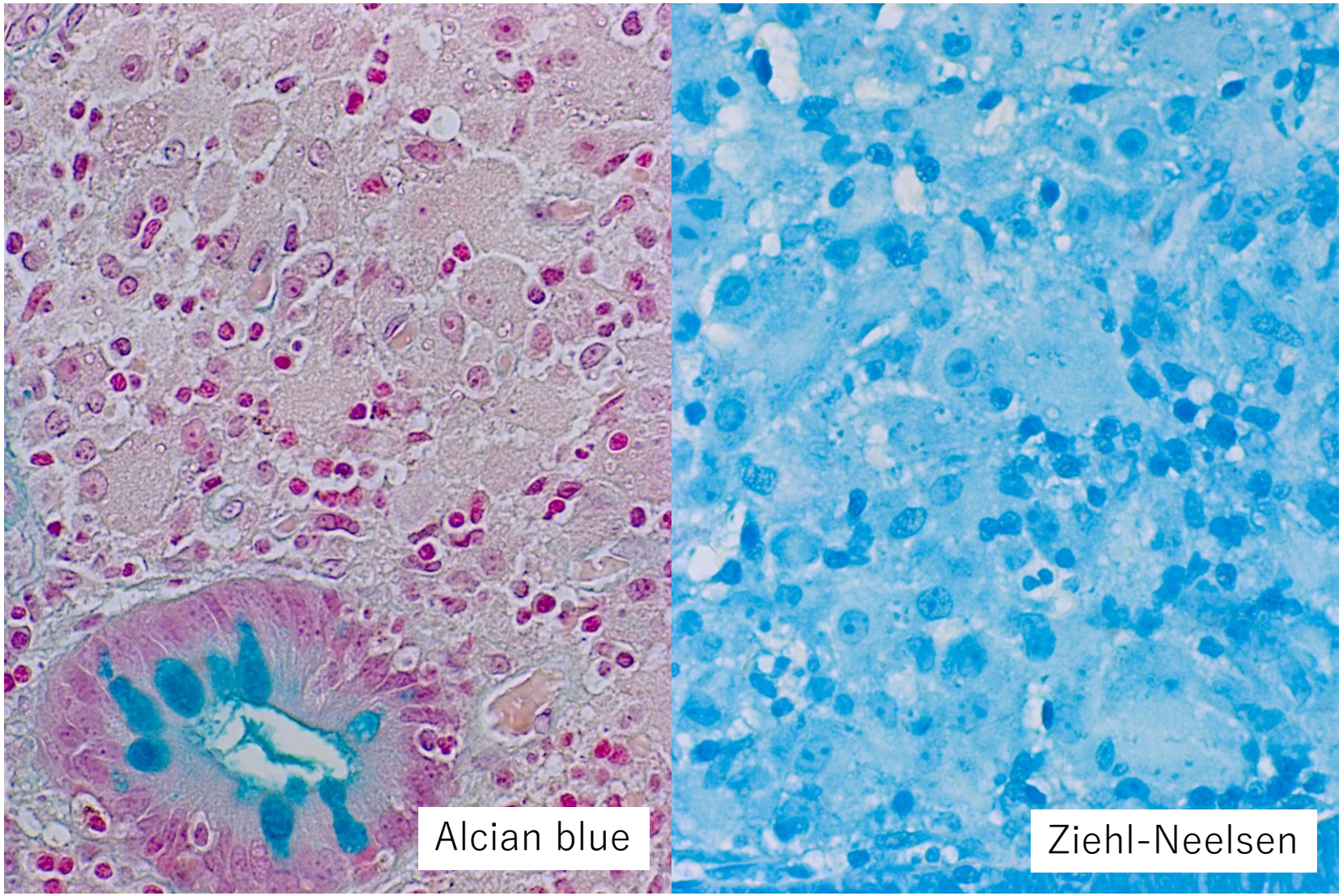
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The lamina proprial macrophages contain PAS-reactive small yeast-like structures (PAS).



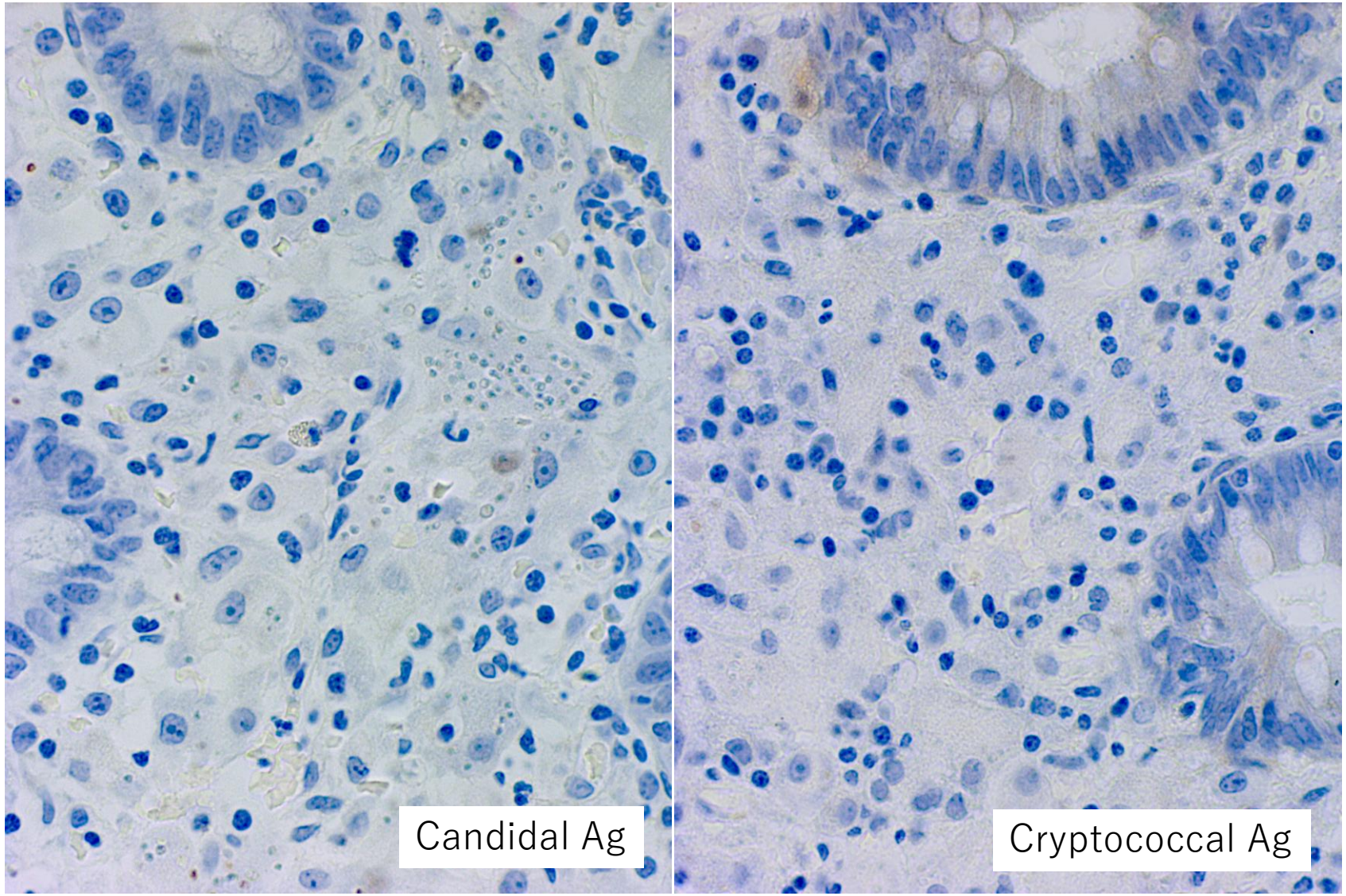
Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The lamina proprial macrophages contain Grocott-positive small yeast-like structures. Goblet cell mucin is also Grocott-reactive (Grocott-1).



Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The lamina proprial macrophages contain Grocott-positive small yeast-like structures. Goblet cell mucin is also Grocott-reactive (Grocott-2).



Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The yeast-like structures in lamina proprial macrophages are negative with Alcian blue (left) and Ziehl-Neelsen stain (right).



Colonic histoplasmosis seen in a 75 y-o Japanese male patient under hemodialysis. The yeast-like structures in lamina proprial macrophages are negative for Candida antigens (left) and Cryptococcal antigens (right).