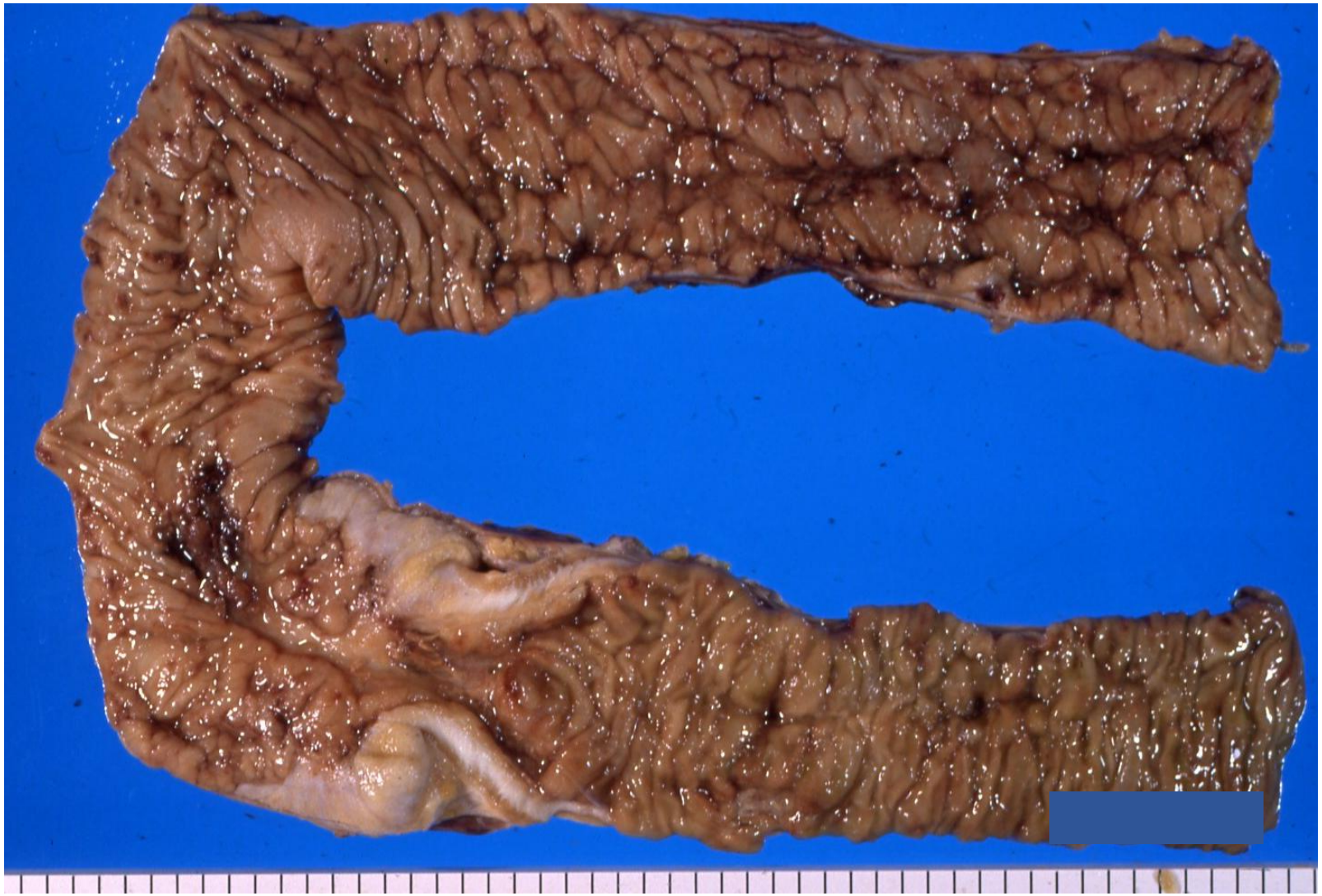
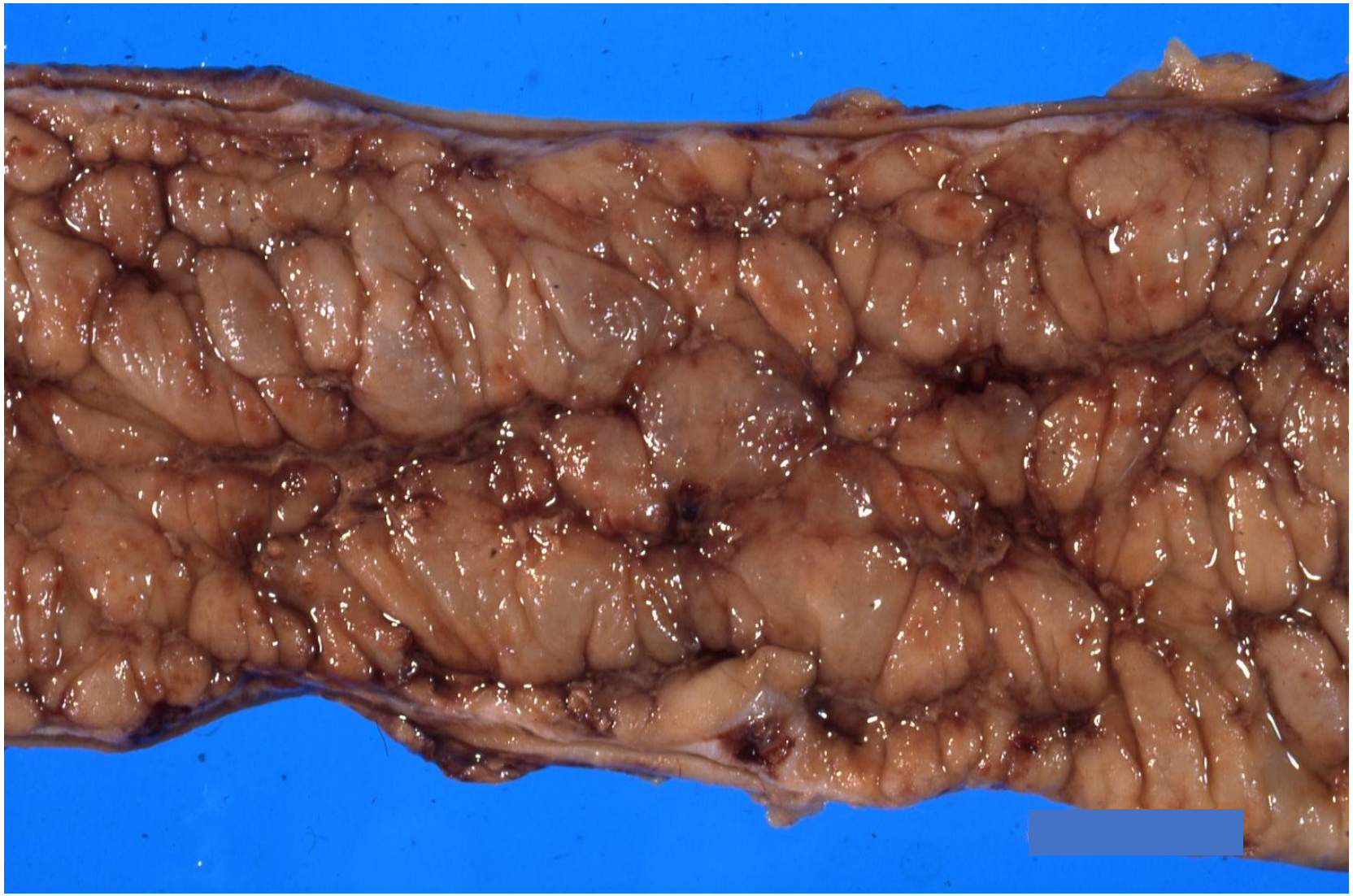
Gross appearance of Crohn's disease

Crohn's disease is an inflammatory bowel disease featured by chronic active fibrosing inflammation of any part of the gastrointestinal tract. The ileum is most frequently affected, while the colon and upper GI tract are also involved. In sharp contrast to ulcerative colitis, the rectum is often spared, and the terminal ileal inflammation is seen with the absence of colonic inflammation. It shows a progressive and destructive course and is increasing in incidence worldwide. The onset of the disease is at a young age in most cases. The etiology remains enigmatic. The typical gross findings of Crohn's disease include stricturing of the terminal ileum, cobblestoning of the mucosa with skip lesions, longitudinal/serpiginous ulcers and inflammatory pseudopolyps. The lesions are discontinuous/segmental, and transmural fibrosing inflammation microscopically accompanies transmural distribution of lymphoid aggregates and fissuring ulcers. Non-caseating granulomas are commonly associated. Continuous transmural inflammation often causes sinus tract formation resulting in fistulas between bowel and other organs. Chronic active inflammation progressed to transmural fibrosis with stenosis formation. Perforation may also be complicated.

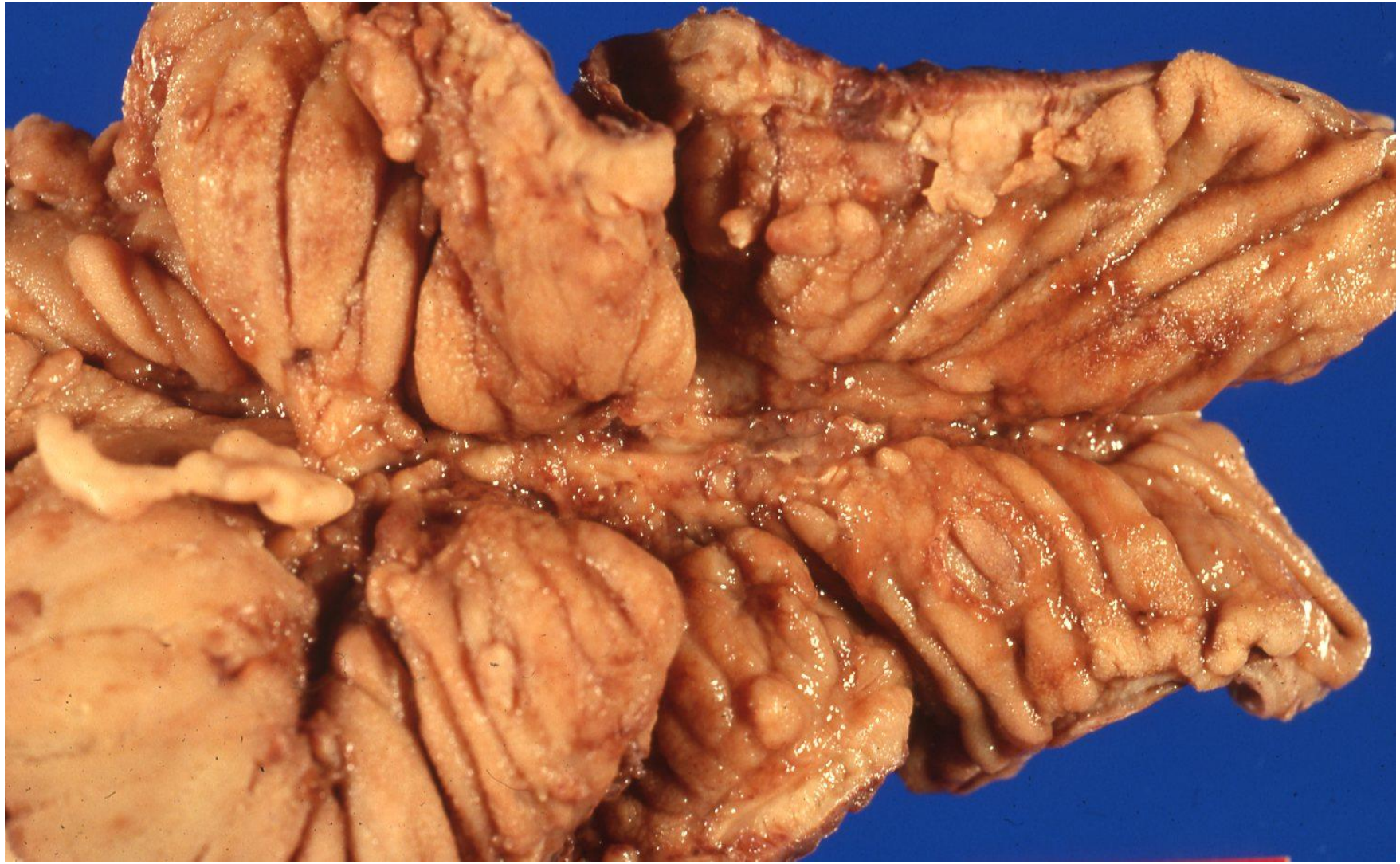
Ref.: Roda G, et al. Crohn's disease. Nat Rev Dis Primers 2020; 6: 22. doi: 10.1038/s41572-020-0156-2



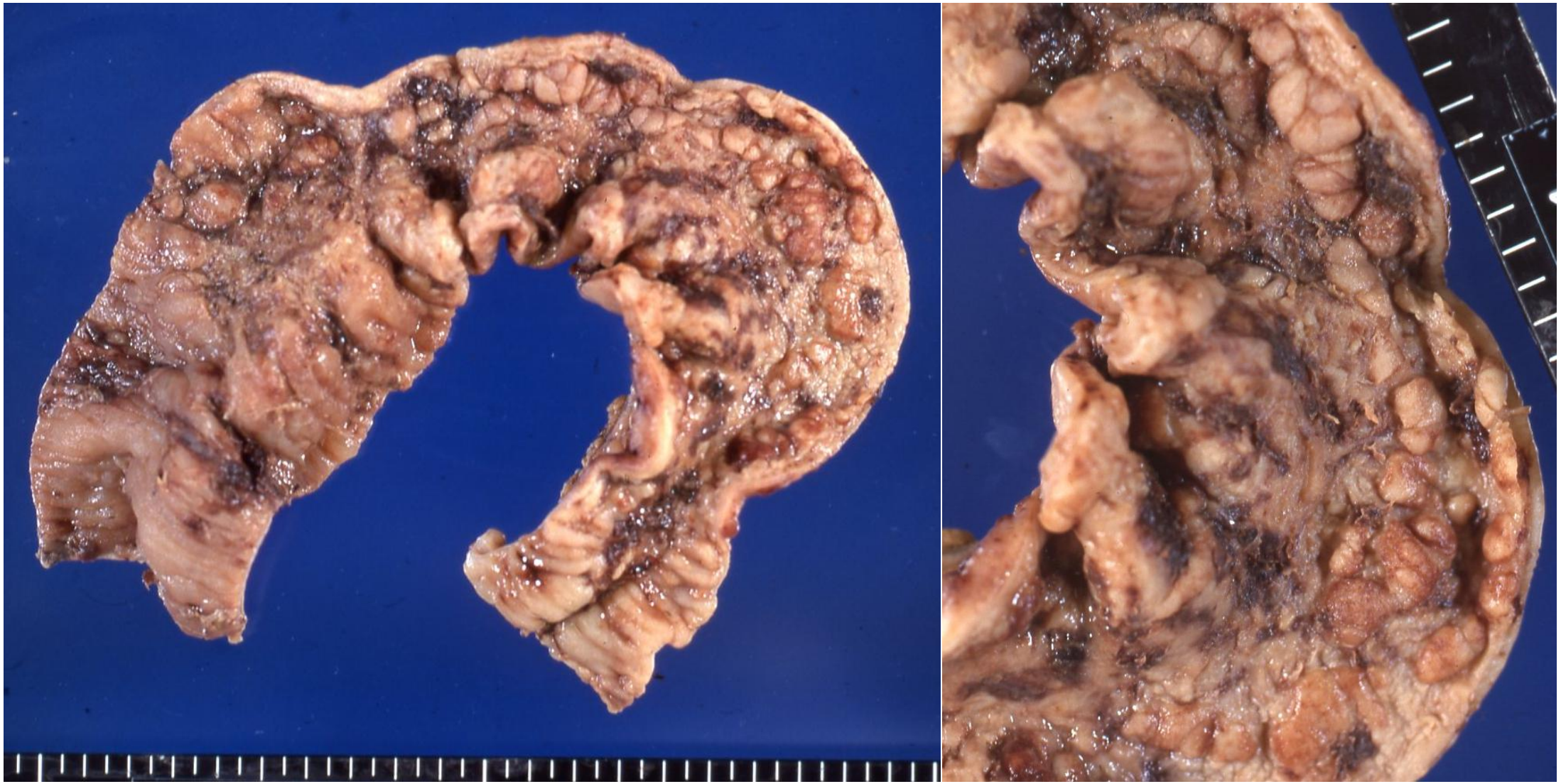
Crohn’s disease of the ileum surgically removed from a 34 y-o female patient (gross appearance after formalin fixation). Longitudinal ulceration is multifocally noted. Transmural fibrosis has provoked stenotic change.



Crohn’s disease of the ileum surgically removed from a 34 y-o female patient (gross appearance after formalin fixation). Longitudinal ulceration is multifocally noted. Non-ulcerated mucosa is edematous.

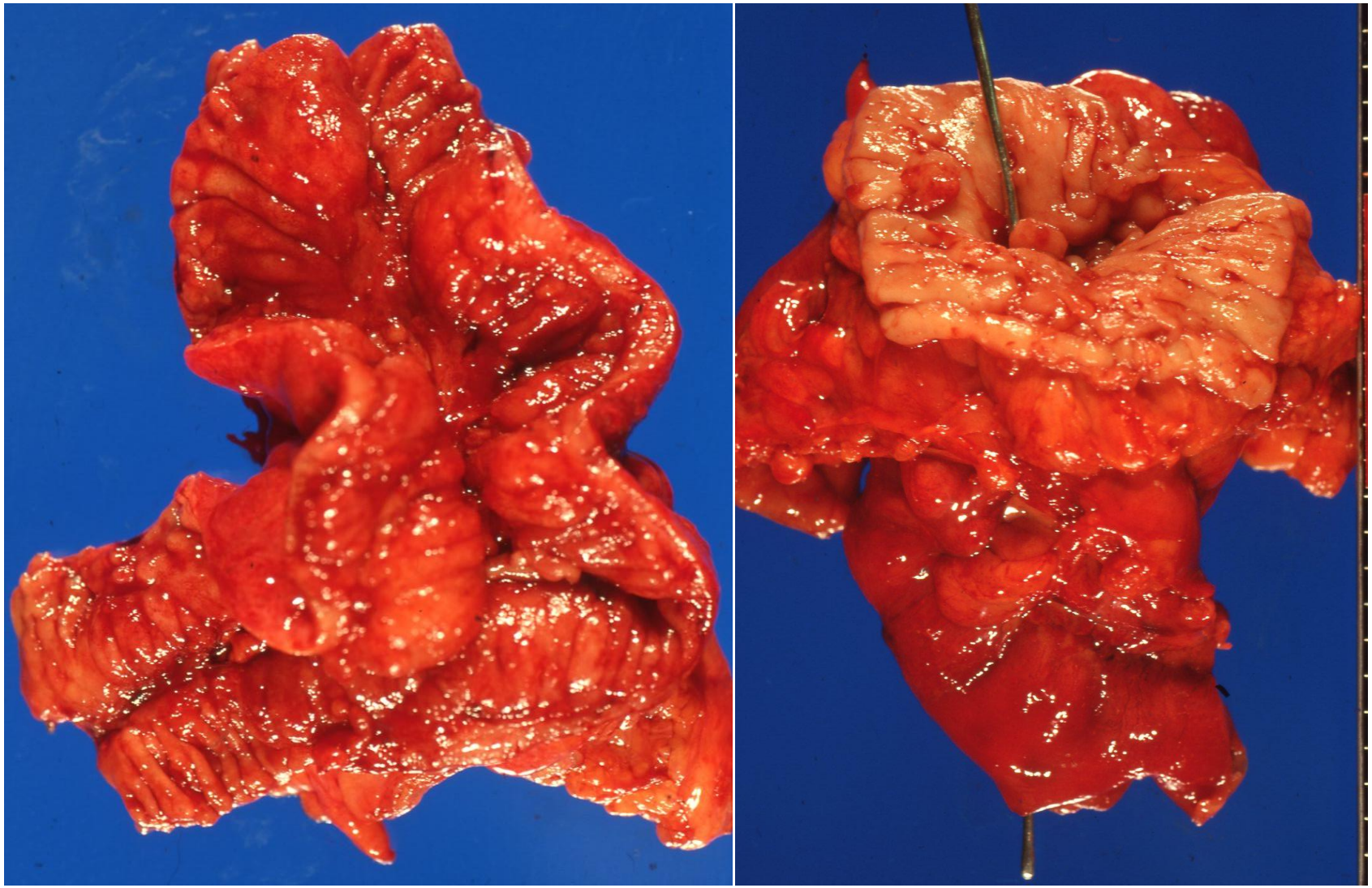


Crohn's disease of the ileum surgically removed from a 30 y-o male patient (gross appearance after formalin fixation). Longitudinal ulceration is evident. Non-ulcerated mucosa is edematous.

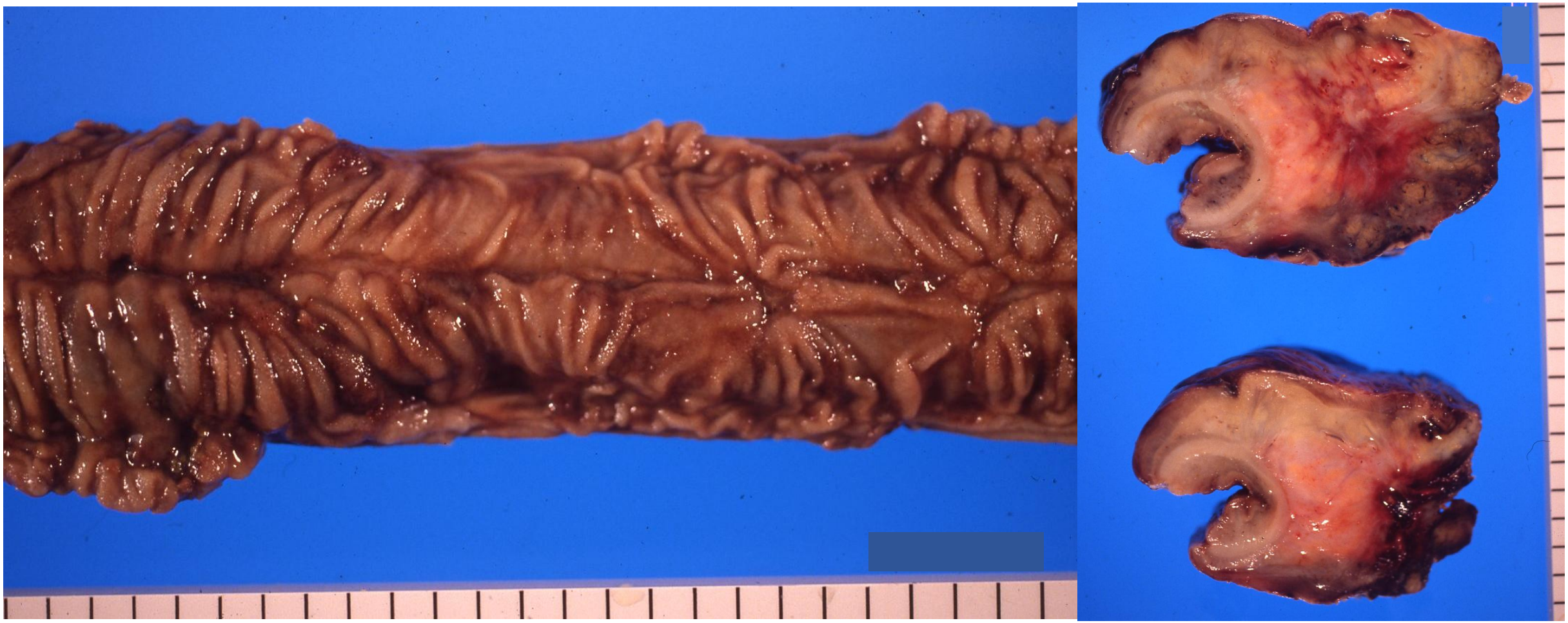


Crohn’s disease of the ileum surgically removed from a 44 y-o female patient (gross appearance after formalin fixation). Ulceration is regionally pronounced, and longitudinal ulceration is associated. Non-ulcerated mucosa shows cobble stone appearance.

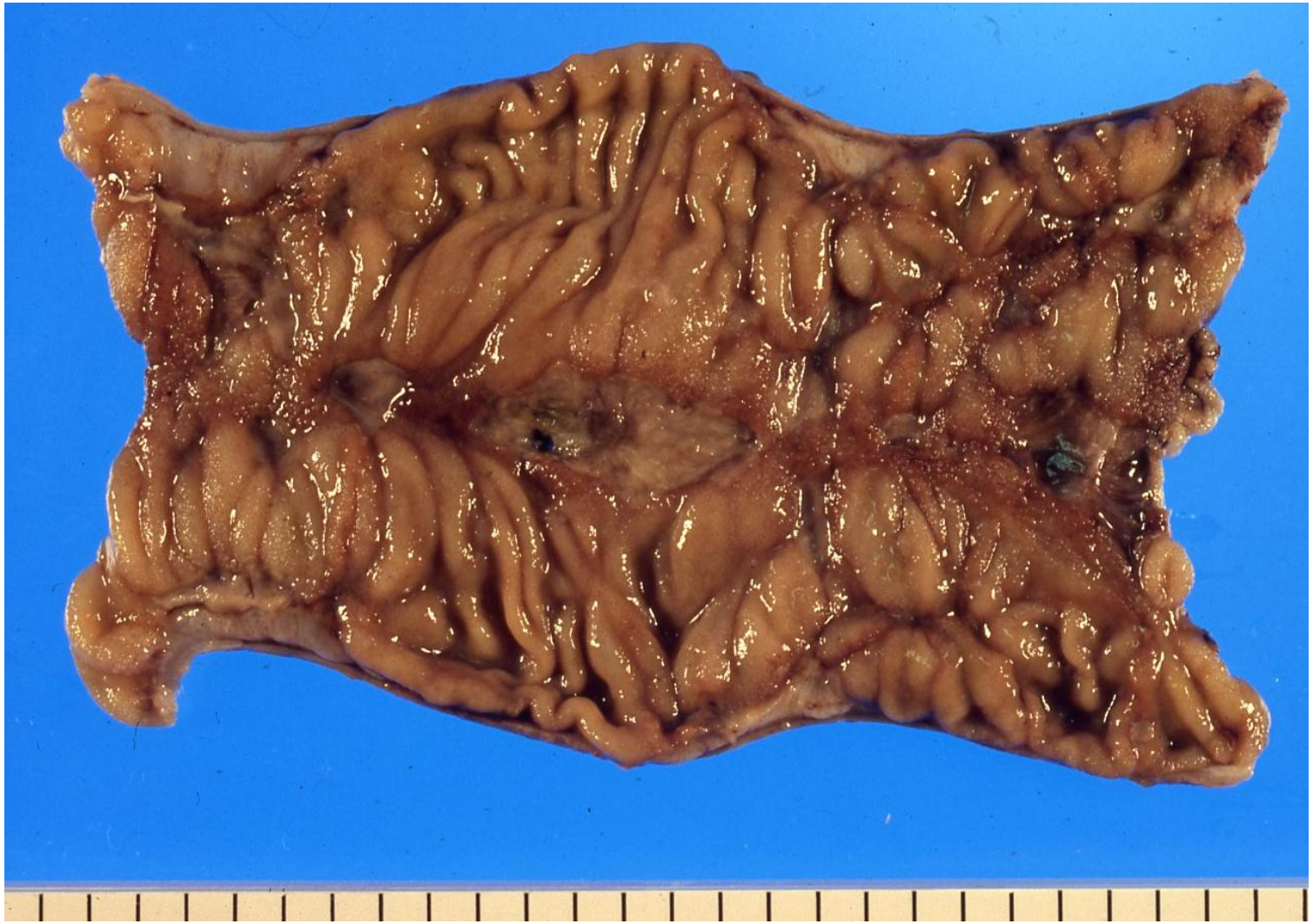
Crohn’s disease of the ileum surgically removed from a 24 y-o male patient (gross appearance after formalin fixation). Longitudinal ulceration with cobble stone appearance is evident.



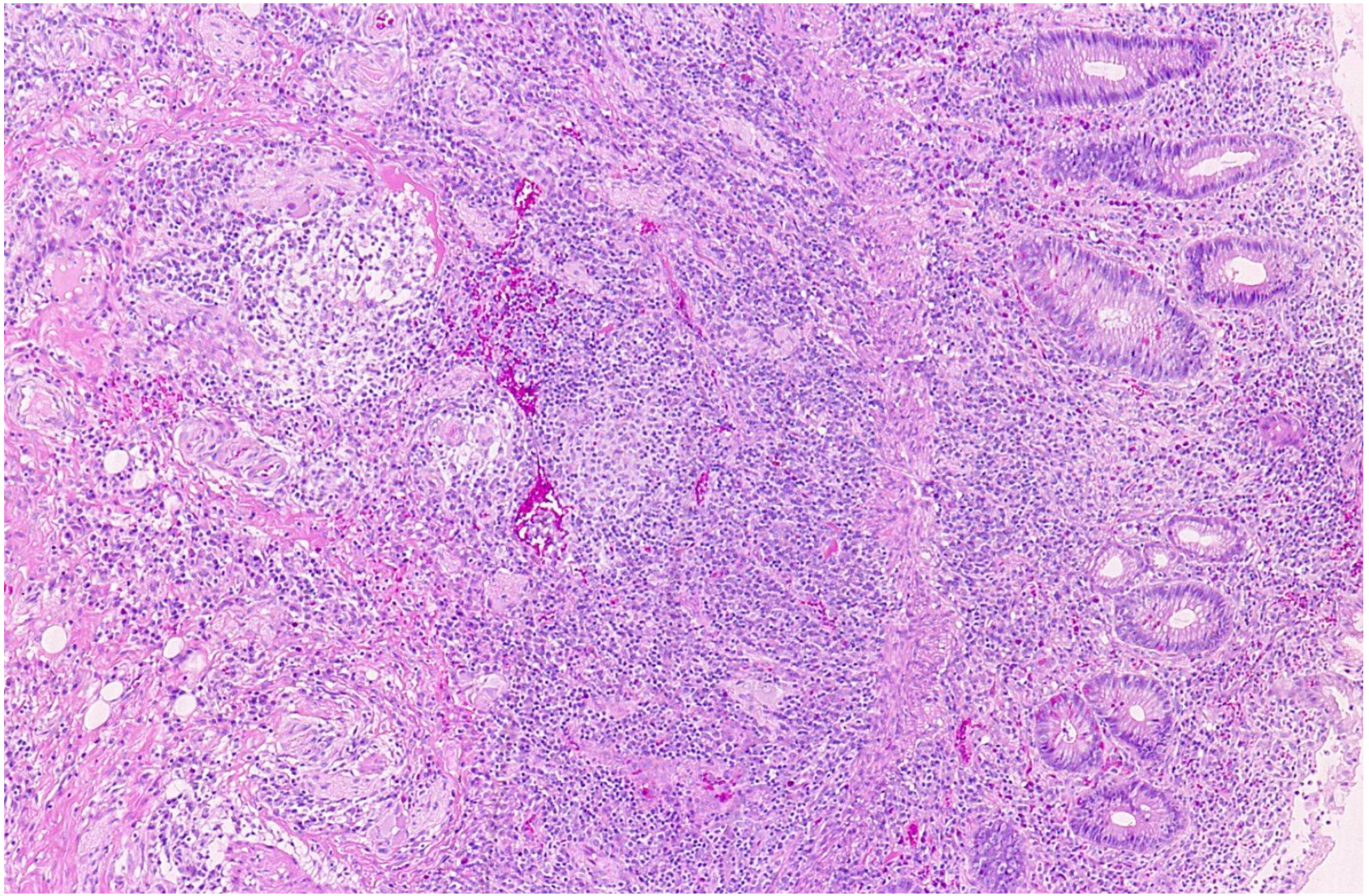
Crohn’s disease of the ileum surgically removed from a 44 y-o male patient (gross appearance). Longitudinal ulceration is multifocally noted. Fistula formation to the adjacent bowel loop is observed (a probe is inserted through the fistula in the right panel).



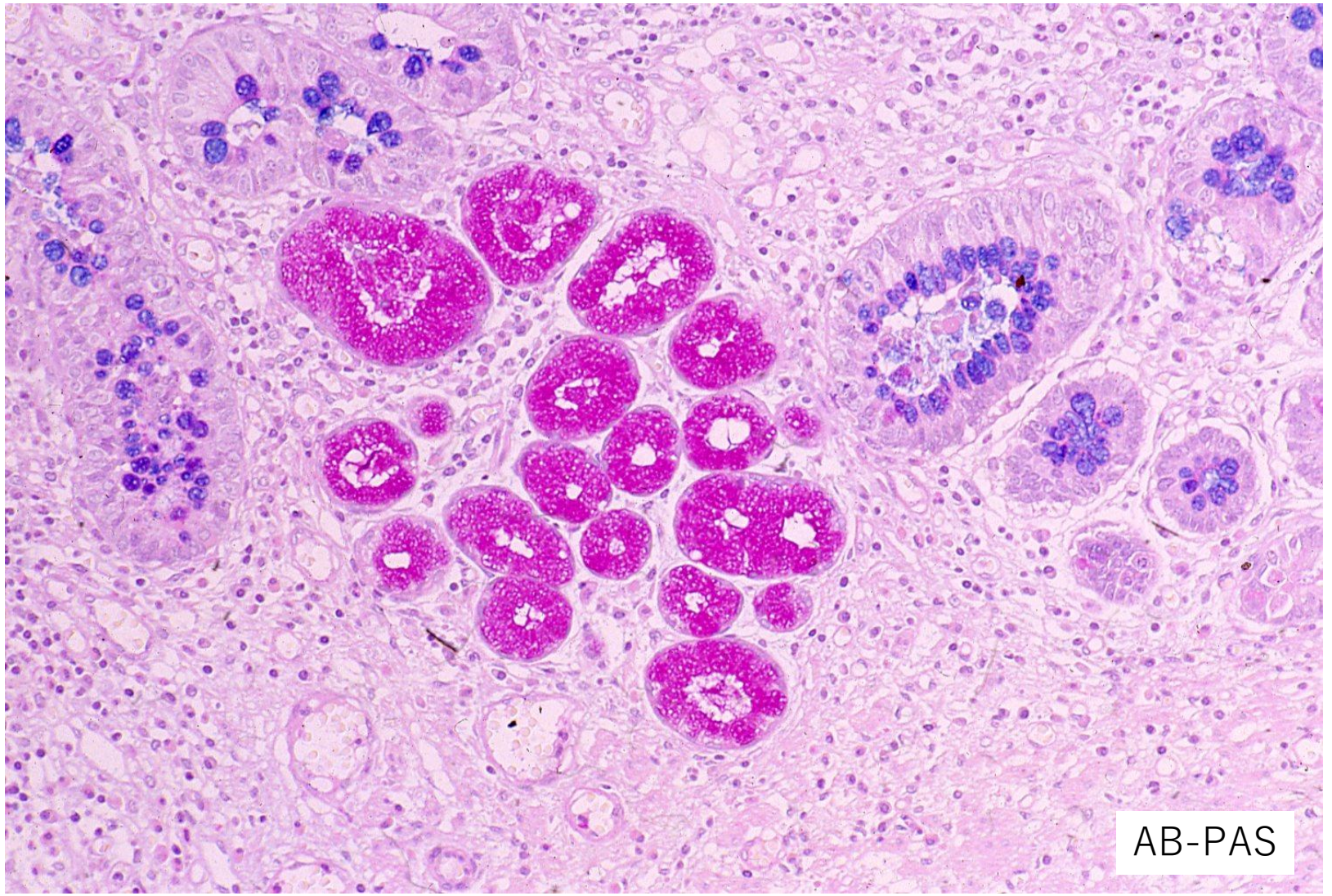
Crohn’s disease of the ileum surgically removed from a 33 y-o male patient (gross appearance after formalin fixation). Longitudinal ulceration is evident. Fistula formation to the adjacent bowel loop is focally observed (right: cut surfaces).



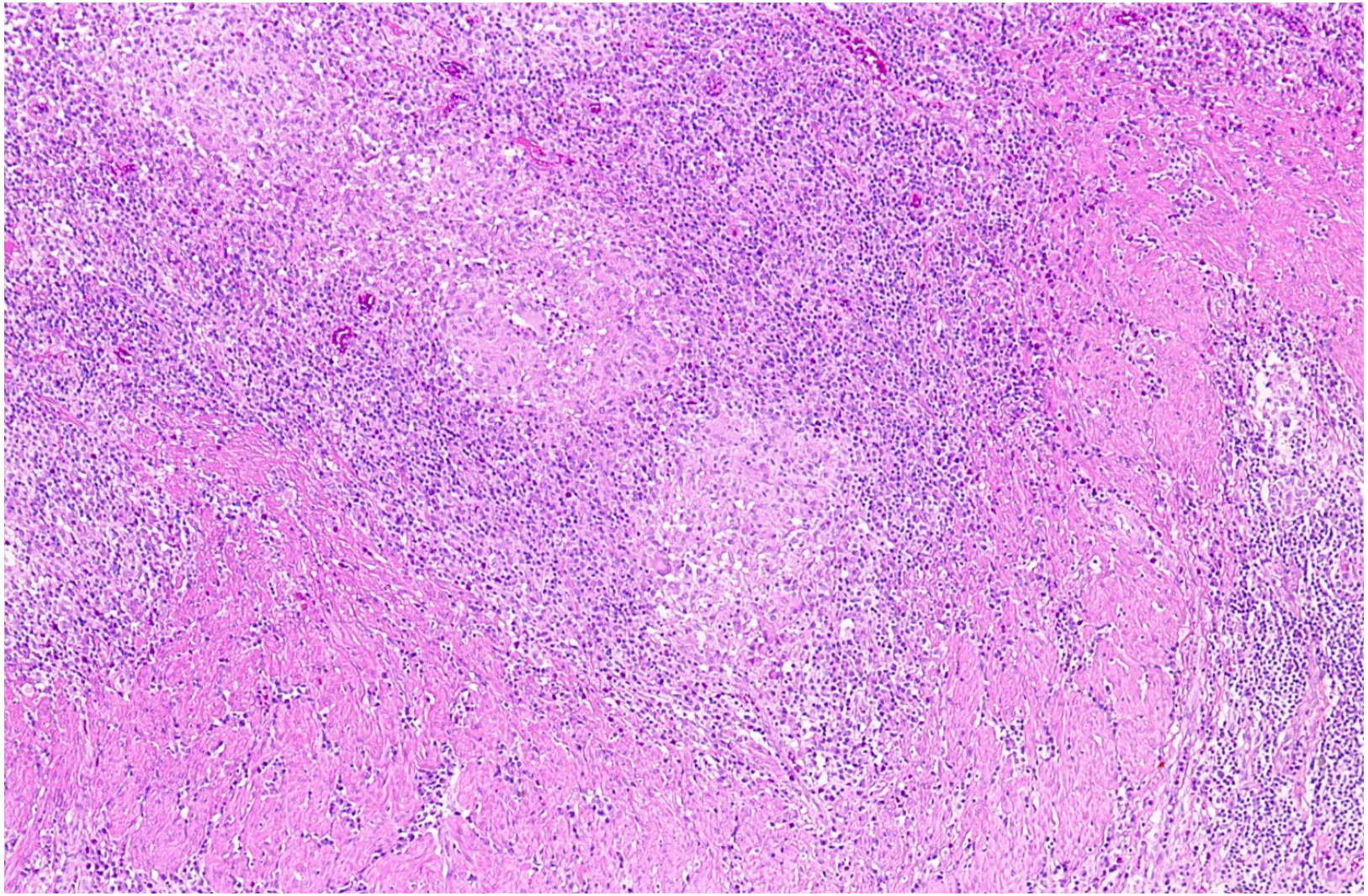
Crohn’s disease of the ileum surgically removed from a 27 y-o male patient (gross appearance after formalin fixation). Longitudinal ulceration is evident. Perforation is associated focally seen at the base of the longitudinal ulcer.



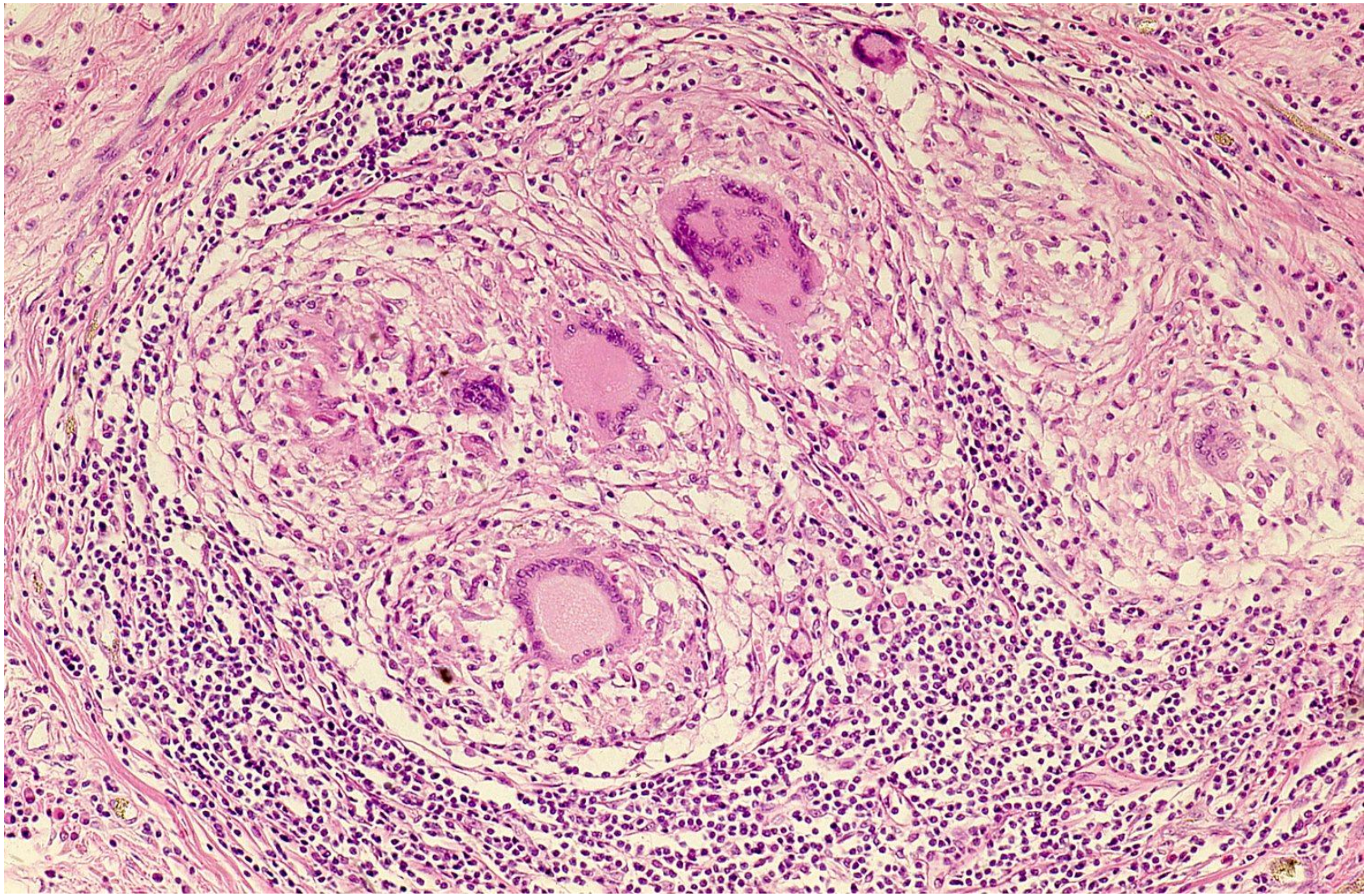
Crohn’s disease of the ileum surgically removed from a 44 y-o male patient (H&E). Dense transmural infiltration of lymphocytes is seen. Small epithelioid granulomas are scattered in the submucosal layer. In the mucosa, pyloric gland metaplasia is focally observed.



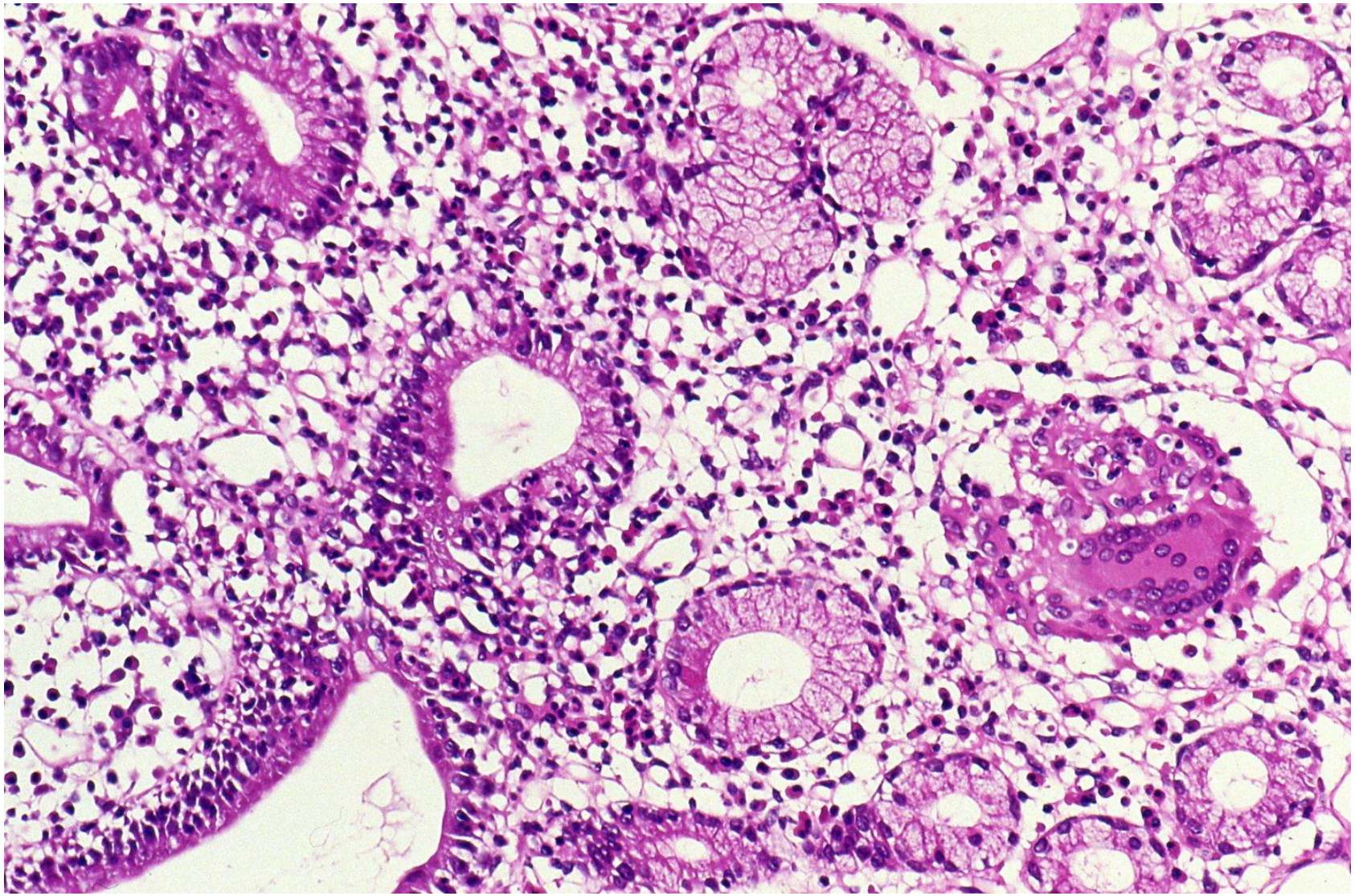
Crohn’s disease of the ileum surgically removed from a 44 y-o male patient (AB-PAS). In the basal part of the ileal mucosa, pyloric gland metaplasia is associated. PAS-reactive neutral mucin (stained magenta) is detected in the pyloric gland cells.



Crohn’s disease of the ileum surgically removed from a 44 y-o female patient (H&E). Transmural infiltration of lymphocytes is seen. Small epithelioid granulomas are scattered in the proper muscle layer. No caseous necrosis is seen.



Crohn’s disease of the ileum surgically removed from a 22 y-o male patient (H&E). In the submucosal layer, epithelioid granulomas with multinucleated giant cells of Langhans type are clustered. No caseous necrosis is seen. Lymphocytic infiltration is pronounced.



Crohn’s disease of the ileum surgically removed from a 22 y-o male patient (H&E). In the mucosal layer, a small epithelioid granuloma with multinucleated giant cells is observed, adjacent to pyloric gland metaplasia. Increase of intraepithelial lymphocytes is associated.