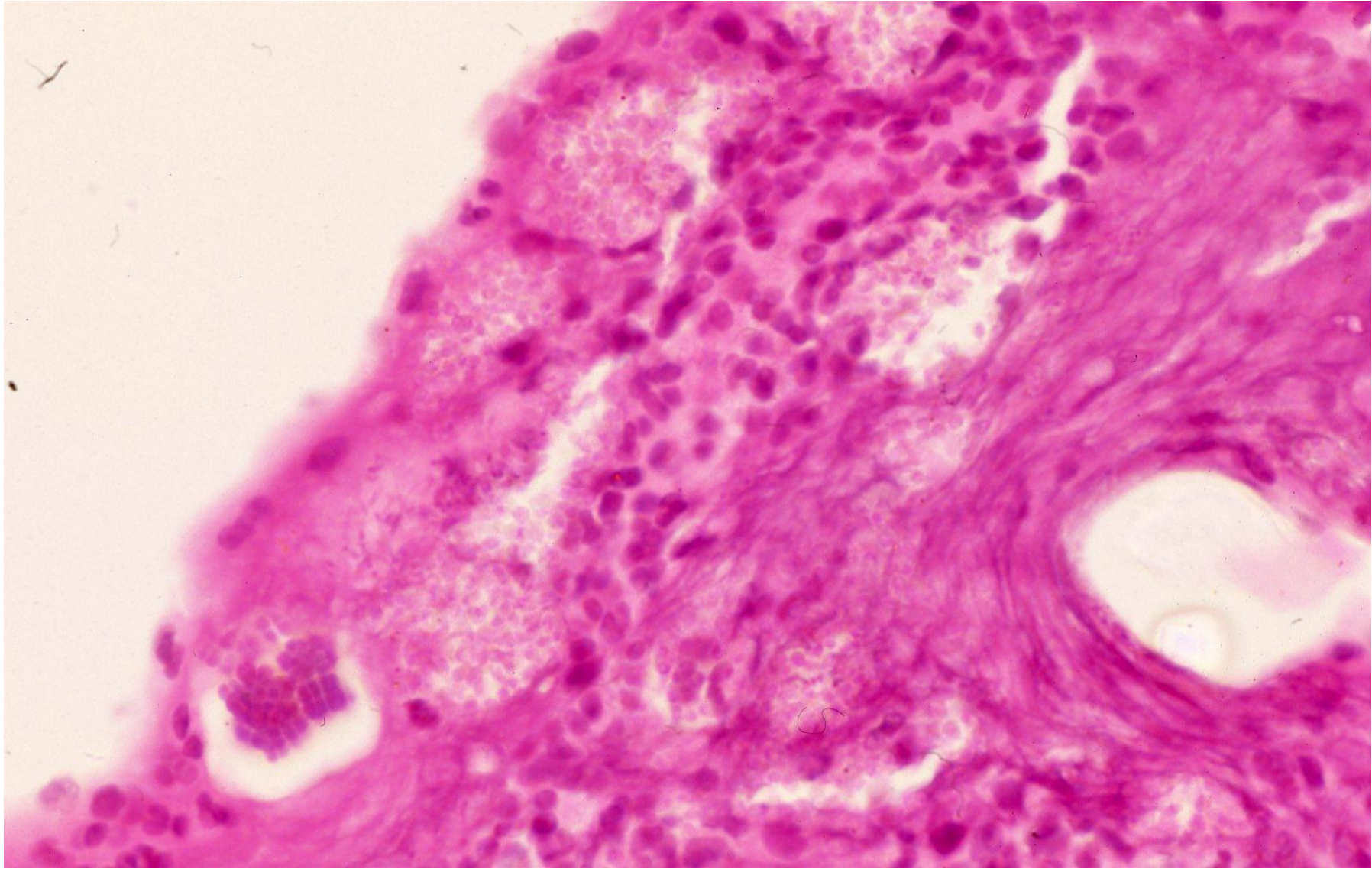


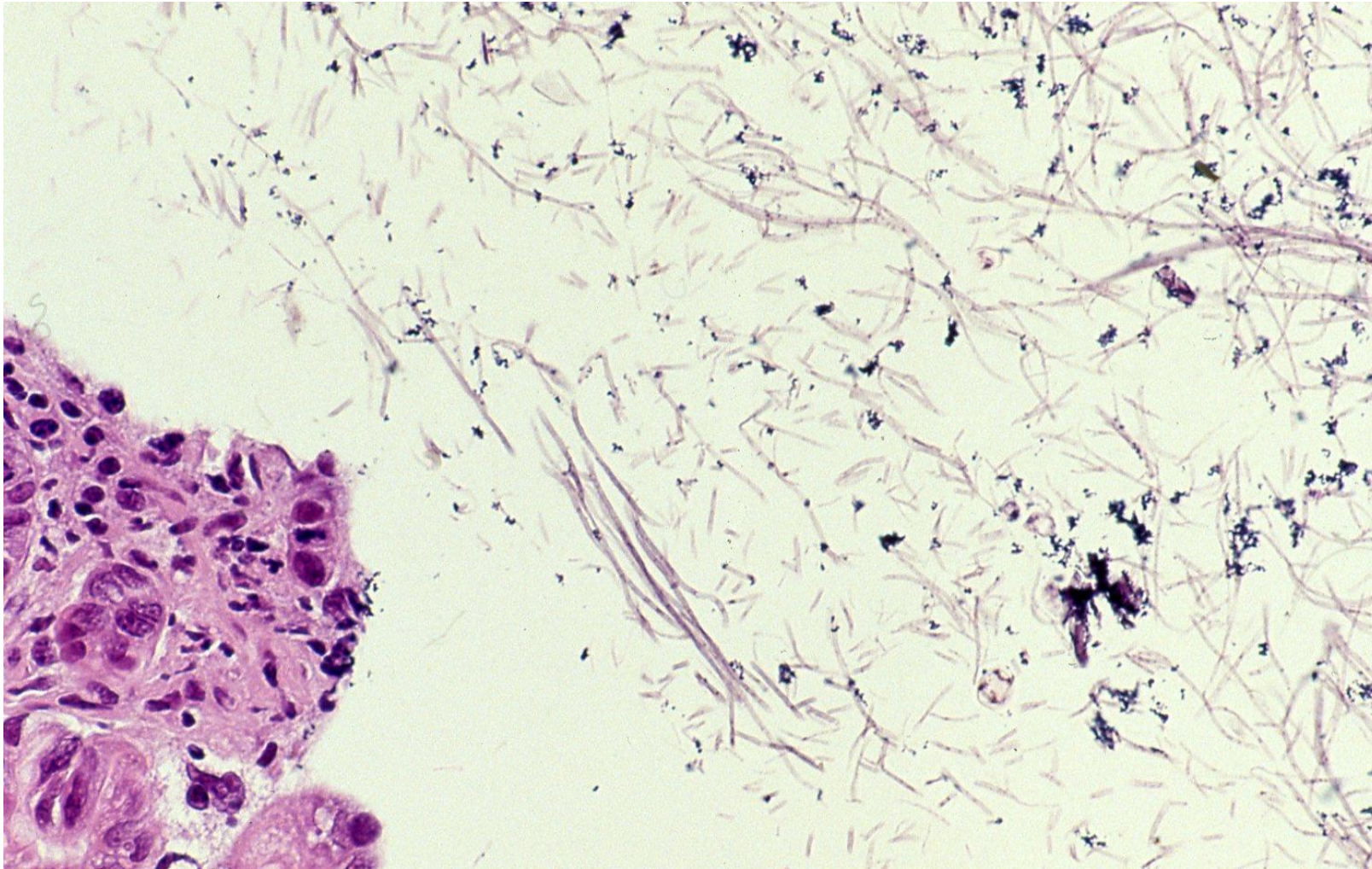
Secondary bacterial colonization at the gastric ulcer base

Ulcerative lesions of the gastrointestinal tract are rapidly colonized by various bacteria, probably resulting in significantly impaired healing. Surgical specimens of benign gastric ulcer are frequently colonized by bacteria on the ulcer base. Bacterial and Candidal colonization is especially prominent in cancer-related ulcerative lesions. In addition of Gram-positive cocci and Candida, Gram-positive or Gram-negative rods are often colonized on the ulcer base. Representative examples are shown herein.

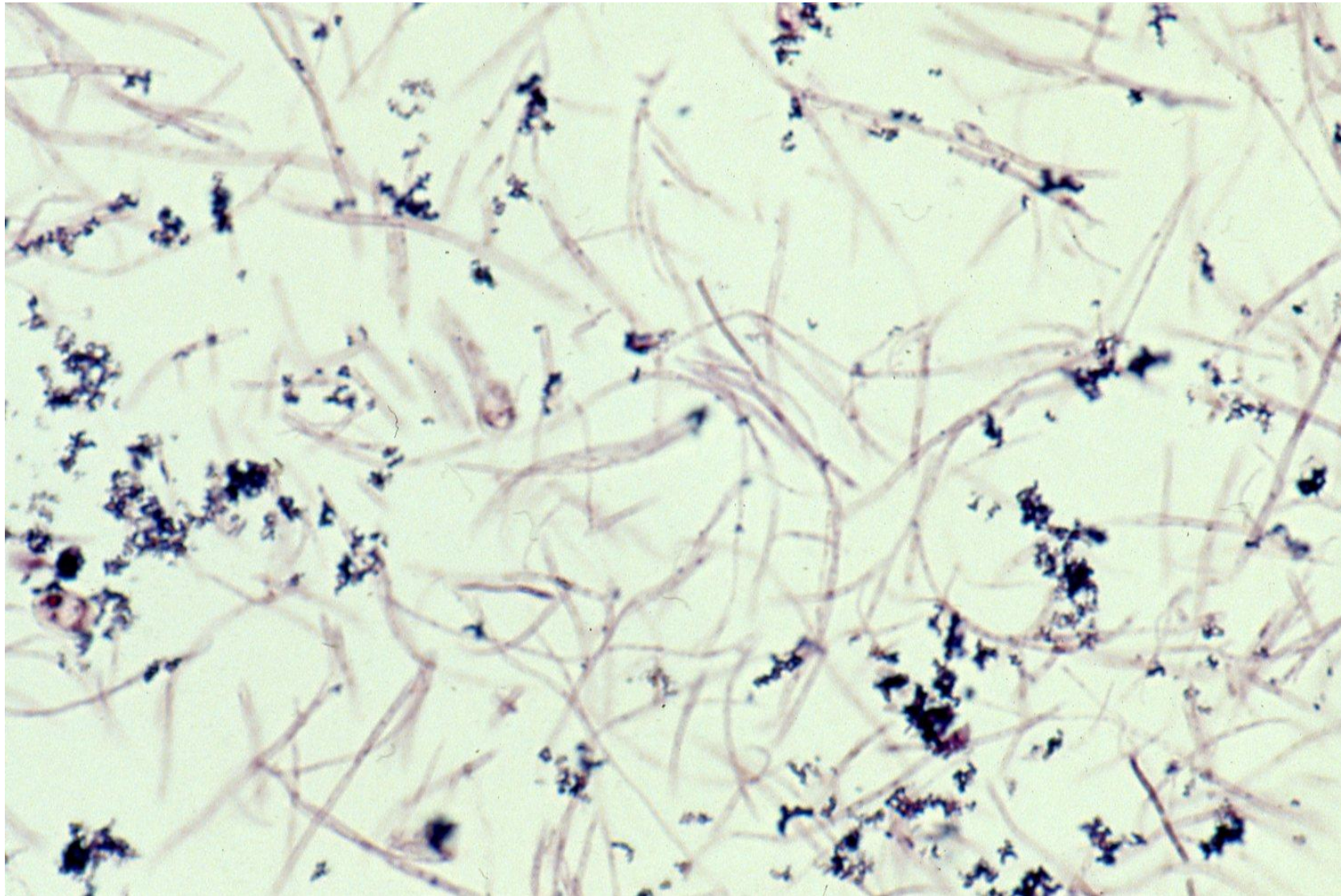
Ref.: Elliott SN, et al. Bacterial colonization and healing of gastric ulcers: the effects of epidermal growth factor. *Am J Physiol* 2000; 278(1): G105-G112. doi: 10.1152/ajpgi.2000.278.1.G105



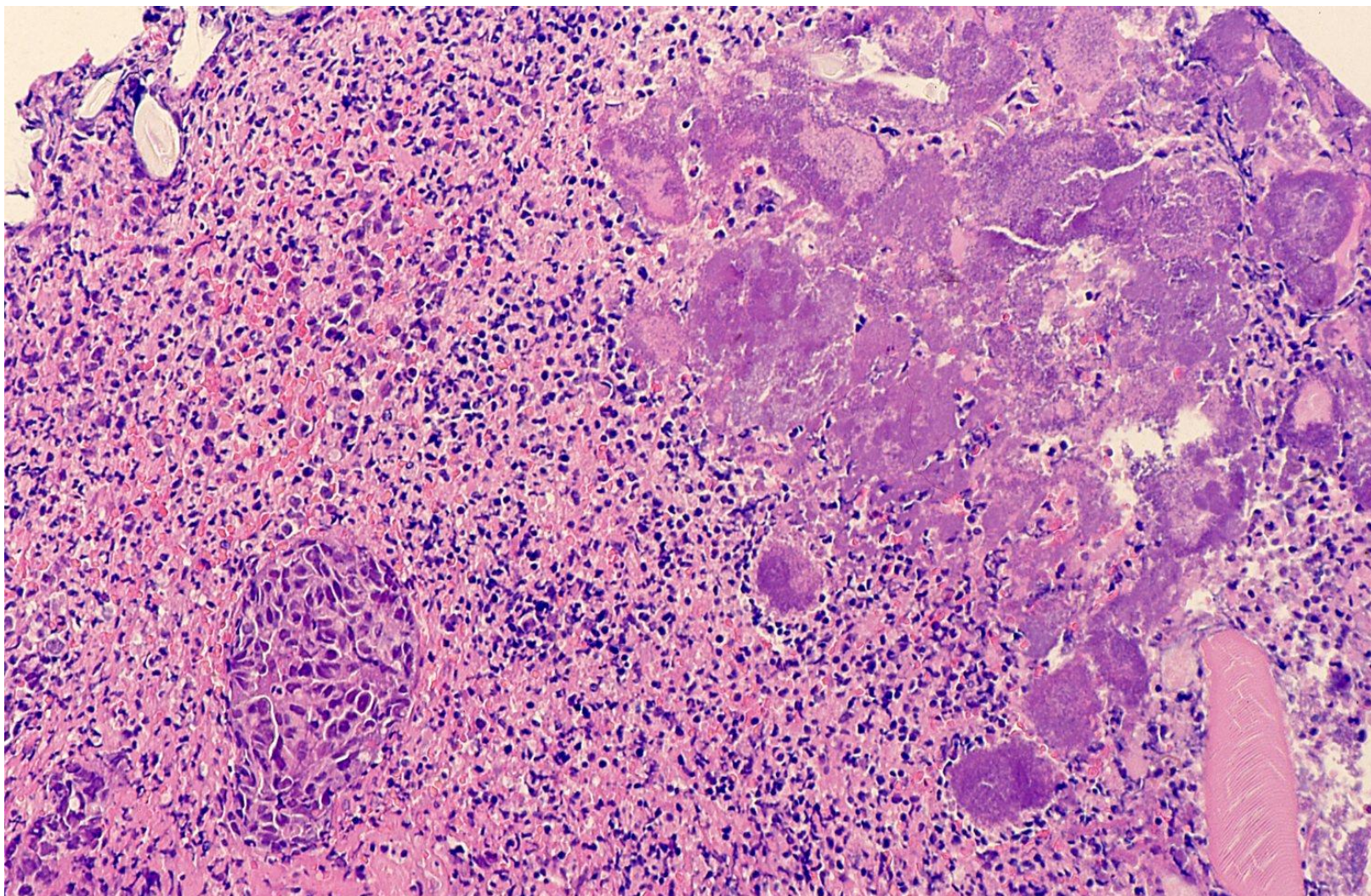
Secondary bacterial colonization on the gastric ulcer base (a lady aged 50's). A Sarcina colony is seen at the left lower corner, in addition to colonies of Gram-positive cocci. Regarding Sarcina, see GI-78-1-stomach, GI-78-2-stomach and GI-78-3-stomach. H&E



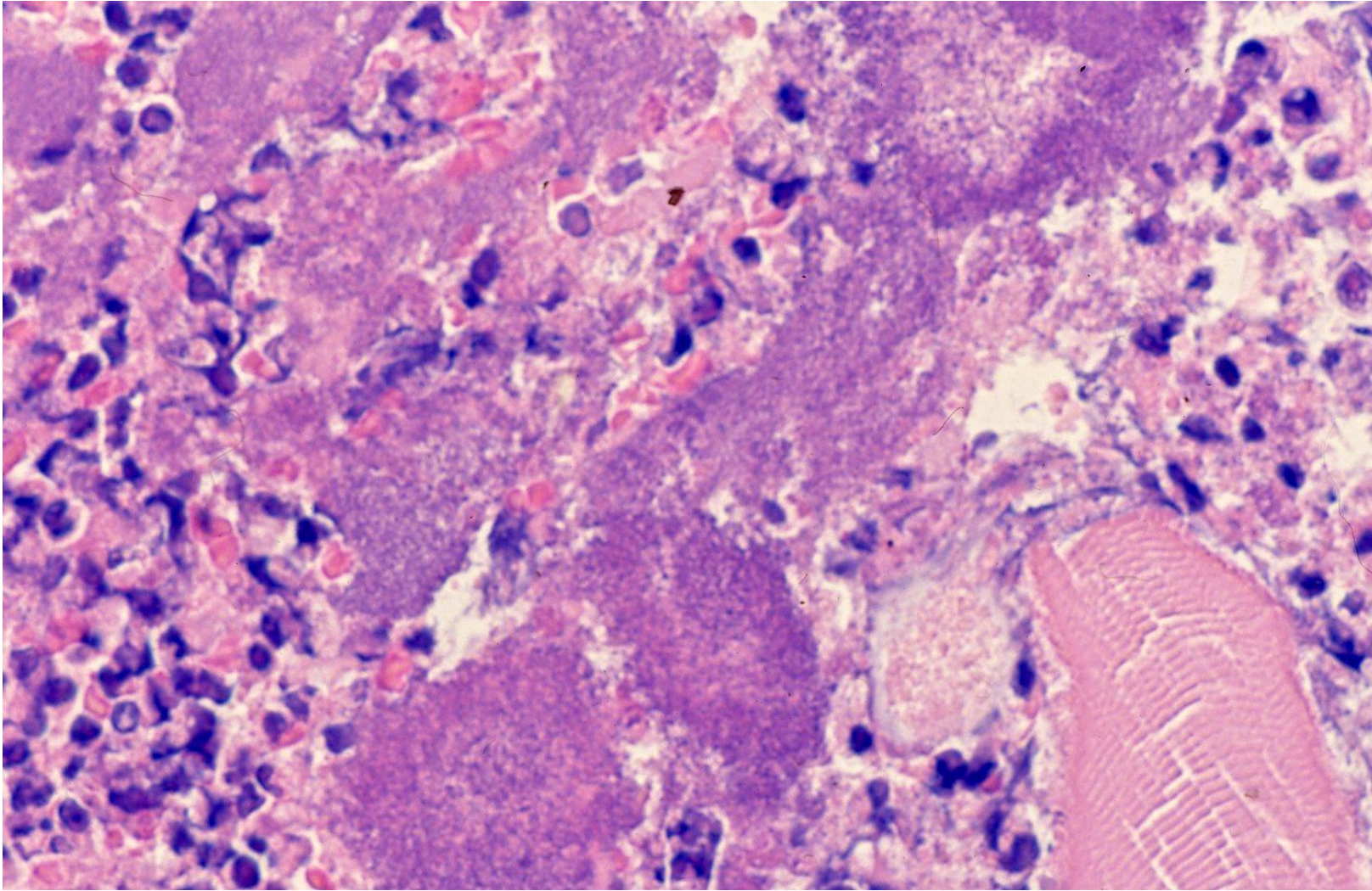
Secondary bacterial colonization at the base of gastric ulcer in a 51-year-old man. Long rods and cocci are co-infected. Regenerative atypia is evident in the epithelial cells. H&E



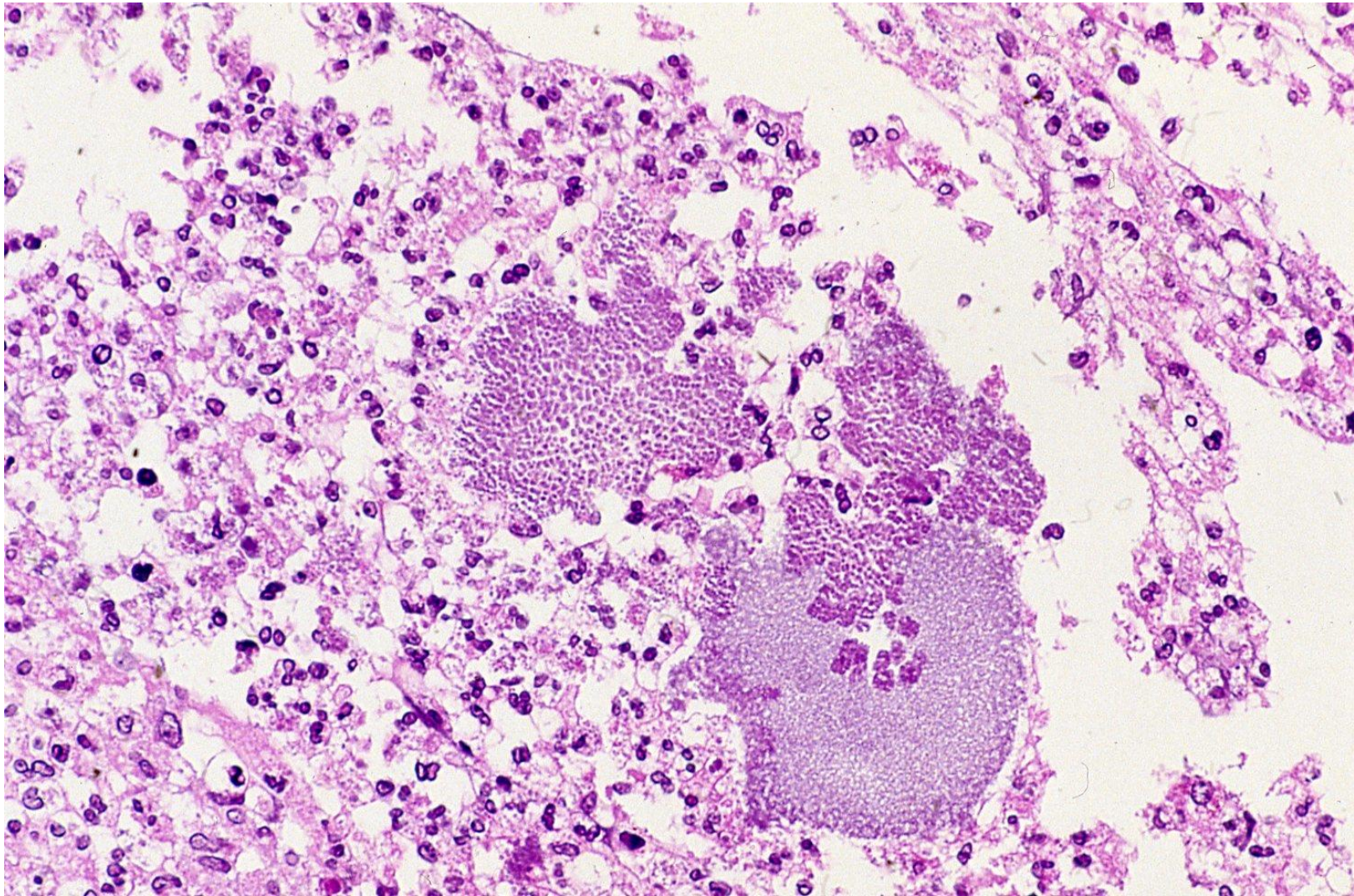
Secondary bacterial colonization at the base of gastric ulcer in a 51-year-old man. Long rods are Gram-negative, while cocci are strongly Gram-positive. Gram



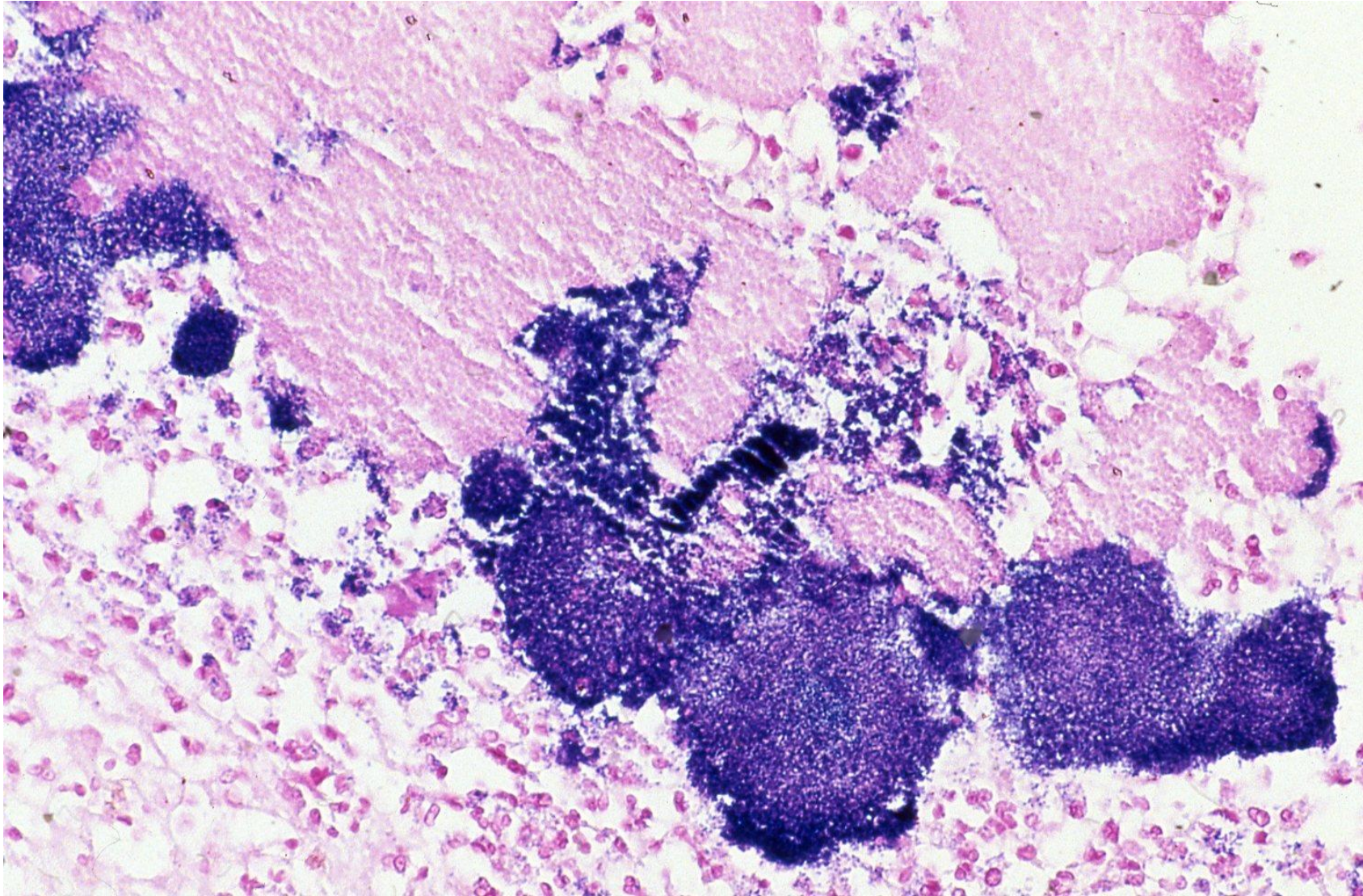
Massive colonization of Gram-positive cocci at the gastric cancer-related ulcer base. Poorly differentiated adenocarcinoma is focally observed. H&E-a



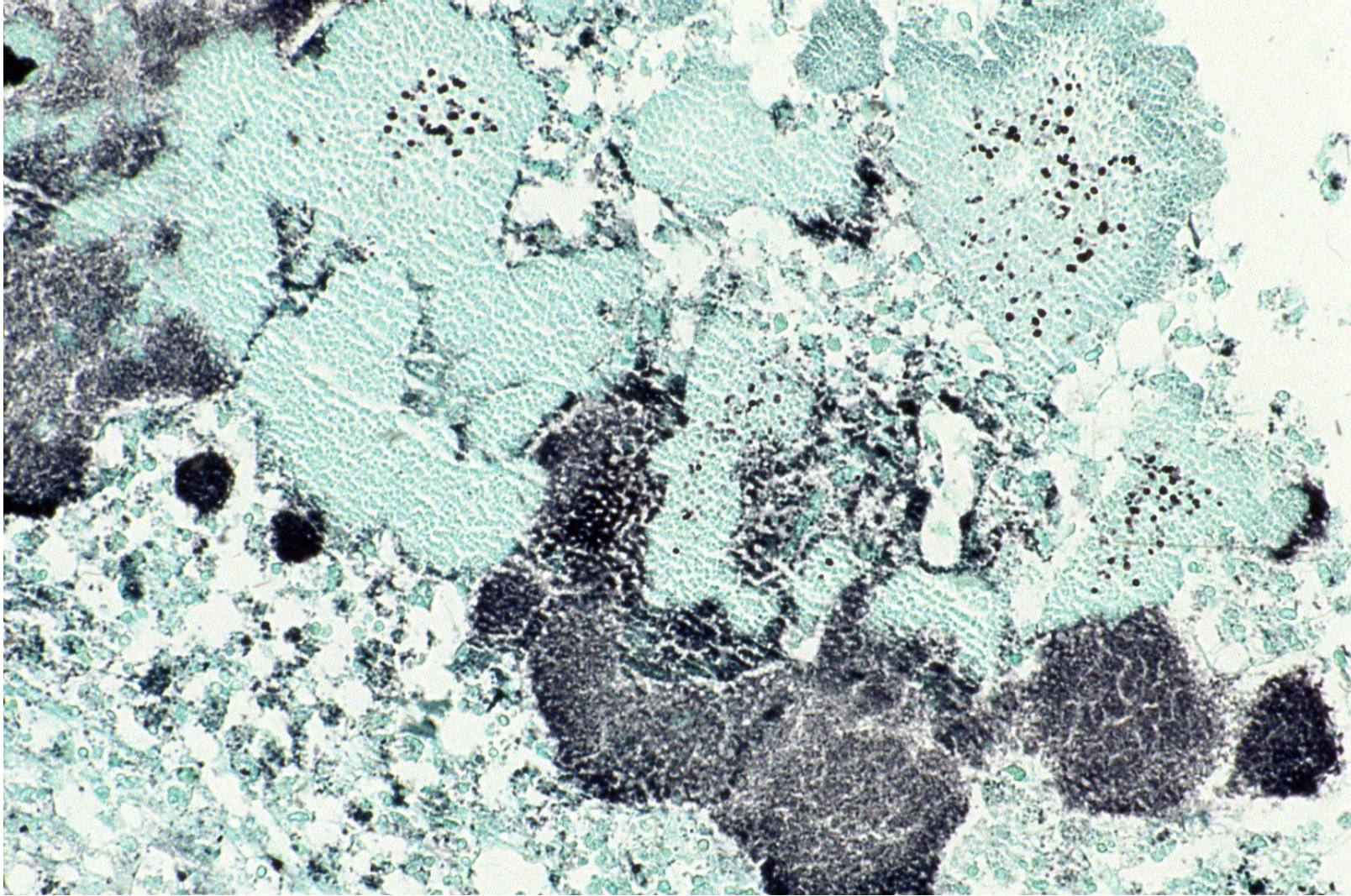
Massive colonization of Gram-positive cocci at the gastric cancer-related ulcer base. Poorly differentiated adenocarcinoma is focally observed. A striated muscle component (ingested meat) is seen adjacent to the coccal colonies. H&E-b



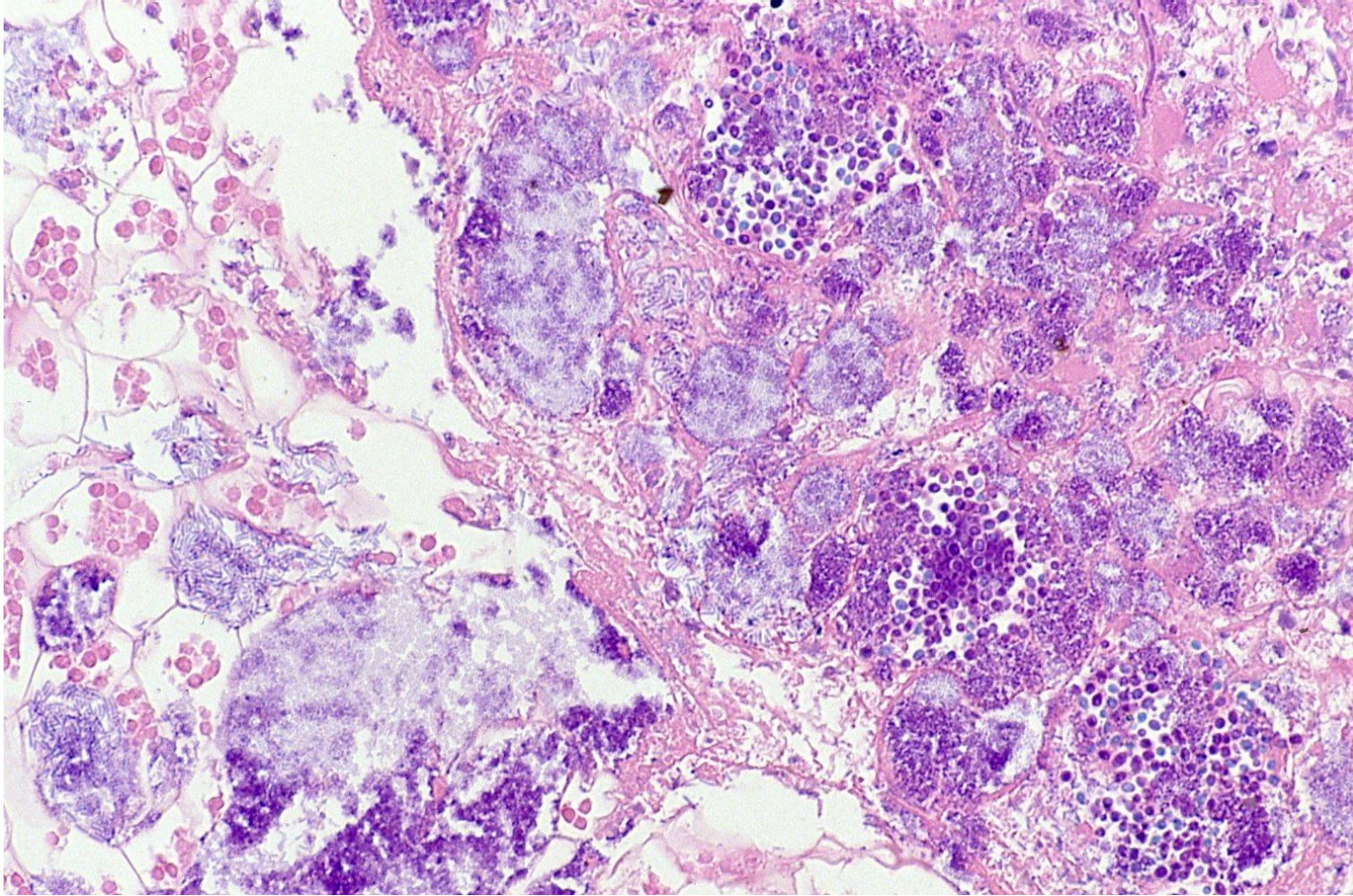
Colonization of Gram-positive cocci and Candida on gastric cancer ulcer base (a male patient aged 40's). H&E



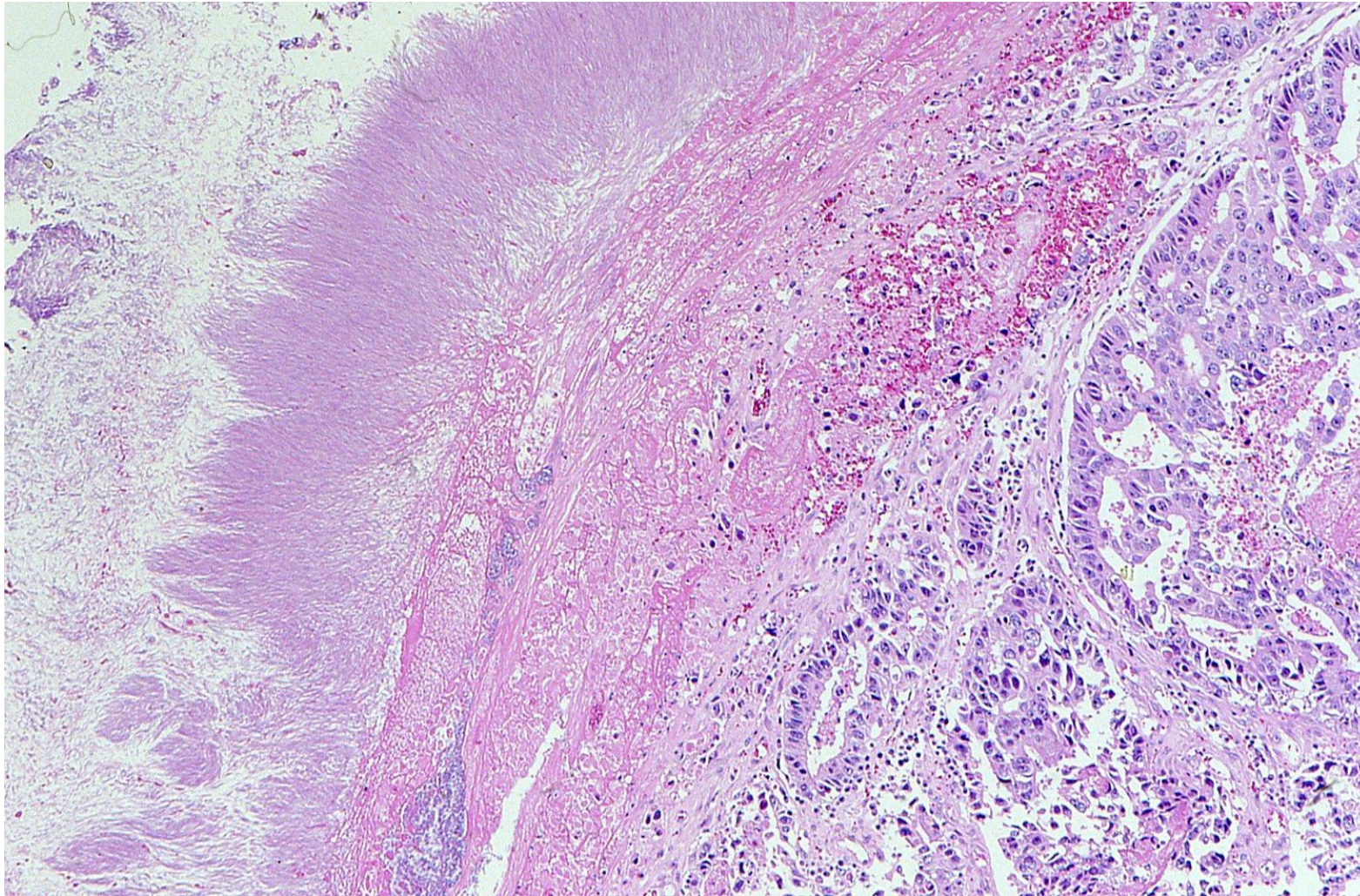
Colonization of Gram-positive cocci and Candida on gastric cancer ulcer base (a male patient aged 40's). Gram



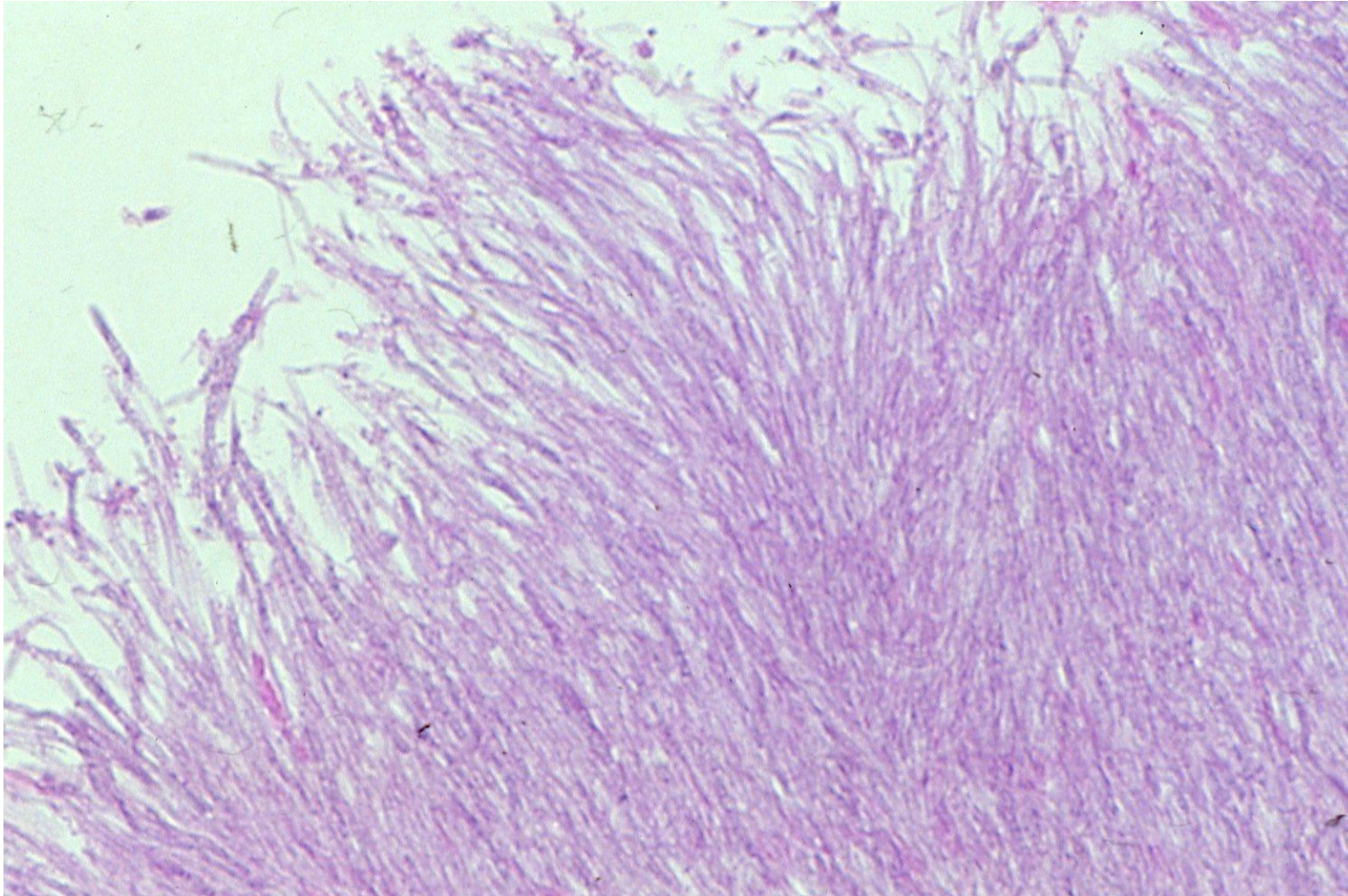
Colonization of Gram-positive cocci and *Candida* on gastric cancer ulcer base (a male patient aged 40's). Gram-positive cocci are Grocott-reactive. *Candida* yeasts are dispersed. Grocott



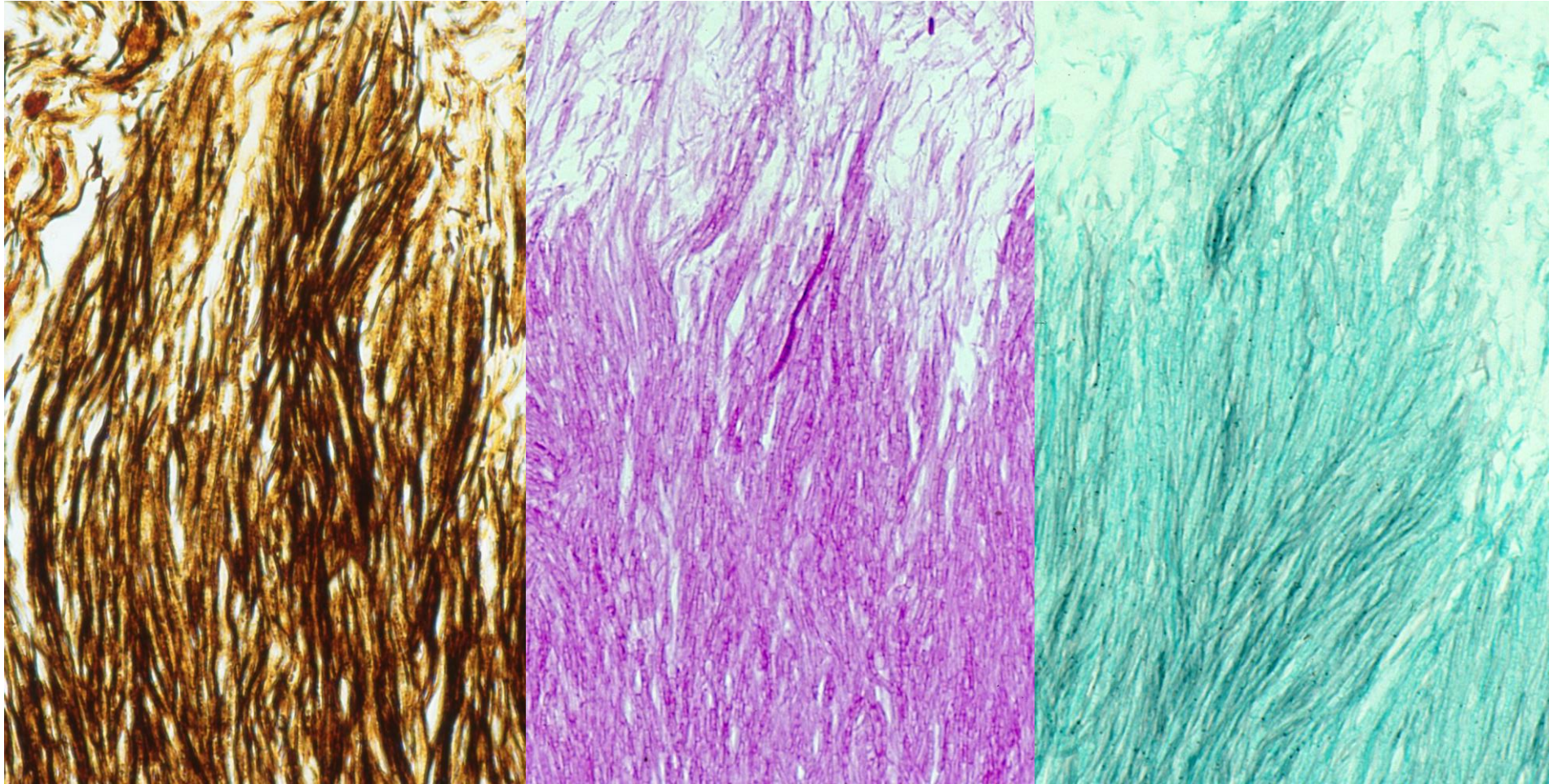
Note colonization of *Candida* and Gram-positive cocci with biofilm formation on the gastric cancer-provoked ulcer base (a 92-year-old female patient). H&E



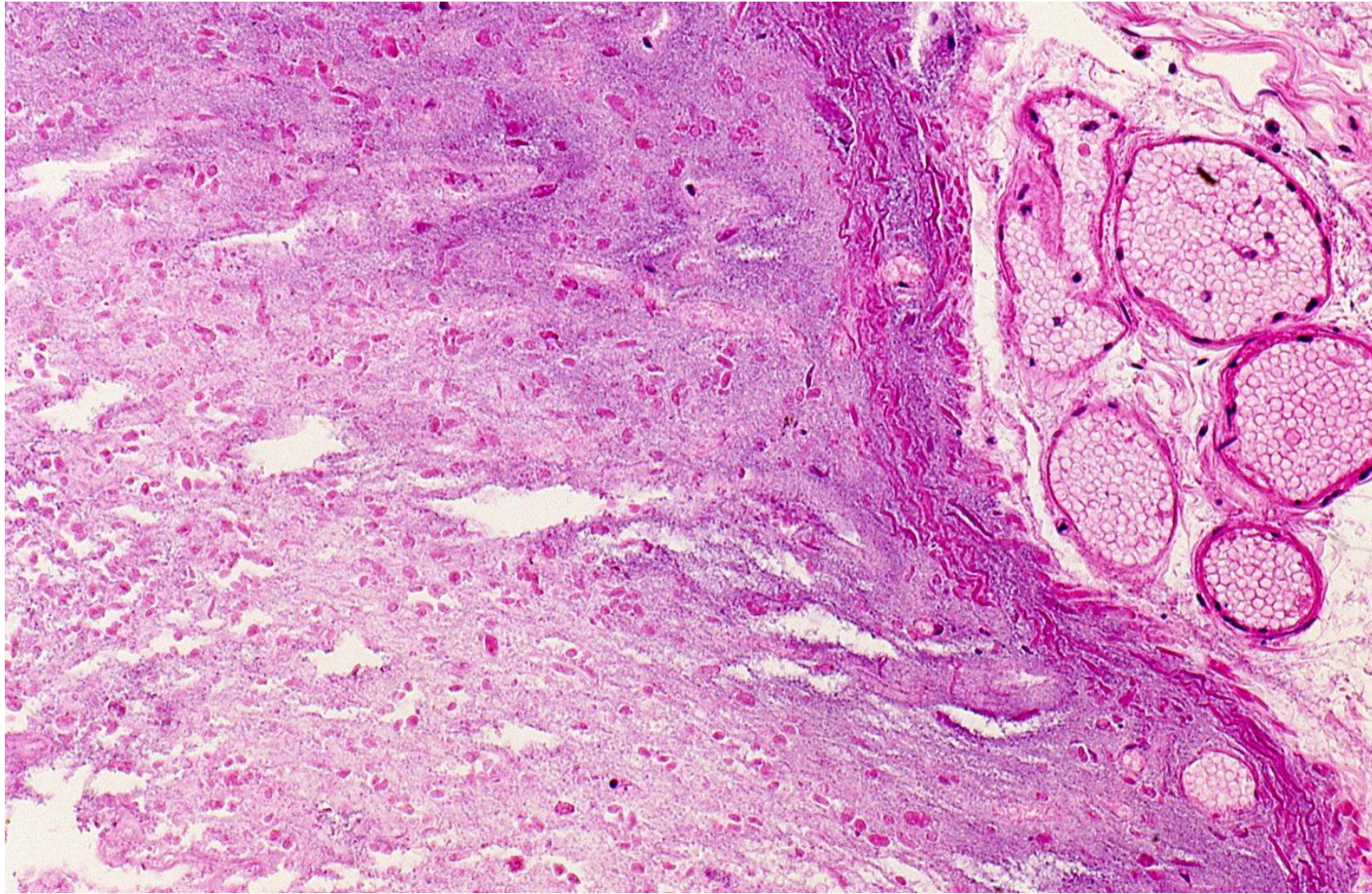
Colonization of long rods along the ulcer base caused by well-differentiated adenocarcinoma of the stomach (a 73-year-old male patient).



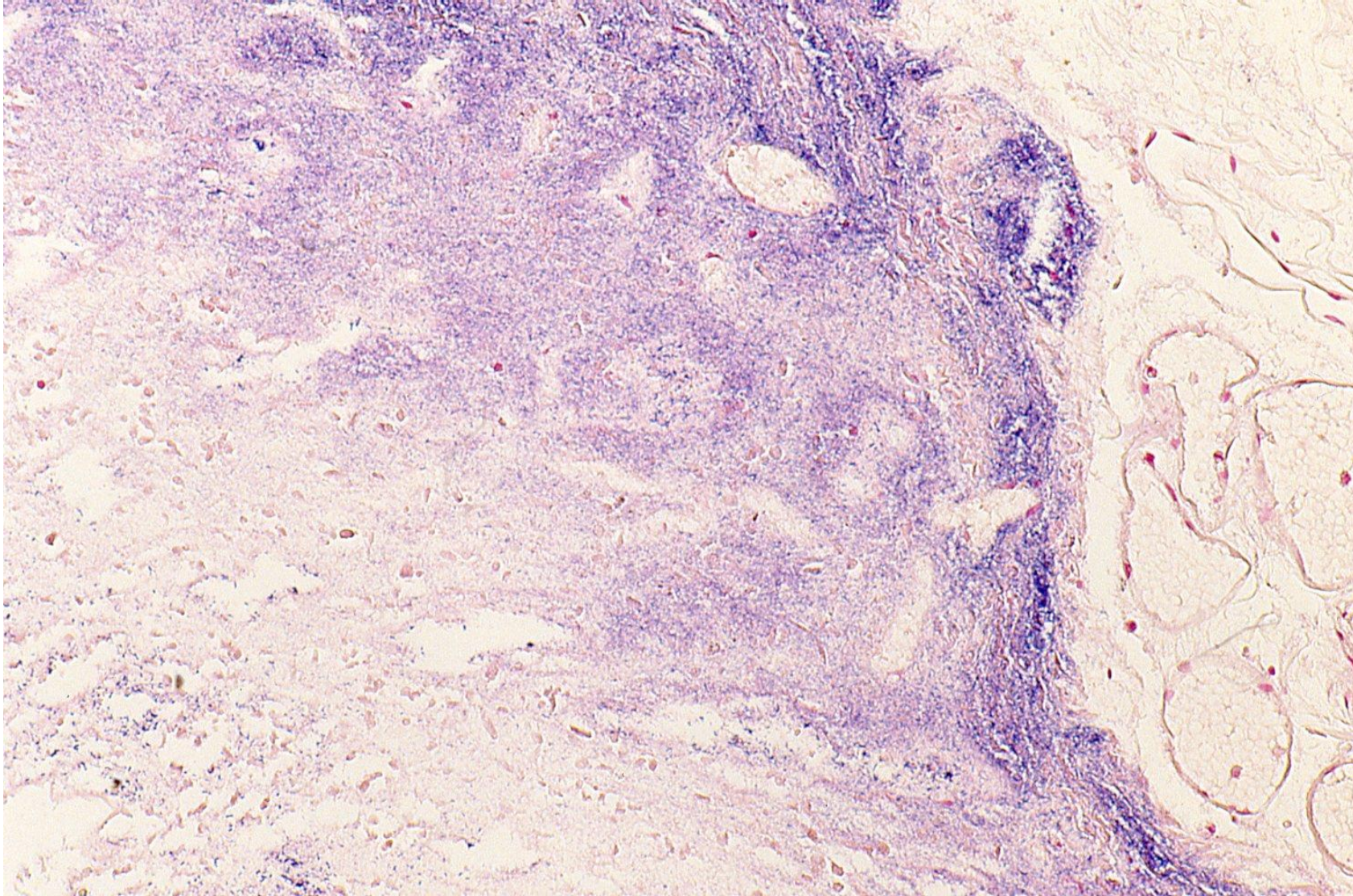
A high-powered view of the colonized long rods along the ulcer base caused by well-differentiated adenocarcinoma of the stomach (a 73-year-old male patient). Spirochaeta-like appearance is observed. H&E



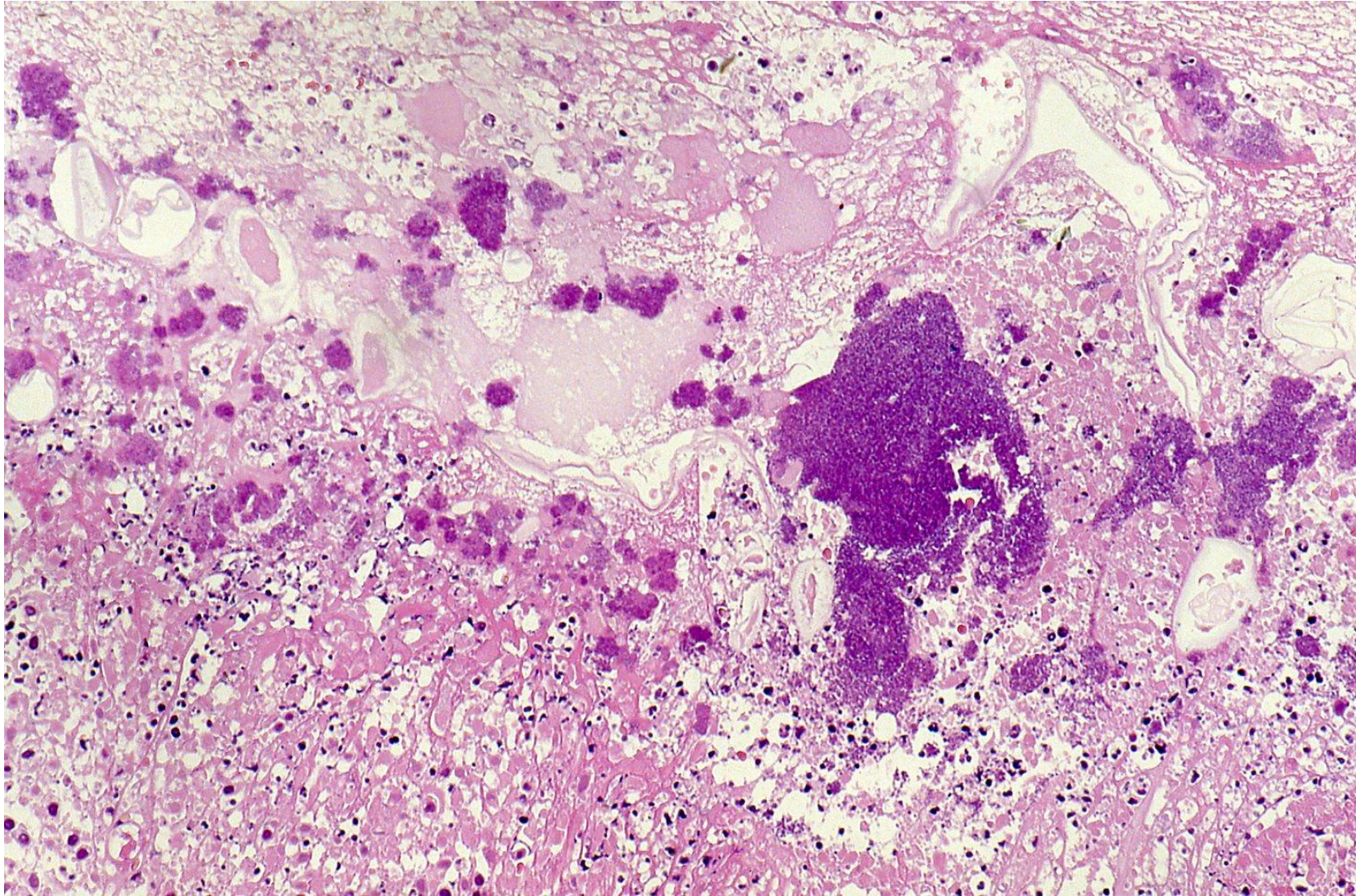
Special staining for the colonized long rods along the ulcer base caused by well-differentiated adenocarcinoma of the stomach (a 73-year-old male patient). The spirochaeta-like bacteria are reactive with Warthin-Starry's silver (left) and PAS (center). Grocott staining faintly labels the bacteria (right).



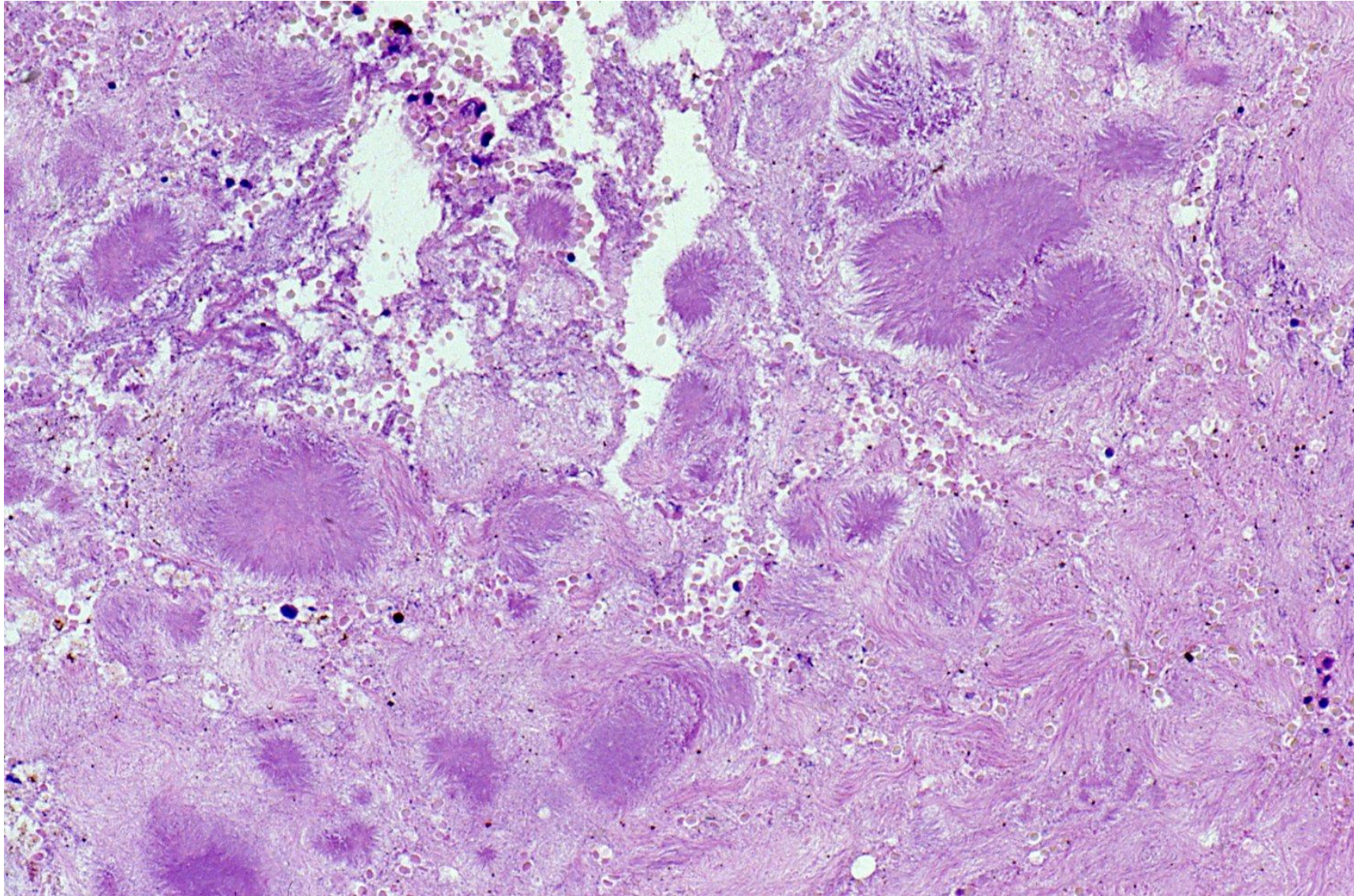
Colonization of rods on the ulcer caused by colon adenocarcinoma (an 85-year-old female patient). H&E



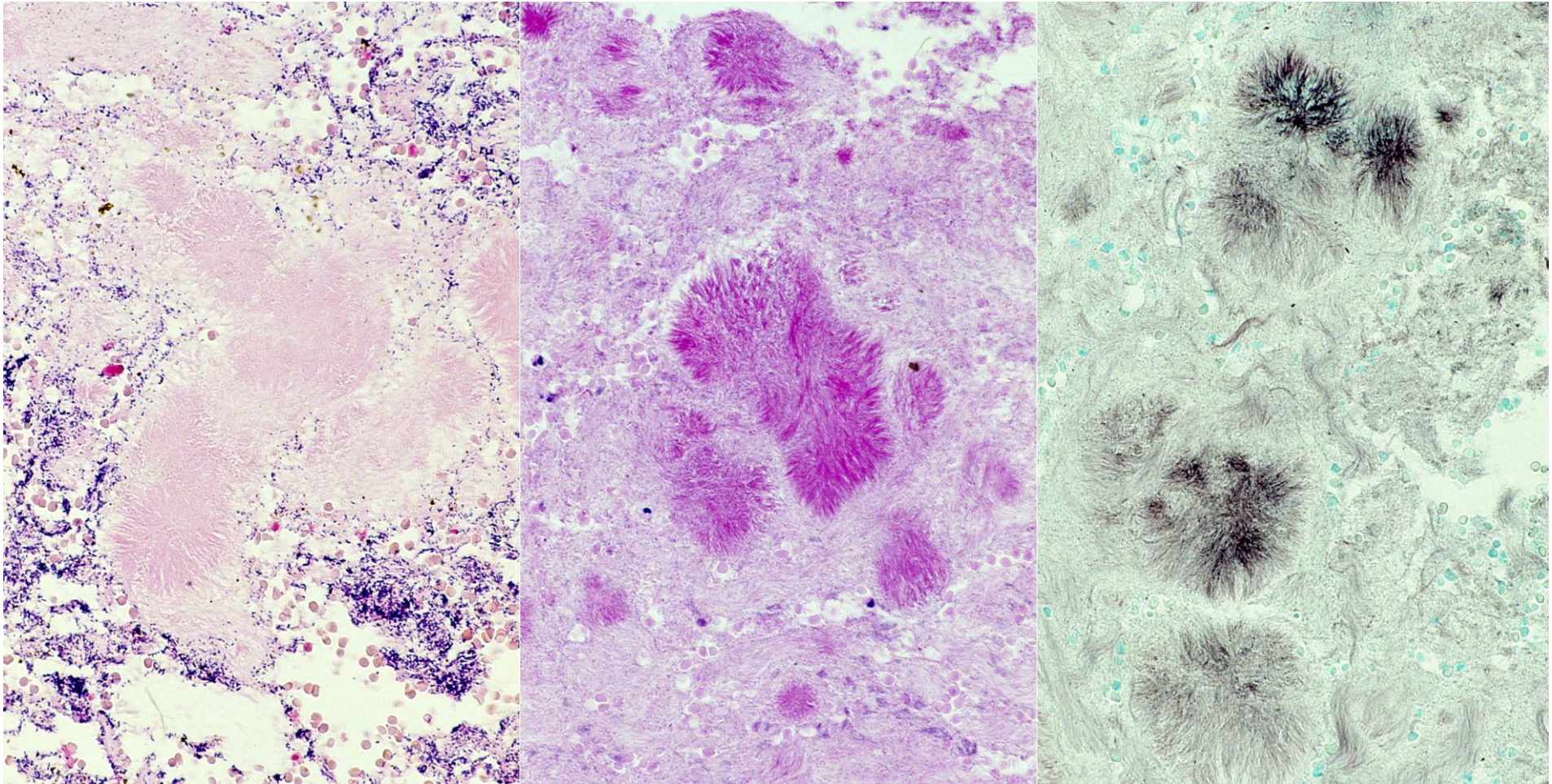
Colonization of Gram-positive rods on the ulcer caused by colon adenocarcinoma (an 85-year-old female patient). Gram



Colonization of Gram-positive cocci on the ulcer base caused by colonic adenocarcinoma. H&E



Colonization of Gram-negative long rods on the ulcer base caused by rectal adenocarcinoma. H&E



Colonization of Gram-negative long rods on the ulcer base caused by rectal adenocarcinoma. The rods are Gram-negative, but PAS and Grocott-reactive. Gram-positive cocci are dispersed around the rods colonies. Gram (left), PAS (center) and Grocott (right)



Scanning electron micrograph of colonization of long rods on the ulcer base caused by tongue squamous cell carcinoma. The rods are seen adjacent to an erythrocyte. SEM