

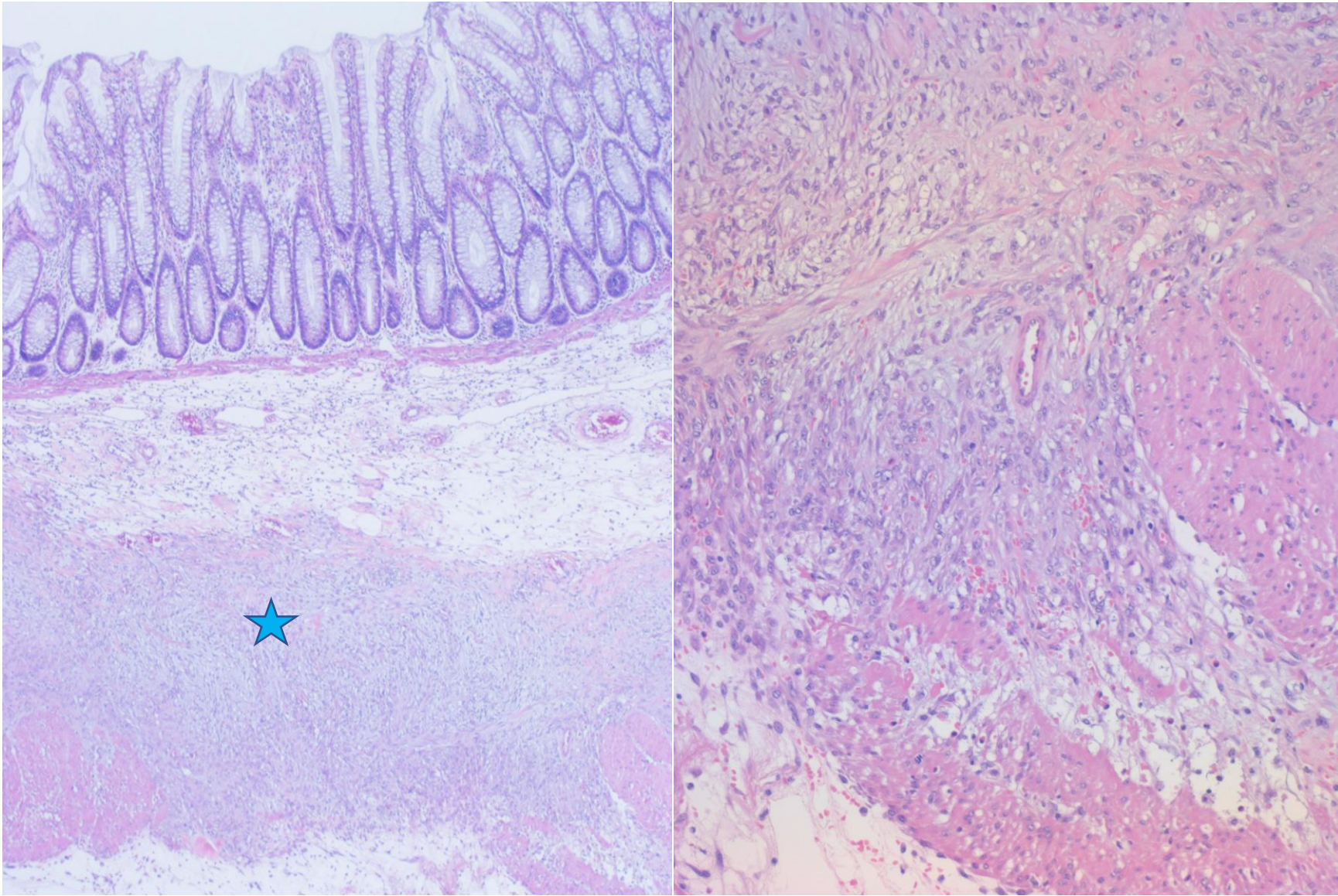
Spontaneous perforation of the colon

Spontaneous colon perforation is defined as an abrupt perforation of the normal colon without tumor, diverticulosis, ischemia or traumatic disease. The size of perforation ranges from a pinpoint size to 3 cm. The commonest lesion location is the sigmoid colon. Unexplained abdominal pain and perforating peritonitis (acute abdomen) necessitated emergency surgery. Microscopically, segmental muscularis propria defects may be seen around the perforation sites, explaining the reason of bowel wall weakening.

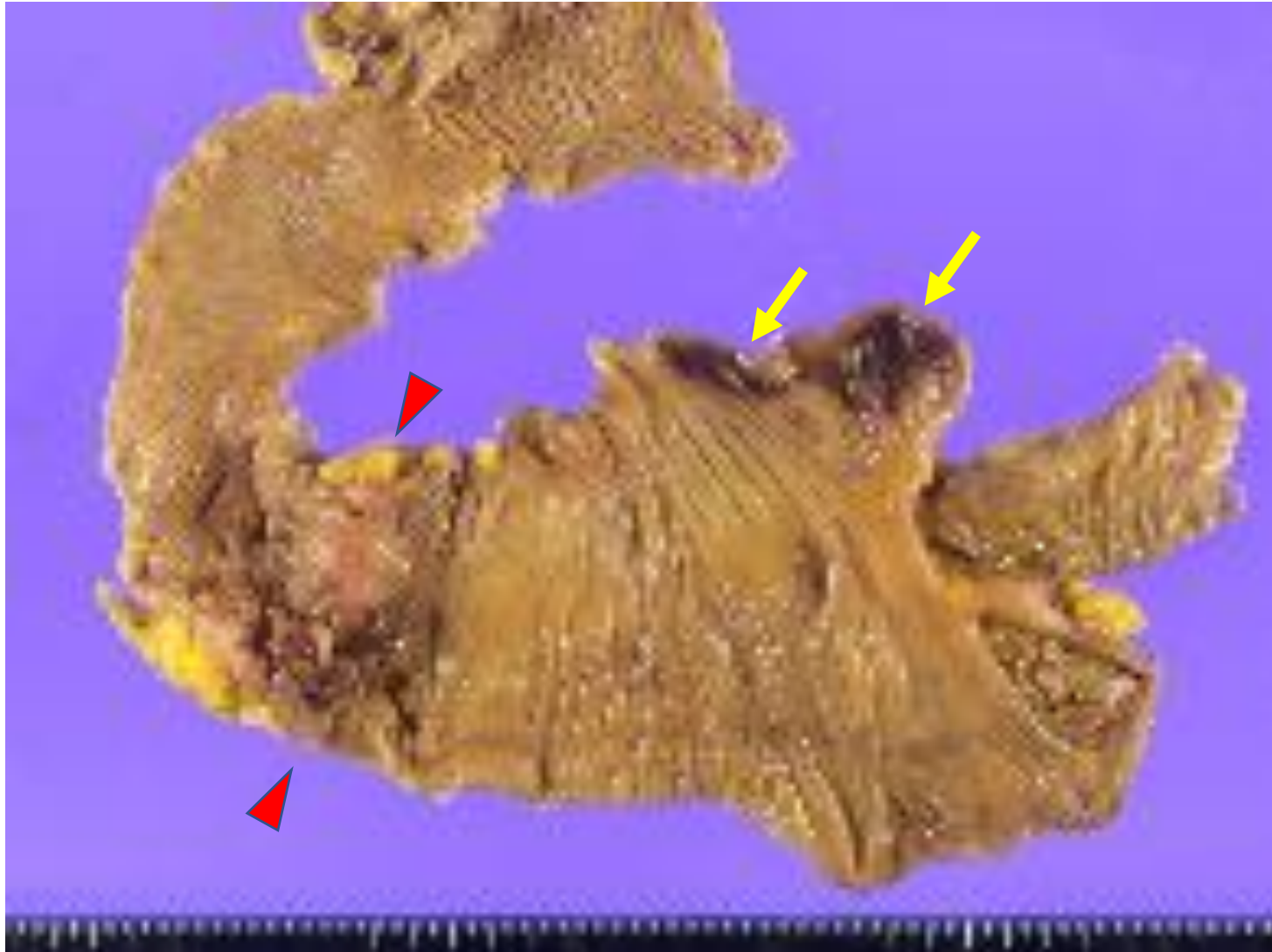
Ref.: Tamai M, et al. Segmental muscular defects of the intestine: a possible cause of spontaneous perforation of the bowel in adults. Hum Pathol 2013; 44(12): 2643-2650. doi: 10.1016/j.humpath.2013.07.004



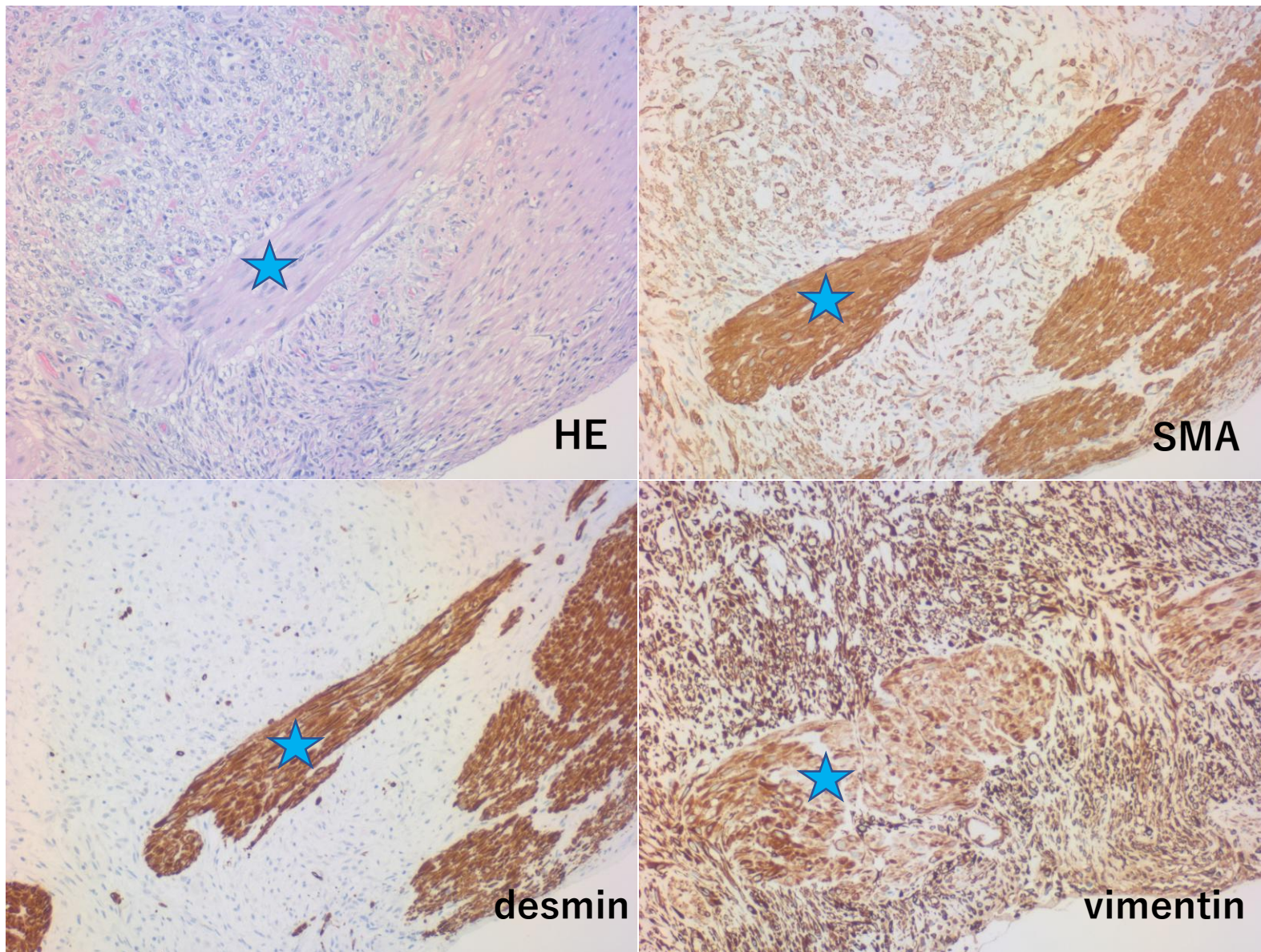
Spontaneous perforation of the sigmoid colon of a 70-year-old man. A large and sharply demarcated perforated hole is seen. Gross finding after formalin fixation



At the site of perforation, the inner muscle layer is replaced by granulation tissue with evident loss of normal smooth muscle cells, as arrow indicates. Fibroblastic growth is observed instead. The loss of normal smooth muscle cells explain the susceptibility of perforation. H&E



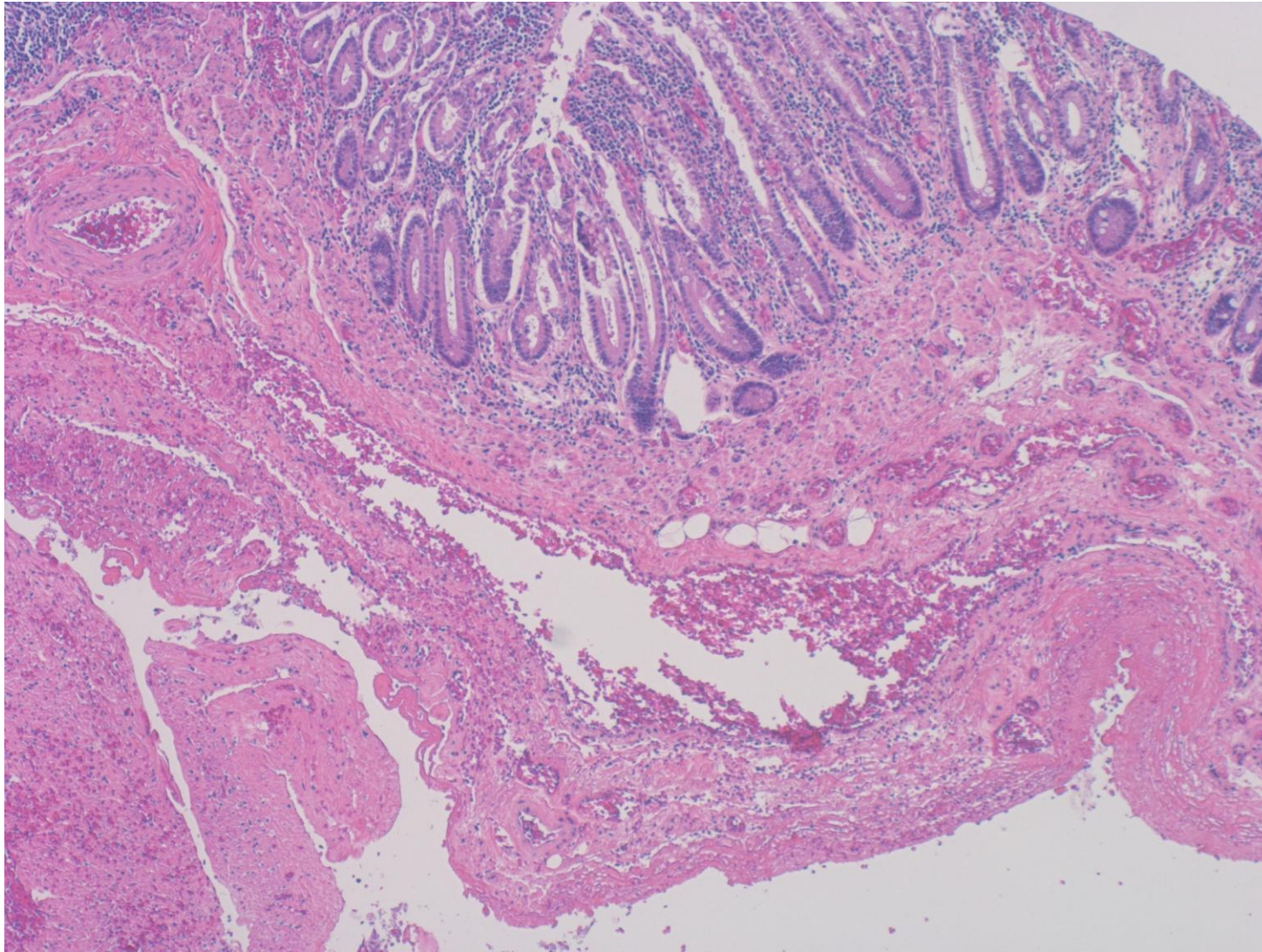
Spontaneous colon perforation seen in the cecum of a man aged 60's. Stenotic ascending colon cancer is indicated by arrowheads. Two perforates sites (arrows) are seen in the cecum with luminal dilatation.



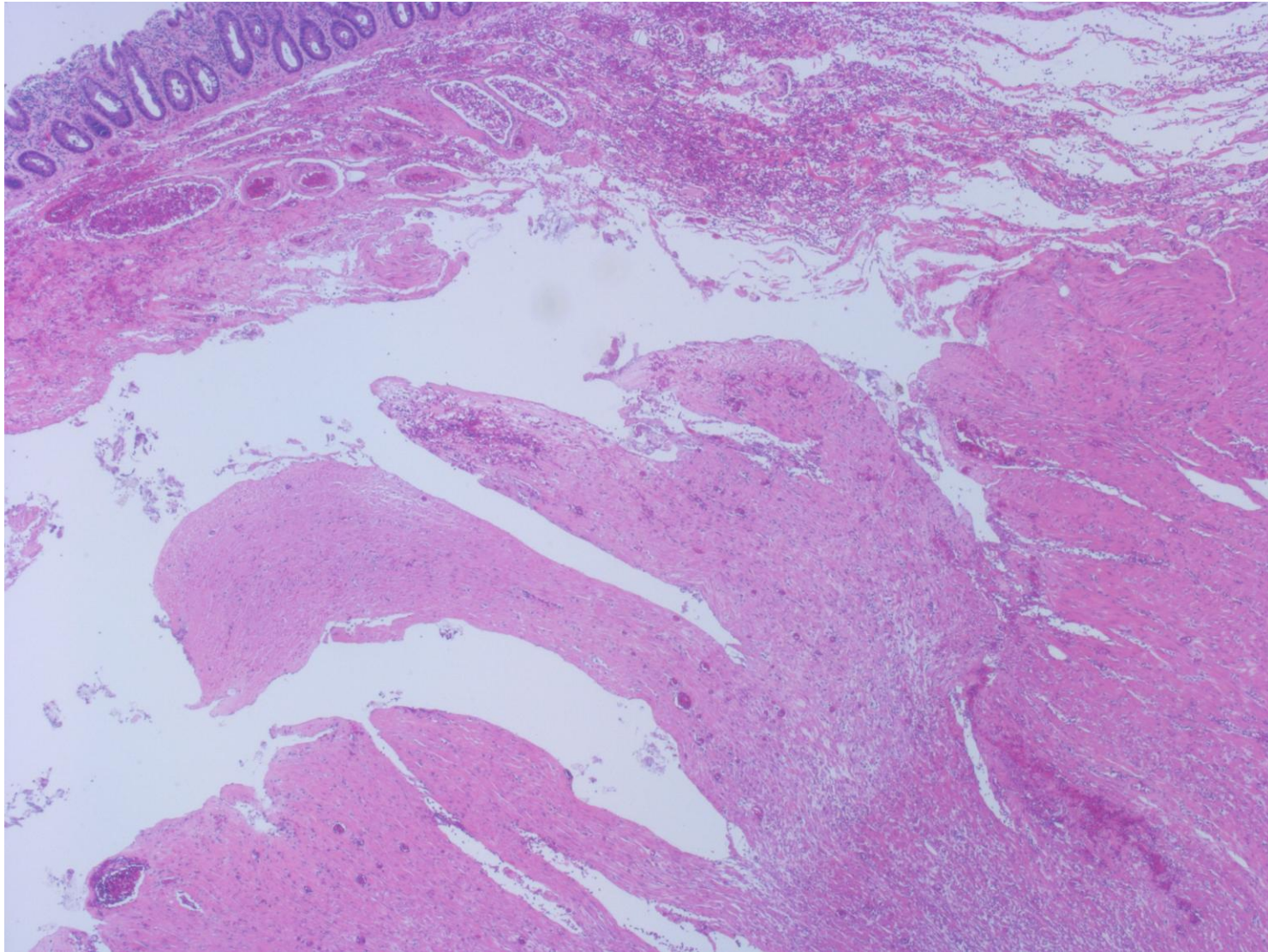
Spontaneous colon perforation seen in a case of colon cancer with luminal stenosis. At the site of perforation in the cecum, atrophic smooth muscle layer reveals decrease of SMA and desmin and increase of vimentin. Blue asterisks demonstrate retained normal smooth muscle cells. HE/SMA/desmin/vimentin



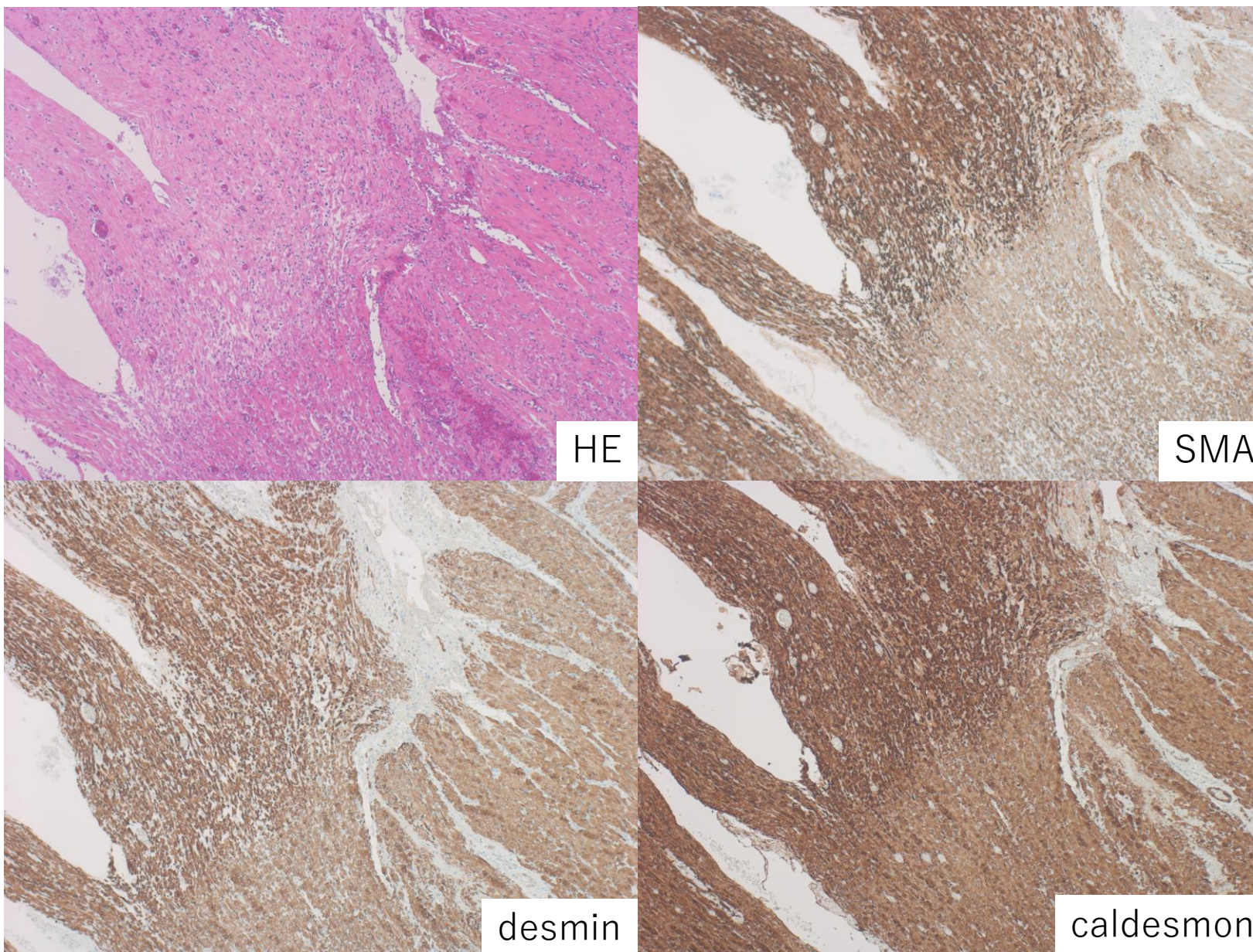
Spontaneous perforation of the sigmoid colon of an 80-year-old man
A small-sized perforation site is indicated by a probe..



Spontaneous perforation of the sigmoid colon of an 80-year-old man
At the site of perforation, the proper muscle layer is defective. H&E



Spontaneous perforation of the sigmoid colon of an 80-year-old man. At the site of perforation, a part of inner muscle layer reveals a decrease of eosinophilia of the smooth muscle component. H&E



In this case of spontaneous colon perforation, the inner muscle layer with decreased eosinophilia at the site of perforation shows increased stainability of the smooth muscle cell markers such as SMA, desmin and caldesmon.