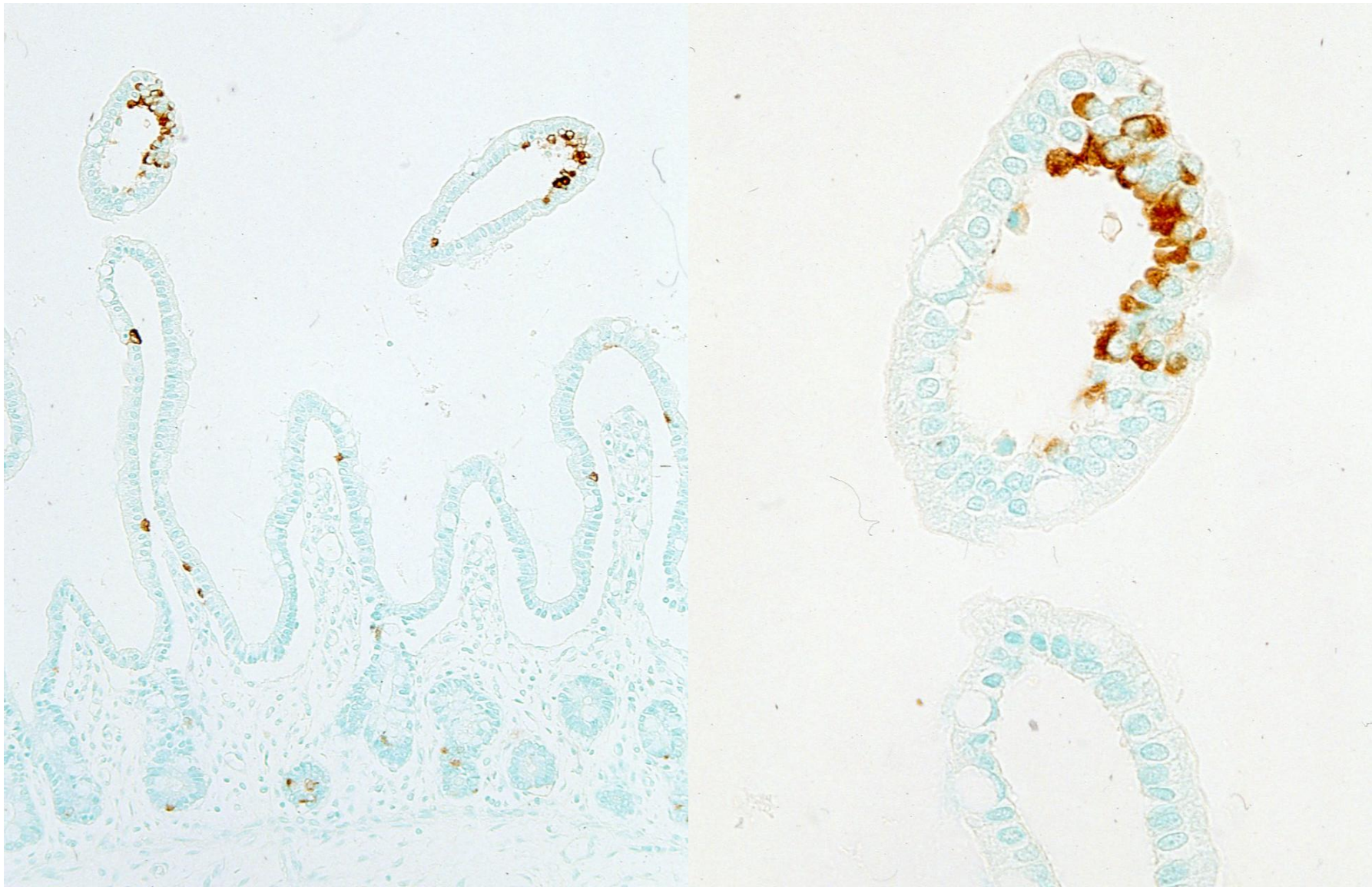


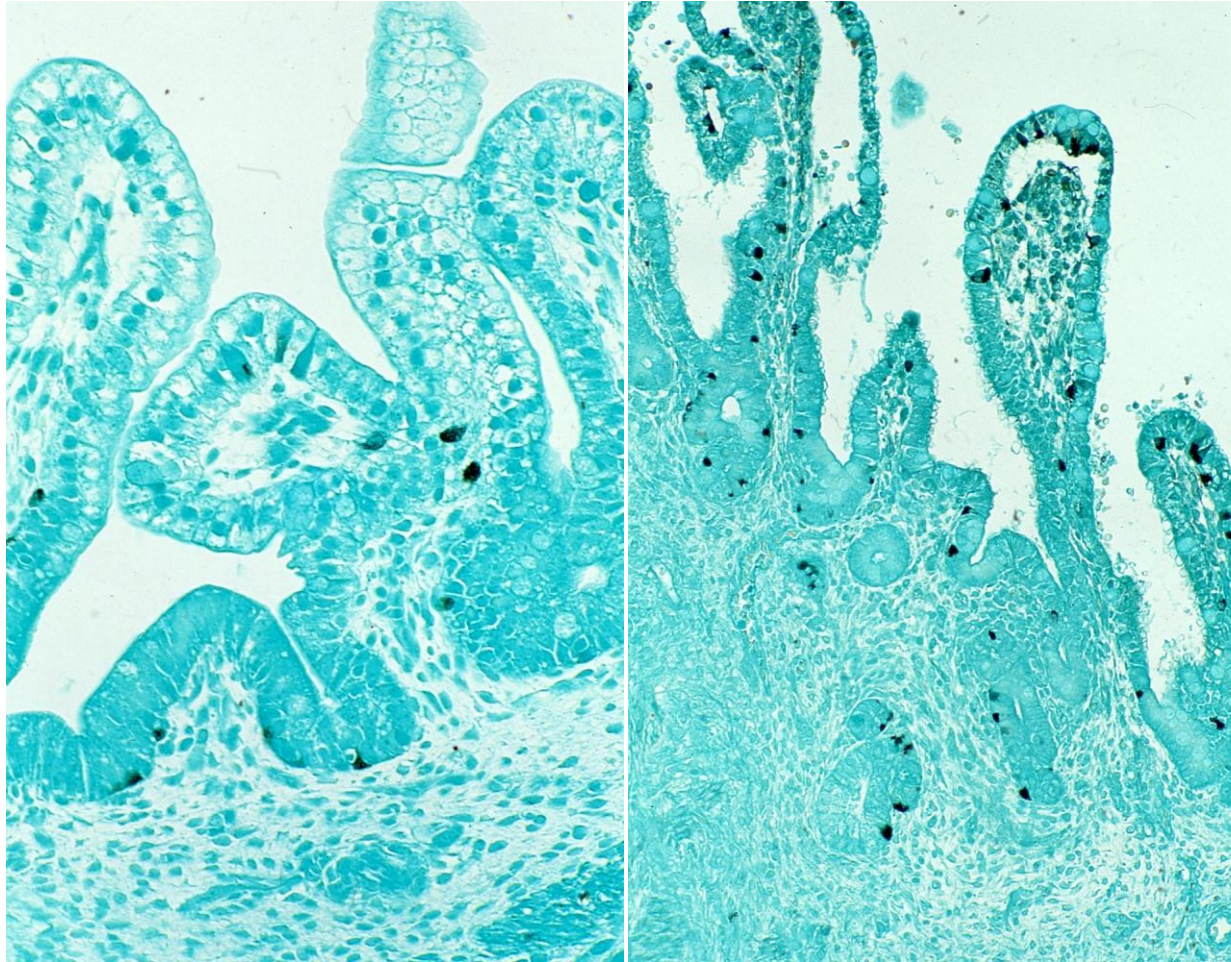
Segi's cap

In the fetal period, Segi's caps are formed at the tip of the small intestinal villi. This fetus-specific structure consisting of clustered basal granulated cells was found by Dr. Mitsuo Segi at Tohoku University in 1936, and re-evaluated by Prof. Tsuneo Fujita at Niigata University 45 years later. Segi's cap is distributed in the duodenum through upper jejunum of the fetus later than 5 months of gestation. In the Segi's cap, Prof. Fujita identified neuroendocrine cells immunoreactive for serotonin, gastrin and somatostatin. The Segi's cap is a disc-shaped and centrally depressed structure formed at the tip of intestinal villi, and resembles Langerhans islets in the pancreas and neuroepithelial bodies in the fetal lung. The function of Segi's cap is unknown. It has been supposed that Segi's cap controls the reabsorption and filtering of the amniotic fluid swallowed by the fetus.

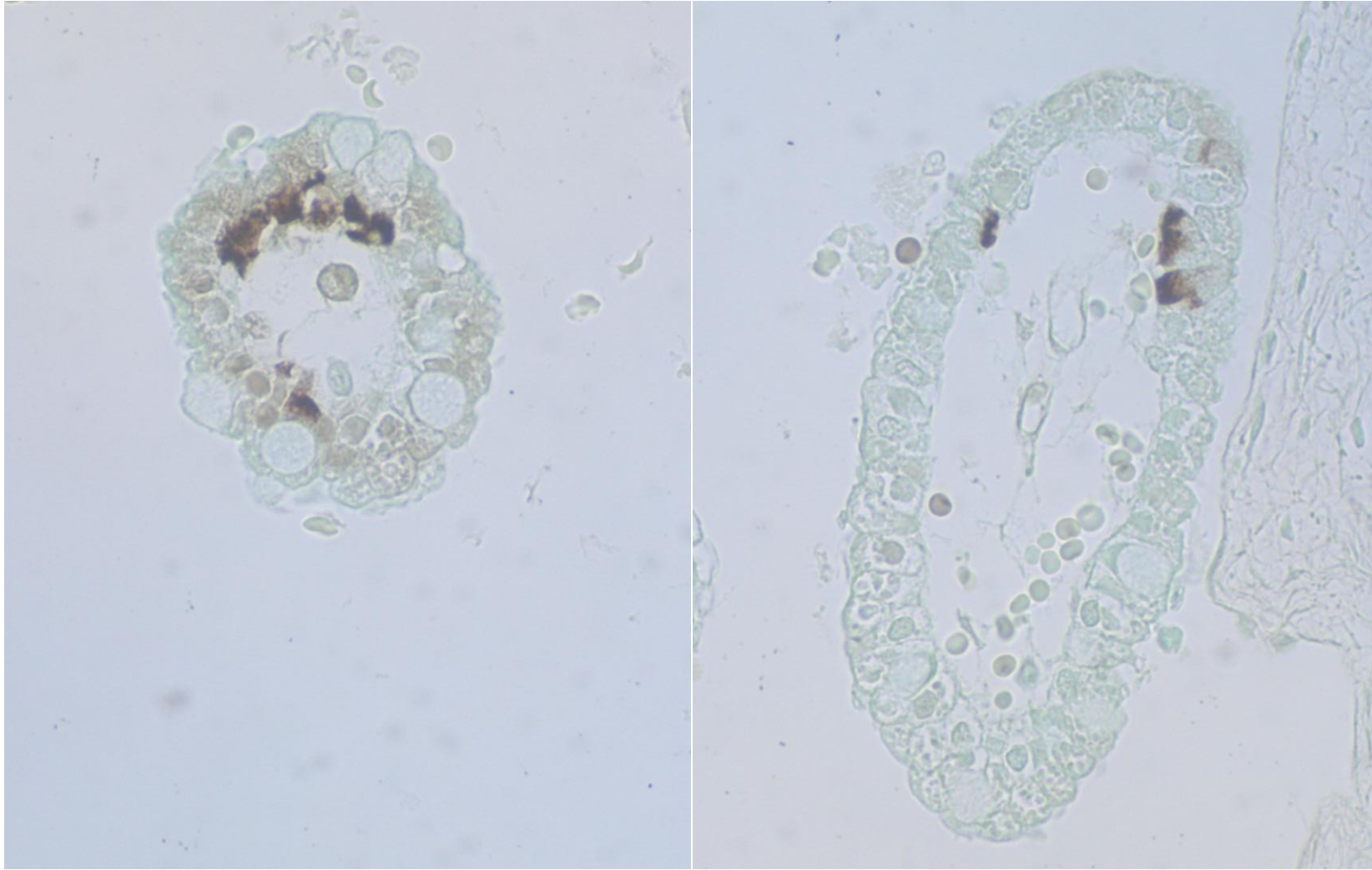
Ref.: Kobayashi S, Iino S. Segi's cap: group formation of gut endocrine cells at the tip of the villi in human embryonal intestine. Nagoya J Med Sci 1993; 56(1-4): 43-52. PMID: 7898553



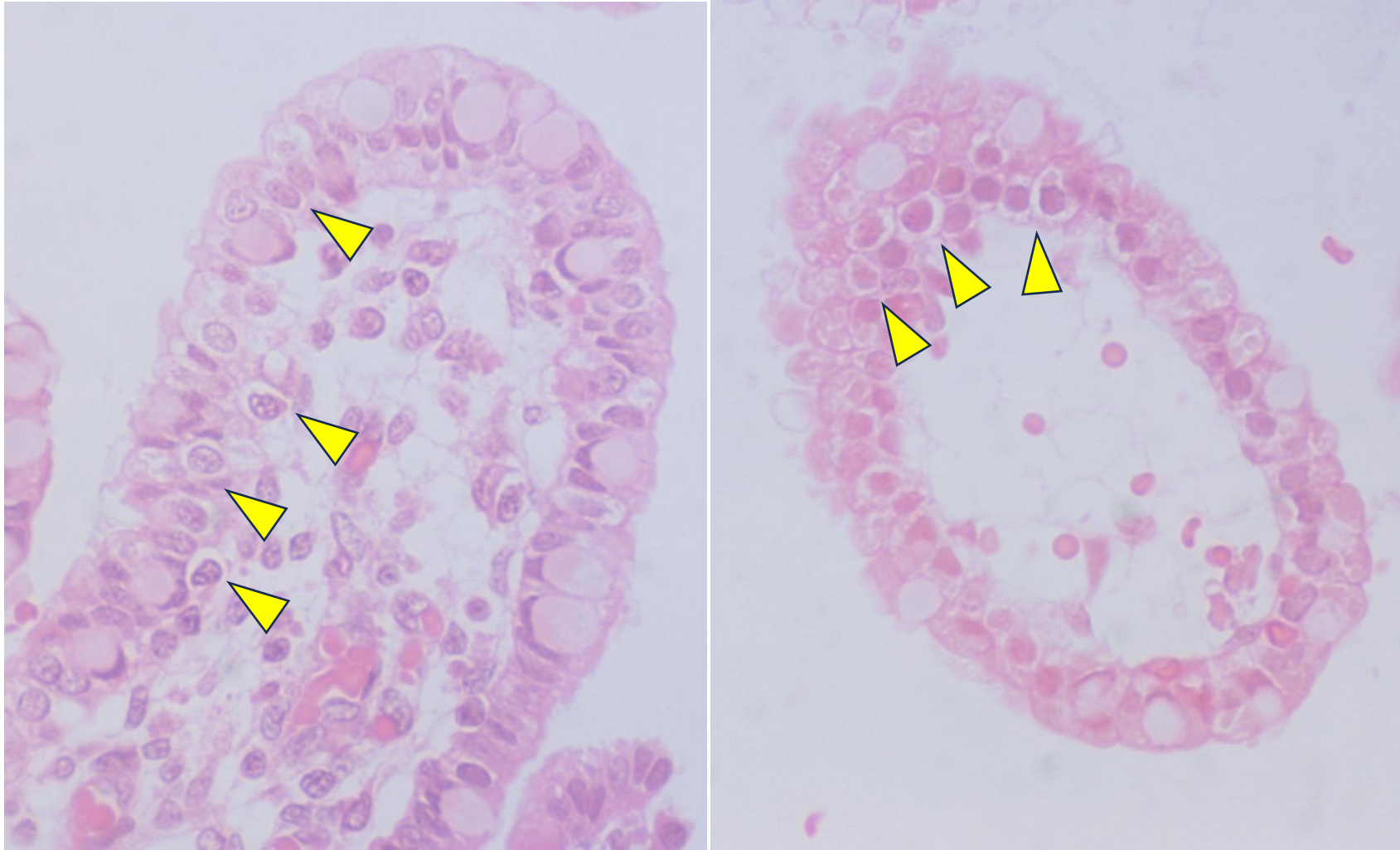
Segi's cap seen in the duodenal mucosa of a 35-fetal week-old fetus. Chromogranin A-immunoreactive neuroendocrine cells are clustered at the tip of the duodenal villi. Immunostaining for chromogranin A



Grimelius' silver staining in the duodenal mucosa of a 10-fetal week-old fetus (left) and a 22-fetal week-old fetus (right). Argyrophilic Segi's cap is seen at the tip of the duodenal villi of the 22-fetal week-old fetus, but not formed in the duodenum at the 10 fetal-week of gestation. Grimelius' argyrophilic staining



Segi's cap seen in the duodenal mucosa of a 22-fetal week-old fetus. Argyrophilic neuroendocrine cells are clustered at the tip of the duodenal villi. Grimelius' argyrophilic staining



Segi's cap seen in the duodenal mucosa of a 22-fetal week-old fetus. Neuroendocrine cells with clear cytoplasm (arrowheads) are clustered at the tip of the duodenal villi. H&E