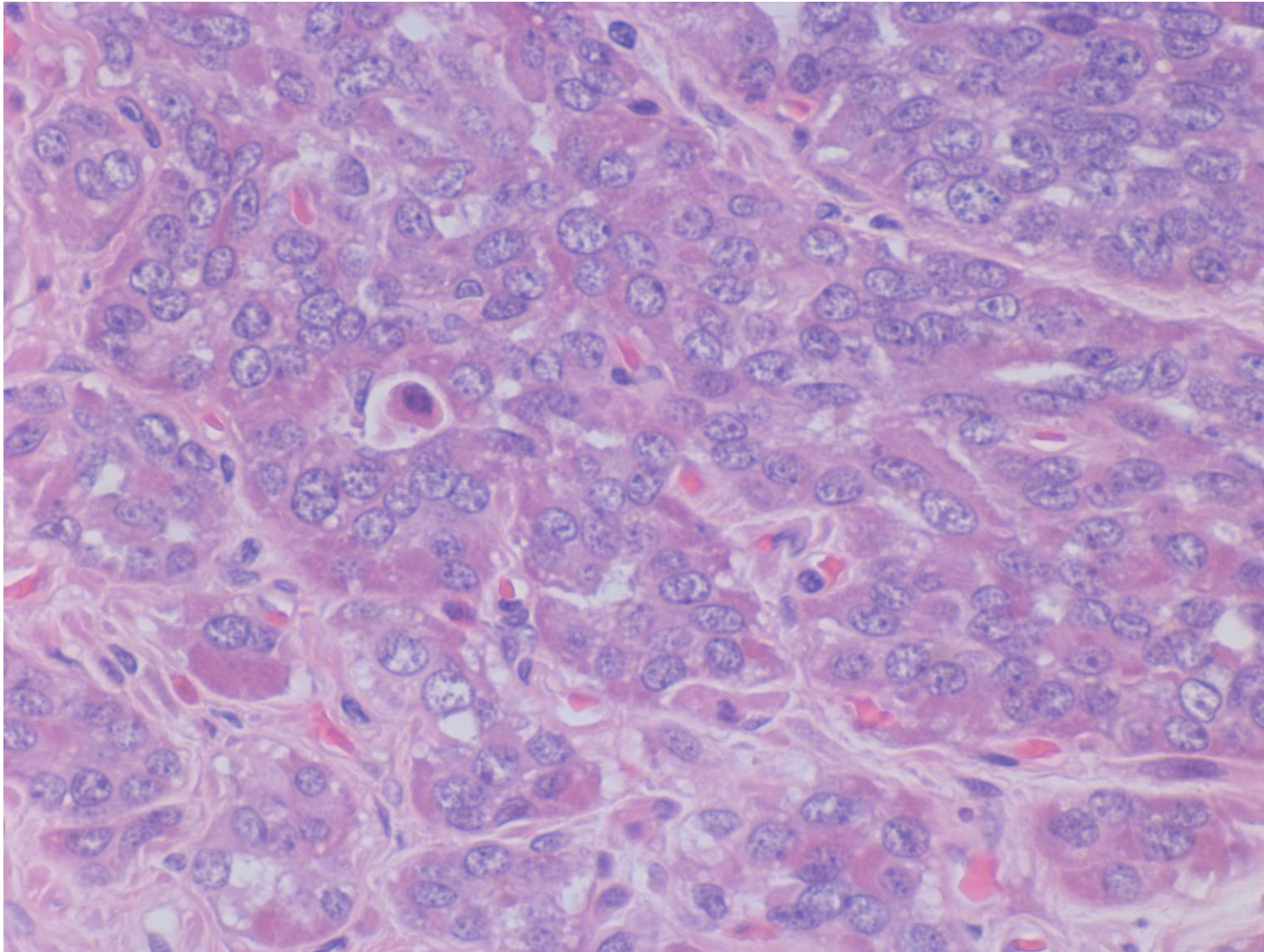


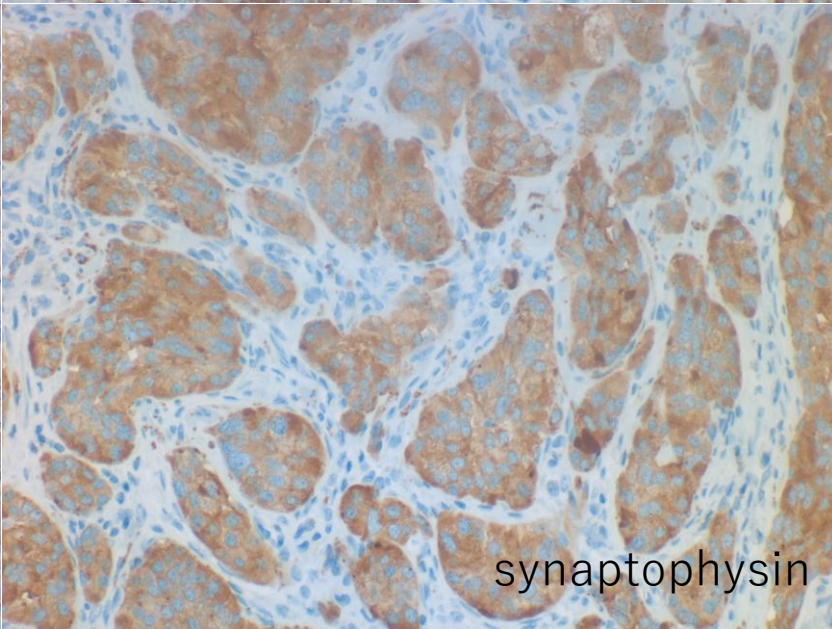
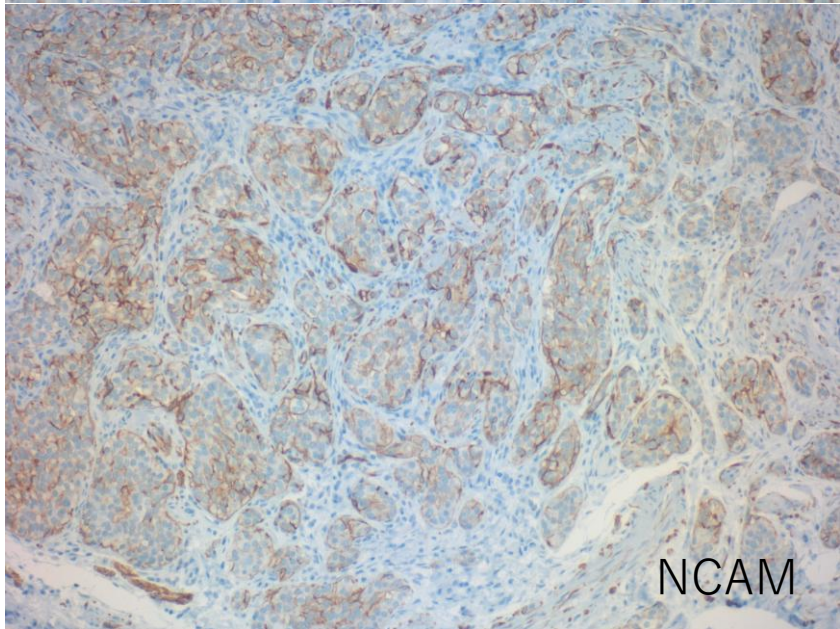
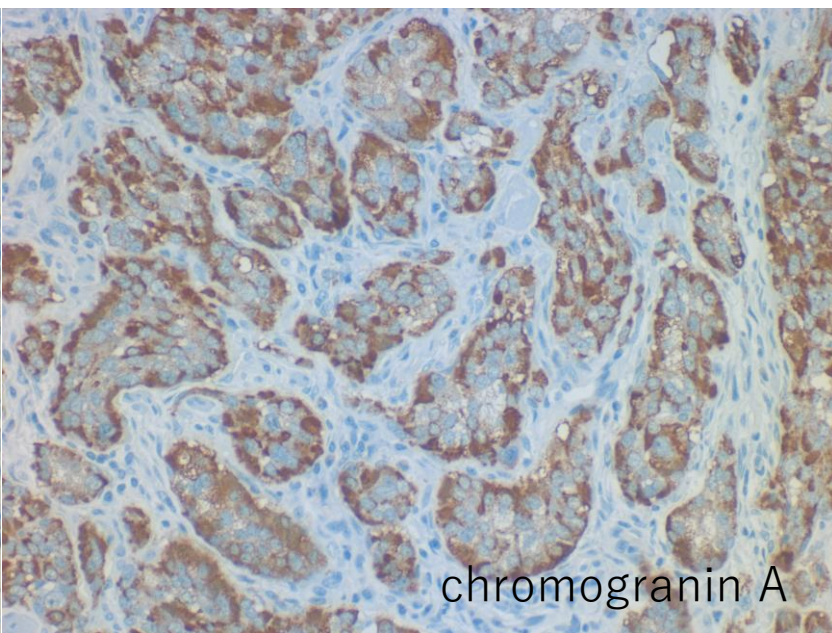
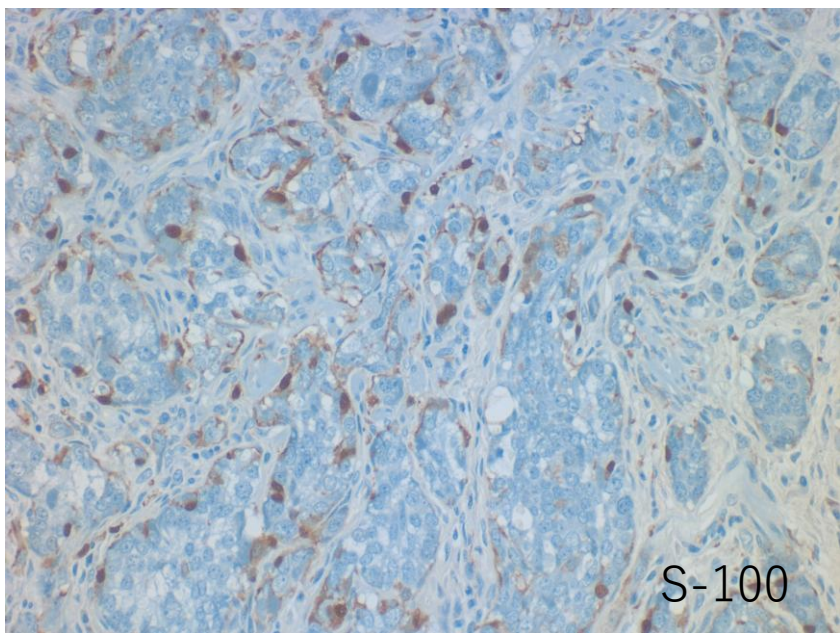
Neuroendocrine cell-nerve fiber complex in the vermiform appendix

Neuroendocrine cells can be demonstrated in the lamina propria mucosae of the vermiform appendix. They are always in direct contact with the nerve fiber, and the structure is called as neuroendocrine cell-nerve fiber complex. It has been supposed that gastrointestinal carcinoid tumors may arise from the intraneural neuroendocrine cells. Here, neuroendocrine cell-nerve fiber complexes seen in the fibrotic appendiceal stroma resected for carcinoid tumor of the vermiform appendix are presented.

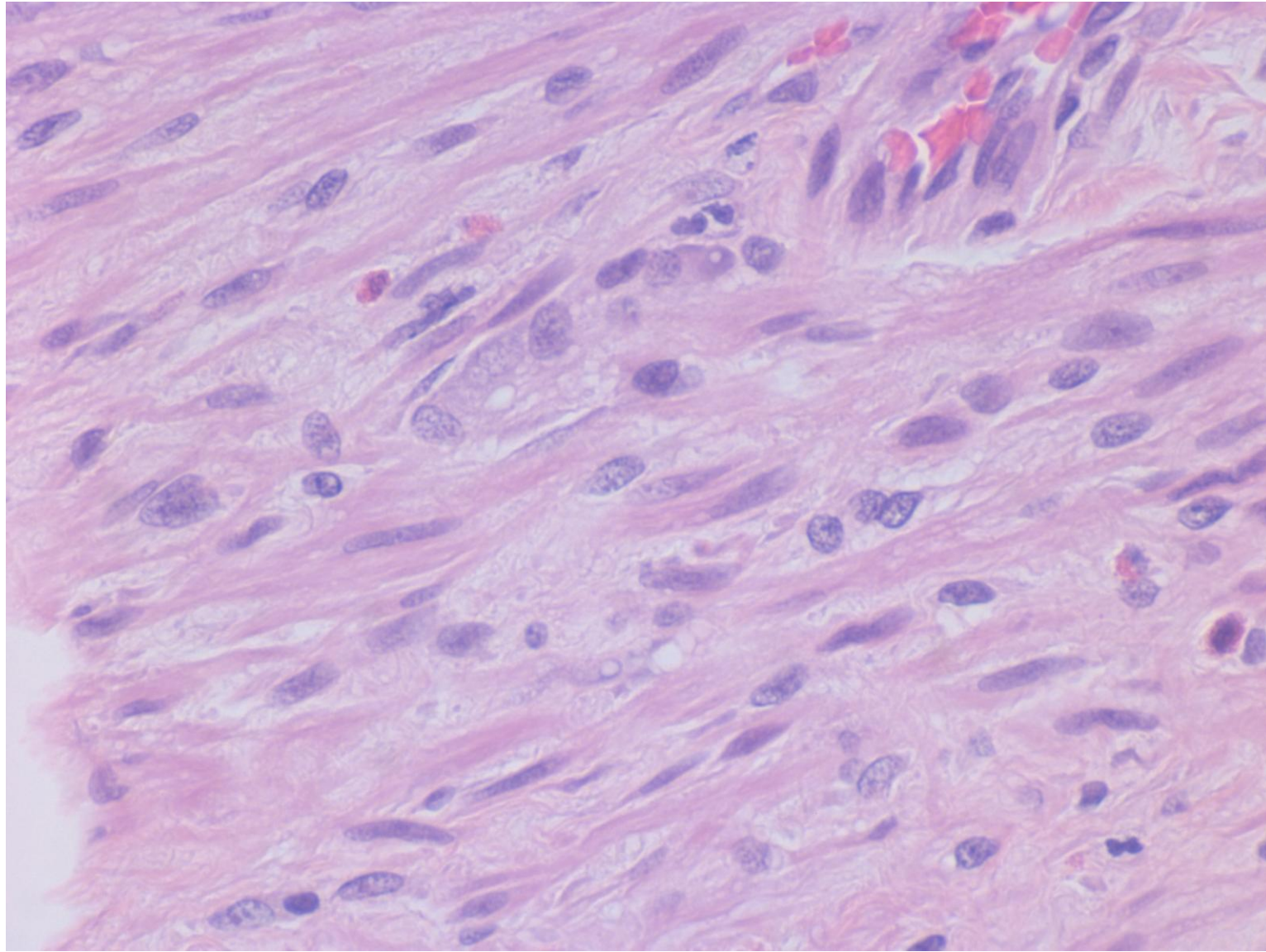
Ref.: Auböck L, Höfler H. Extraepithelial intraneural endocrine cells as starting-points for gastrointestinal carcinoids. *Virchows Arch A Pathol Anat Histopathol* 1983; 401(1): 17-33. doi: 10.1007/BF00644786



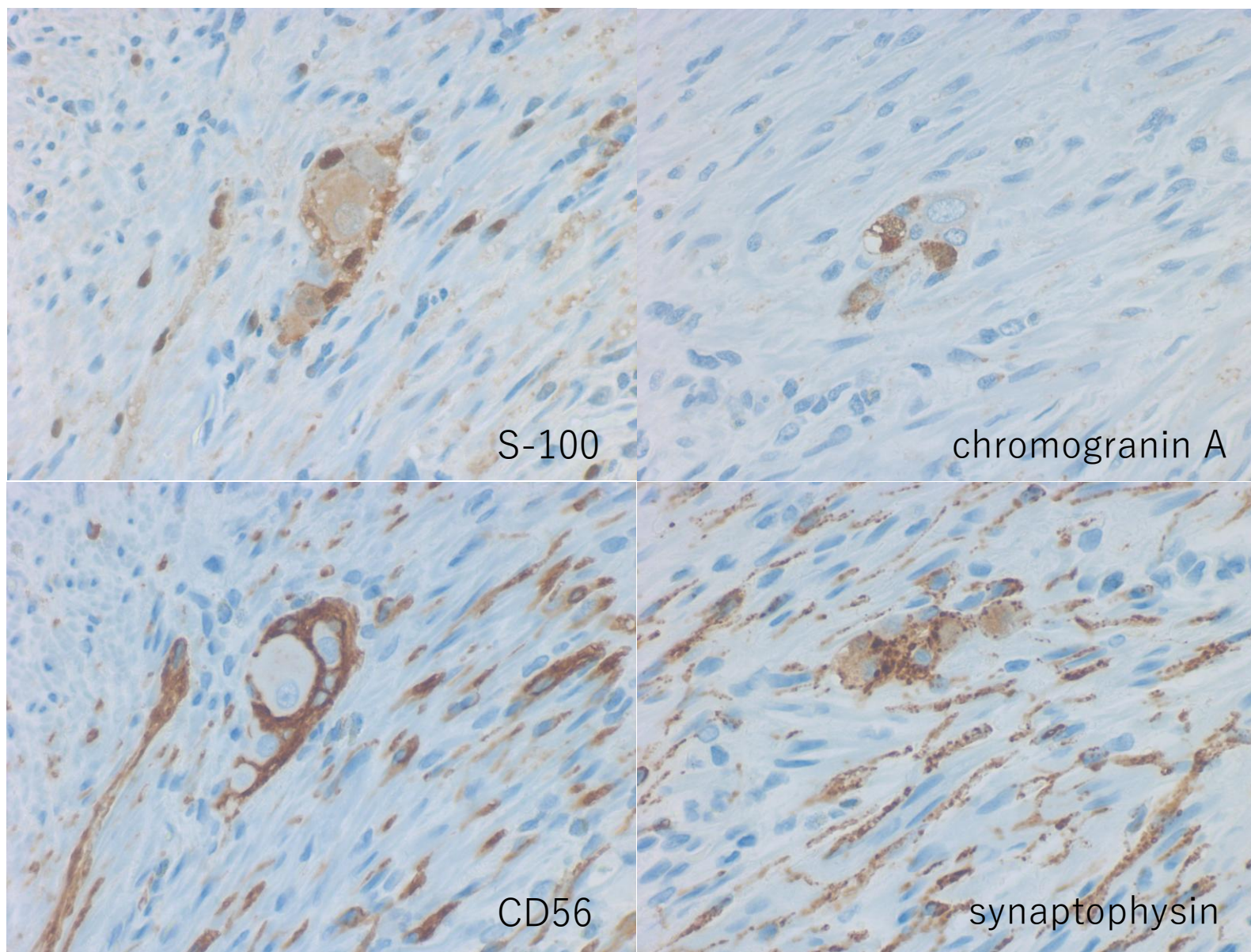
Appendiceal carcinoid tumor of serotonin-positive enterochromaffin cell type (a 60-year-old male patient). The cytoplasm of the tumor cells are filled with eosinophilic neuroendocrine granules. H&E



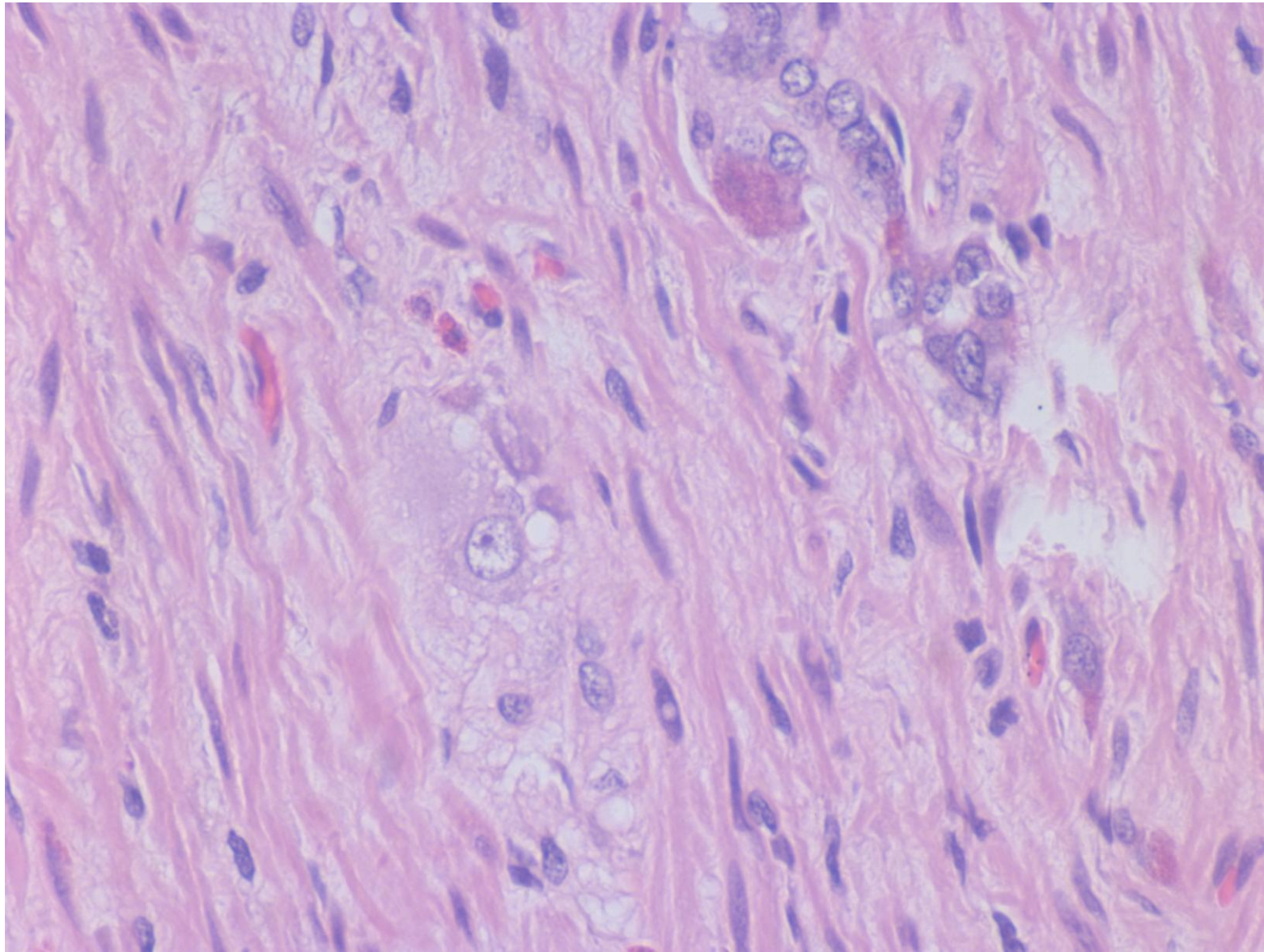
Appendiceal carcinoid tumor of serotonin-positive enterochromaffin cell type (a 60-year-old male patient). The tumor cells are immunoreactive for chromogranin A, NCAM and synaptophysin. S-100 protein labels satellite cells.



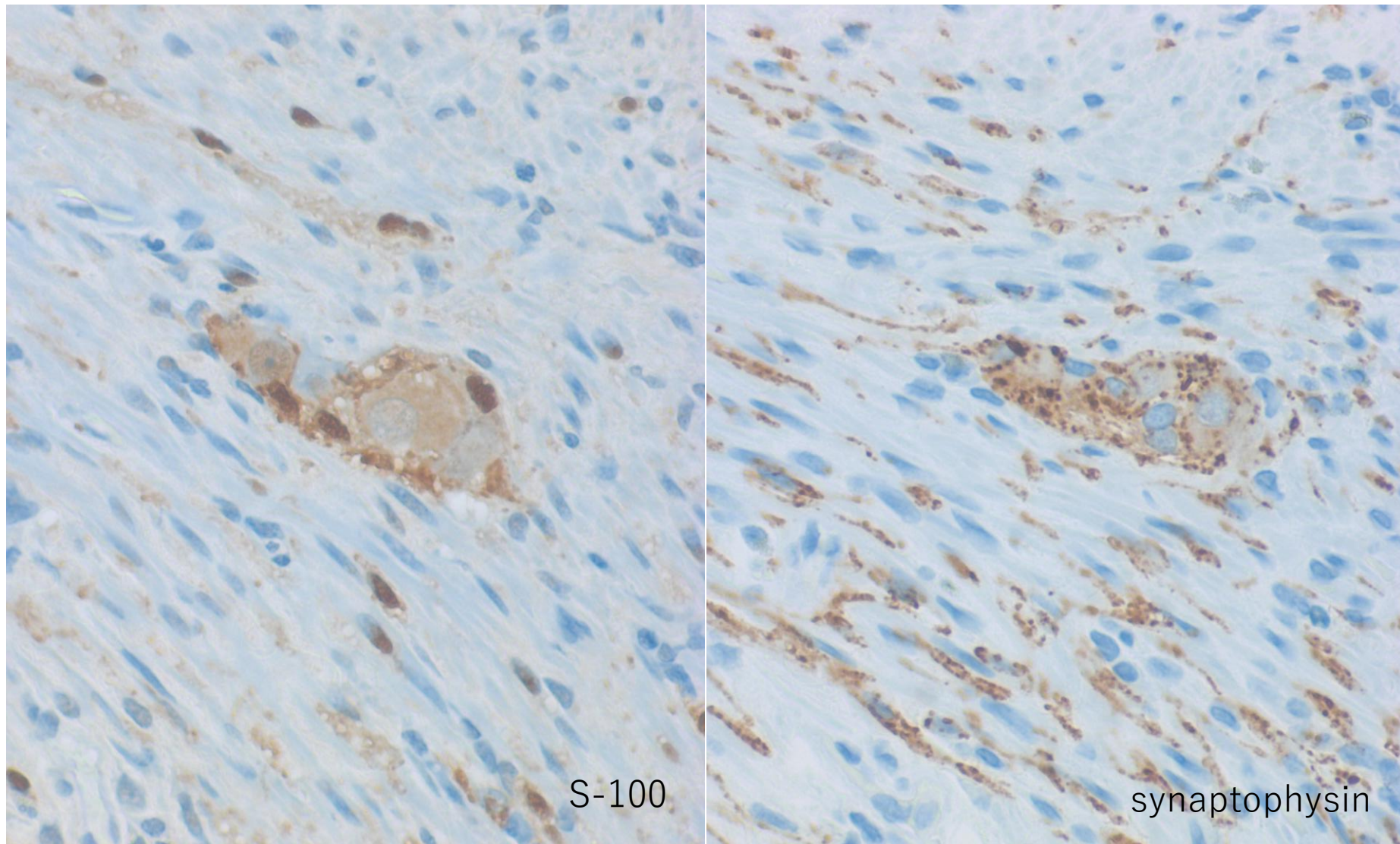
Neuroendocrine cell-nerve fiber complex seen in the fibrotic stroma of the vermiform appendix resected for appendiceal carcinoid tumor. Note NE-type cells in peripheral nerve fascicles. H&E (a)



Neuroendocrine cell-nerve fiber complex seen in the fibrotic stroma of the vermiform appendix resected for appendiceal carcinoid tumor. In the nerve fascicle positive for S-100 protein, CD56 and synaptophysin, chromogranin A-positive NE cells are observed. The NE cells are also weakly positive for synaptophysin. The area corresponding to H&E (a).



Neuroendocrine cell-nerve fiber complex seen in the fibrotic stroma of the vermiform appendix resected for appendiceal carcinoid tumor. Note enterochromaffin-type NE cells with eosinophilic NE granules. H&E (b)



Neuroendocrine cell-nerve fiber complex seen in the fibrotic stroma of the vermiform appendix resected for appendiceal carcinoid tumor. S-100 protein-positive Schwann cells surround synaptophysin-immunoreactive components. The area corresponding to H&E (b). Immunostaining for S-100 protein and synaptophysin