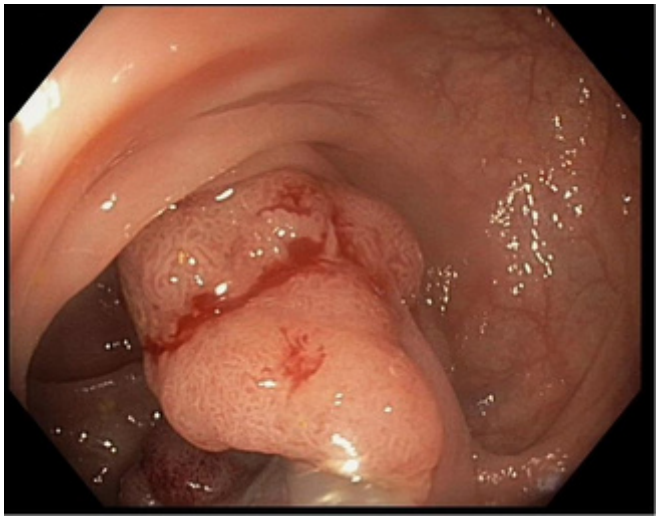
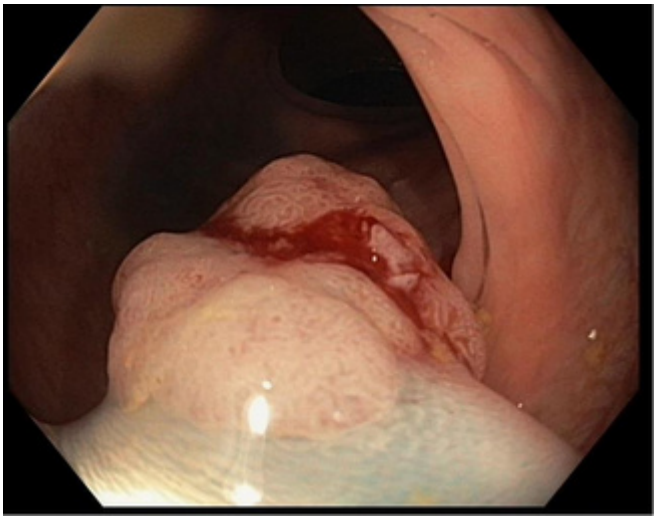
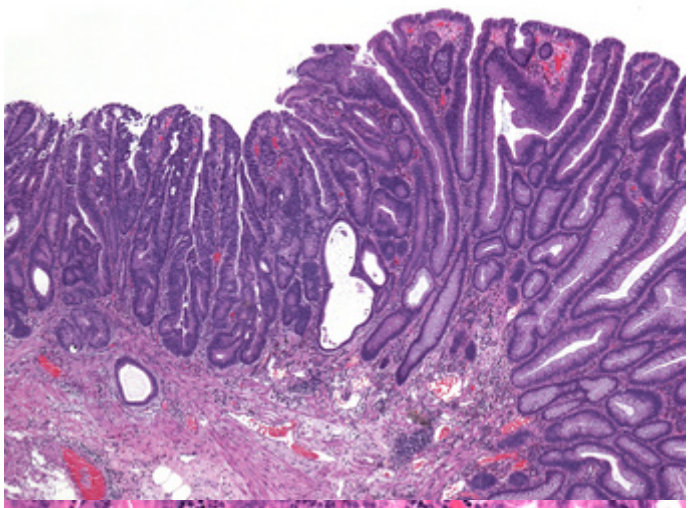
June 2017

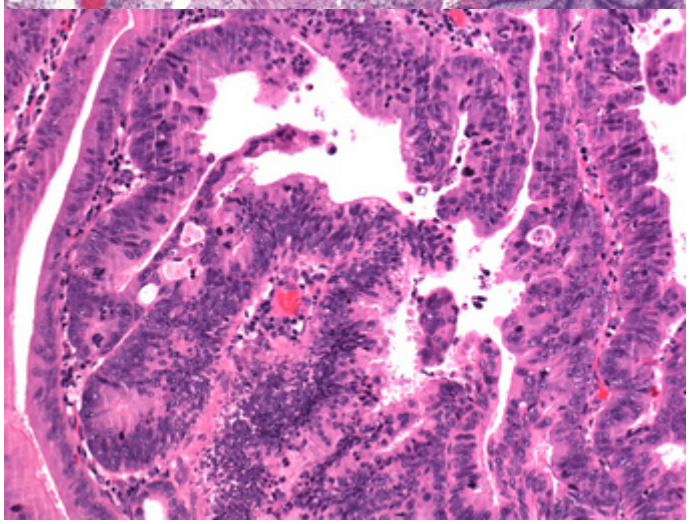
Large sessile polyp of the descending colon in a 66-year-old male.

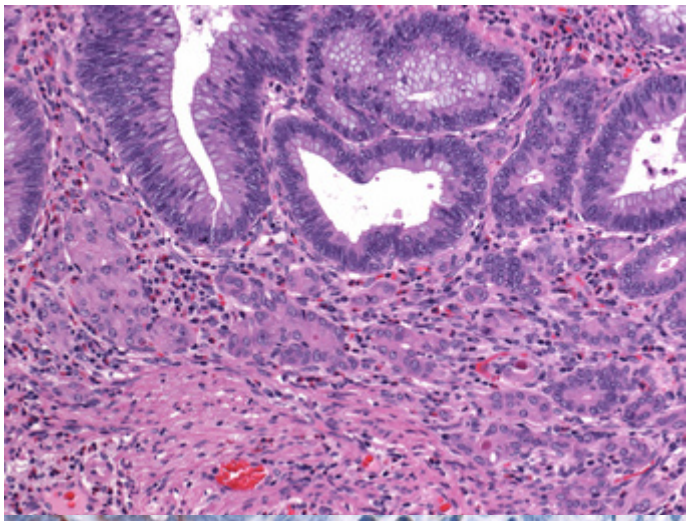
What is your diagnosis?

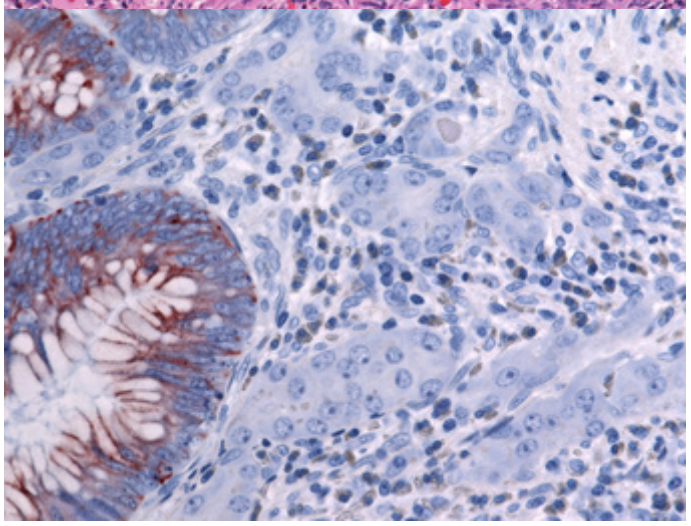


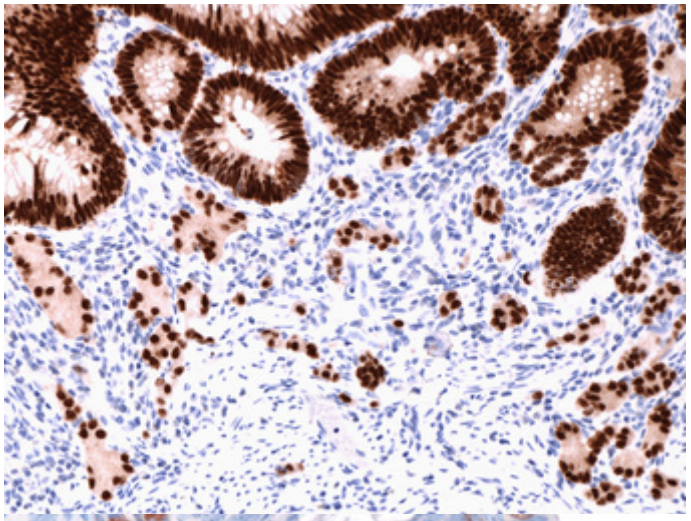


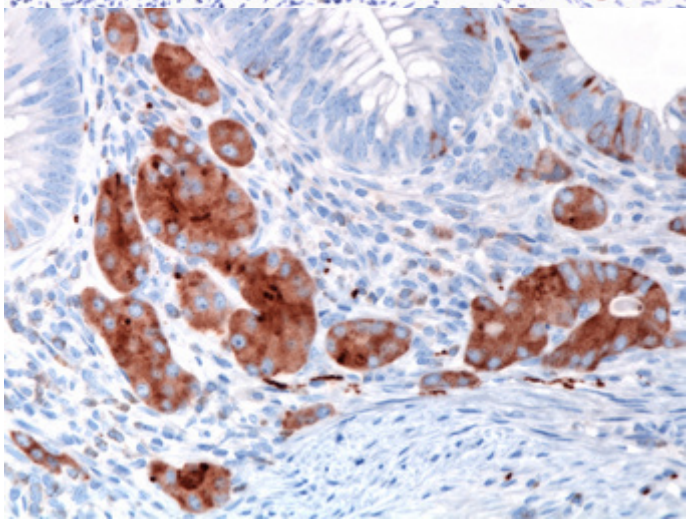


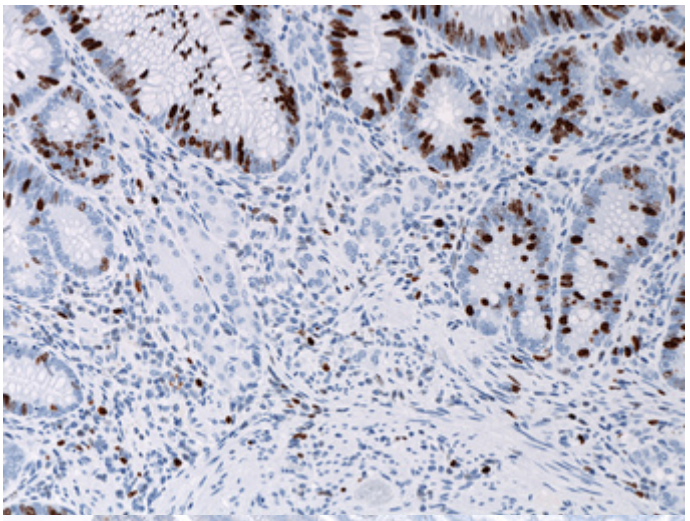


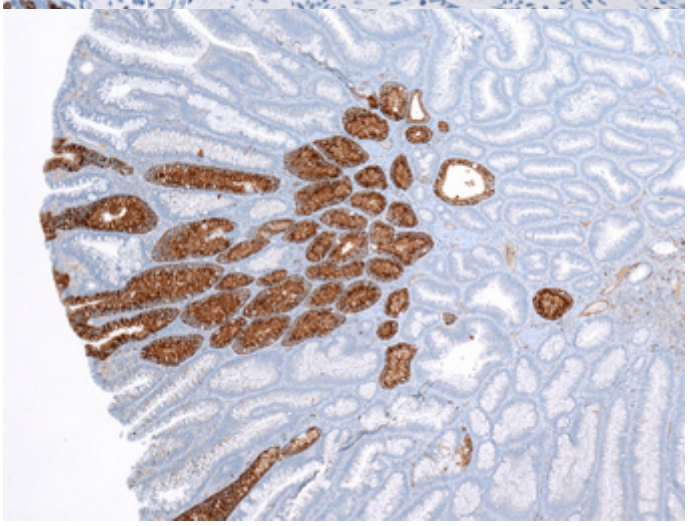












Diagnosis:

Mixed neuroendocrine-nonneuroendocrine neoplasm (MiNEN) of the colon.

Comment:

The polyp was discovered during a screening colonoscopy. Due to its configuration and relatively large size the tumour was removed by piece meal EMR (panels A-B). Histologically, most of the tumour was a low grade tubulovillous adenoma, with focal areas showing high grade morphology (panels C-D). Small, apparently invasive foci were found in the basal parts of the lesion. They consisted of round solid nests and abortive tubules lined by polygonal cells with relatively abundant eosinophilic cytoplasm and a finely granular chromatin pattern, lacking mitotic figures (panel E). While the adenomatous lesion was positive for Keratin 20, these small nests lacked immunoreactivity for this marker (panel F). Both parts of the lesion were however positive for CDX-2 (panel G). Synaptophysin was diffusely positive in the nests (panel H). Their proliferative fraction (Ki67+) was estimated to be about 4% (panel I). A peculiar immunoreactivity for synaptophysin was also observed in otherwise typical columnar and goblet cells in the parts of bona fide adenomatous neoplasm (panel J).

Dual differentiation of colorectal neoplasms is a well-recognised phenomenon, but terminology and classification are still controversial. According to current classification these neoplasms are designated “mixed adeno-neuroendocrine carcinomas” (MANECs). This designation is obviously not suitable for our case because there is no malignancy in either of the two components. Recently proposed names for this type of lesion are “mixed neuroendocrine-nonneuroendocrine neoplasm” (MiNEN) and also “mixed adenoneuroendocrine tumour” (MANET).

Differential diagnosis mainly includes high grade adenoma with stromal invasion, which may be referred to as intramucosal carcinoma (pTis). Thorough examination of nuclear features (“salt and pepper” chromatin) gives a clue to accurate diagnosis. Nevertheless, immunohistochemistry is required to confirm the neuroendocrine nature of the tumour cells within the nests and to add prognostic information by means of Ki67 staining.

For further reading:

- La Rosa S, Sessa F, Uccella S. Mixed Neuroendocrine-Nonneuroendocrine Neoplasms (MiNENs): Unifying the Concept of a Heterogeneous Group of Neoplasms. Endocr Pathol 2016; 27: 284-311.
- Uccella S, Sessa F, La Rosa S. Diagnostic Approach to Neuroendocrine Neoplasms of the Gastrointestinal Tract and Pancreas. Turk Patoloji Derg 2015; 31: 113-127.
- La Rosa S, Marando A, Sessa F, Capella C. Mixed Adenoneuroendocrine Carcinomas (MANECs) of the Gastrointestinal Tract: An Update. Cancers 2012; 4: 11-30.
- Ni SJ, Sheng WQ, Du X. Pathologic research update of colorectal neuroendocrine tumors. World J Gastroenterol 2010; 16: 1713-1719.

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