

## Wide spectrum of neuroendocrine differentiation in identical appearing colon polyps: A report of 2 mixed endocrine-glandular polyps

To the Editor,

Mixed endocrine glandular tumors of the gastrointestinal tract are rare lesions. In these tumors, the glandular and neuroendocrine components display a broad spectrum of combinations with marked variability in histopathology, immunohistochemical properties and clinical prognosis. We hereby report two cases of colonic tubulovillous adenomas, concomitantly containing a neuroendocrine component. While one polyp contained benign microcarcinoid, the other showed a poorly differentiated infiltrative neuroendocrine cancer.

### CASE 1

A 73 year old man with history of malignant melanoma was found to have a large sessile polyp at hepatic flexure (Figure 1) on colonoscopy. Polyp biopsies on histopathology showed tubulovillous adenoma with focal neuroendocrine nests in the mucosa (Figure 2). These neuroendocrine nests were immunoreactive for synaptophysin but not for chromogranin A (Figure 3).

### CASE 2

A 55 year old woman was found to have mass in the cecum and metastatic disease in the liver on CT scan of abdomen. On colonoscopy, she had an identical appearing polyp as in Case 1 in the ascending colon (Figure 4). Biopsies from the polyp showed a tubulovillous adenoma with an infiltrating, poorly differentiated neuroendocrine carcinoma (Figure 5). The tumor cells were diffusely positive for synaptophysin and CD56 but negative for chromogranin A (Figure 6). They also displayed focal positivity for cytokeratin 5/6, scattered p63 positivity and microsatellite stability. Thus a diagnosis of high grade mixed adeno-neuroendocrine carcinoma (MANEC) was made.

### DISCUSSION

Microcarcinoids in the gastrointestinal tract have been reported in the stomach in the setting of autoimmune gastritis (1) and in the colon in background of inflam-

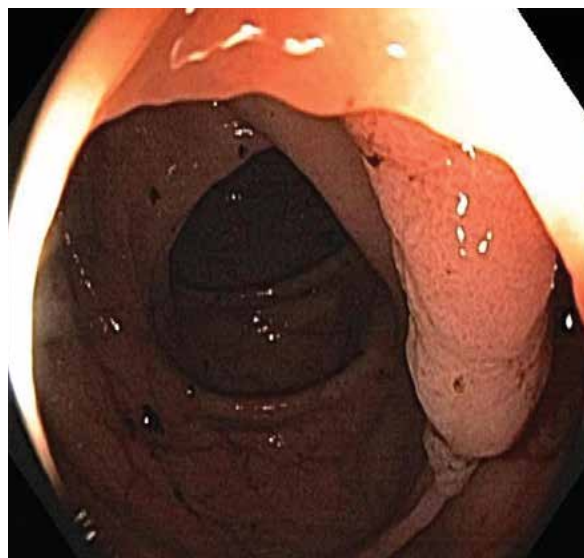


Figure 1. Endoscopic appearance of polyp in Case 1.

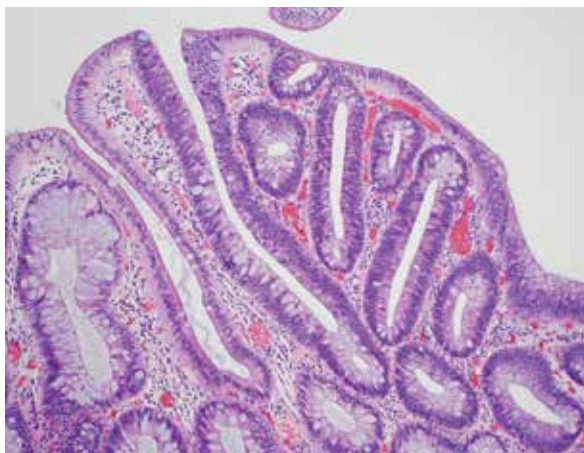


Figure 2. Hematoxylin and eosin staining showing tubulovillous adenoma (Case 1).

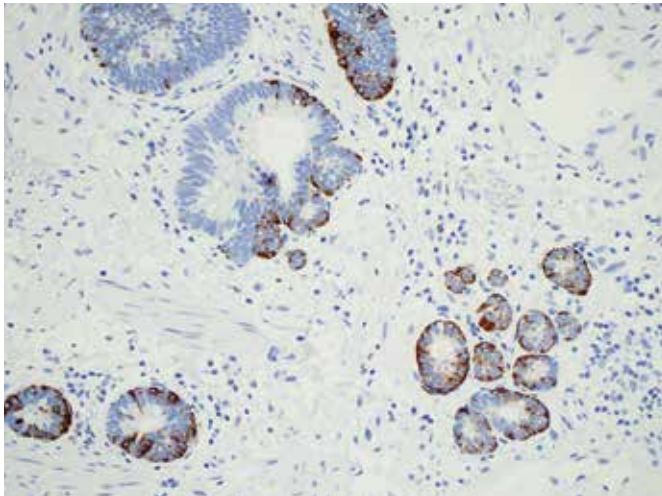
matory bowel disease (2,3). Presence of microcarcinoids within adenomatous polyps was first described in 2006 and recognized to be a separate entity called composite adenoma-microcarcinoid (4). In these rare lesions,

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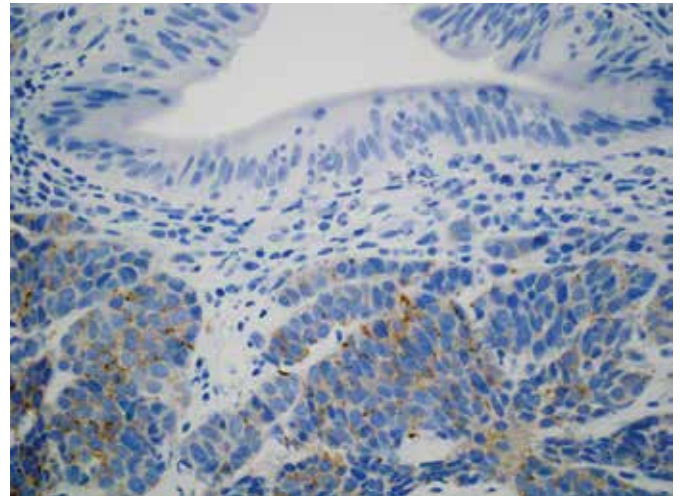
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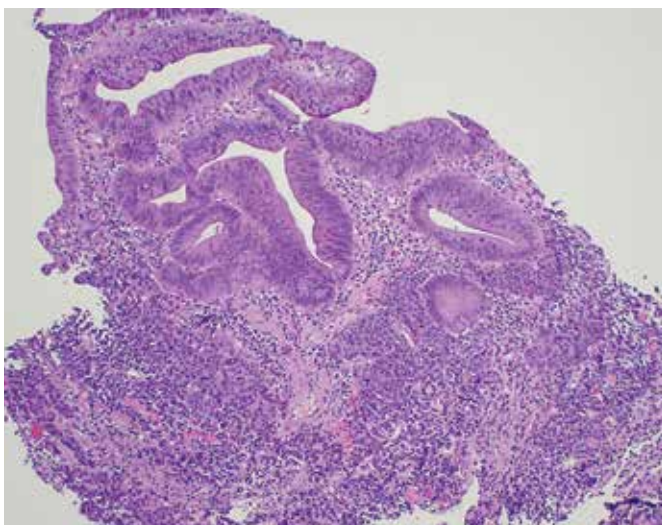
**Figure 3.** Synaptophysin staining showing nests of neuroendocrine cells at the base of the tubulovillous adenoma.



**Figure 6.** Synaptophysin staining of histopathological specimen of case 2 showing high grade neuroendocrine cancer within tubulovillous adenoma.



**Figure 4.** Endoscopic appearance of polyp in Case 2.



**Figure 5.** Hematoxylin and eosin staining showing tubulovillous adenoma and neuroendocrine carcinoma (Case 2).

microcarcinoids appear as small nests of endocrine cells measuring 0.5 mm to 2.9 mm in diameter and do not alter the overall architecture of the adenoma (4).

Mixed adenoneuroendocrine carcinoma (MANEC), is a rarely reported neoplastic lesion, where in each component represents at least 30% of the lesion (5). Unlike adenoma-microcarcinoids, high grade MANECs often lack a nested architecture, show areas of necrosis and a high number of mitoses (5). While the adenoma-microcarcinoids have a favorable outcome, the clinical course of MANEC is marked by early metastasis, high propensity for recurrence and a very poor prognosis. The spectrum of mixed- endocrine glandular tumors is diverse and further studies are necessary to provide a better understanding of this diverse spectrum.

**Conflict of Interest:** No conflict of interest was declared by the authors.

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## REFERENCES

1. Reinecke, P. and F. Borchard, Pattern of gastric endocrine cells in microcarcinoidosis an immunohistochemical study of 14 gastric biopsies. *Virchows Arch* 1996; 428: 237-41.
2. Stewart, C.J.R., et al., Multifocal microcarcinoid tumours in ulcerative colitis *J Clin Pathol* 2005; 58: 111-2.
3. Matsumoto T, Jo Y, Mibu R, Hirahashi M, Yao T, Iida M. Multiple microcarcinoids in a patient with long standing ulcerative colitis. *J Clin Pathol* 2003; 56: 963-5.
4. Pulitzer M, Xu R, Suriawinata AA, Waye JD, Harpaz N. Microcarcinoids in large intestinal adenomas. *Am J Surg Pathol* 2006; 30: 1531-6.
5. La Rosa S, Marando A, Sessa F, Capella C. Mixed adenoneuroendocrine carcinomas (MANECs) of the gastrointestinal tract: An update. *Cancers (Basel)* 2012; 4: 11-30.