

Squamous Morules in a Fundic Gland Polyp: A Rare Benign Mimic of Well-Differentiated Neuroendocrine Tumor

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Introduction

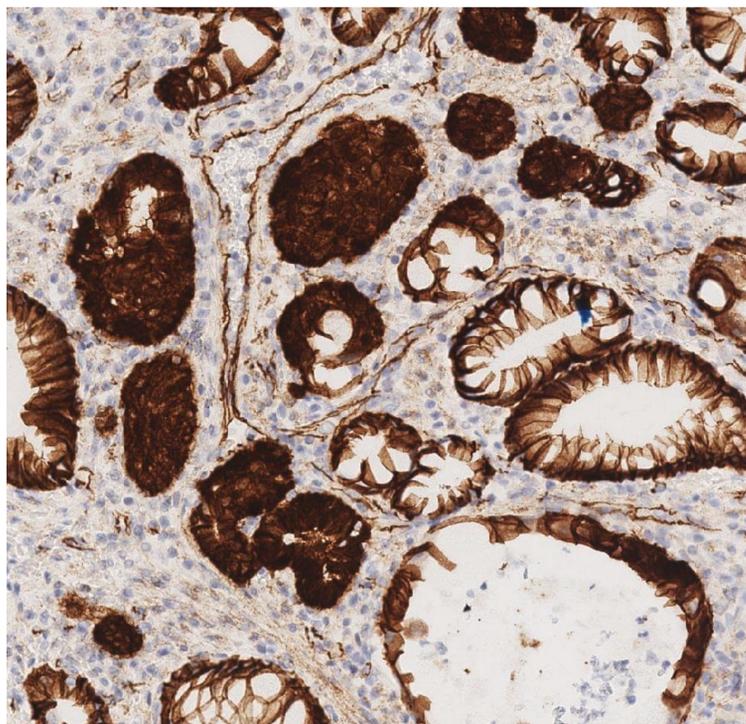
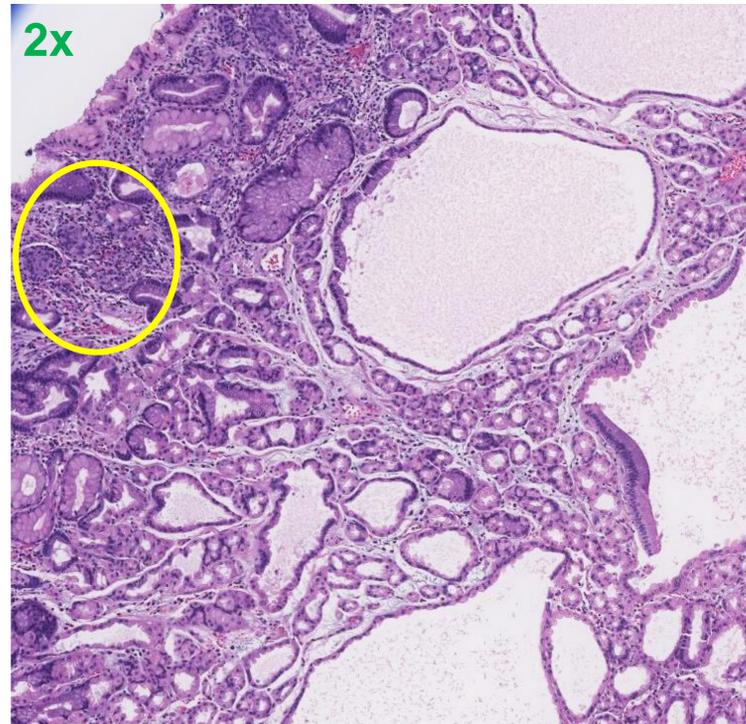
Fundic gland polyp is a benign polypoid lesion consisting of cystically dilated oxyntic glands. It can be either sporadic or associated with familial adenomatous polyposis or MUTYH-associated polyposis. Squamous morules are well-described in association with numerous epithelial lesions including tubular adenomas, cribriform-morular variant of papillary thyroid carcinoma, and endometrial neoplasia. However, to date only 2 cases have been reported in the stomach (1, 2).

Case presentation

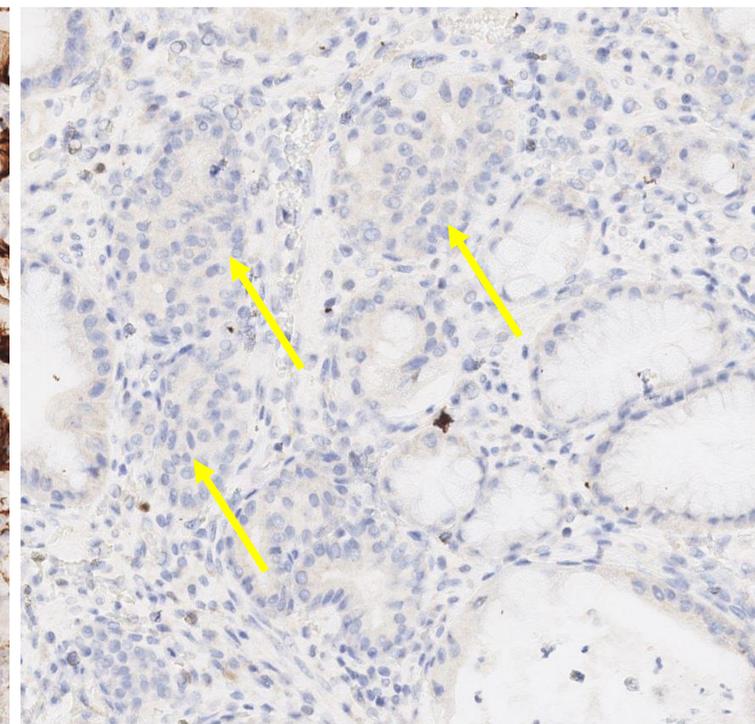
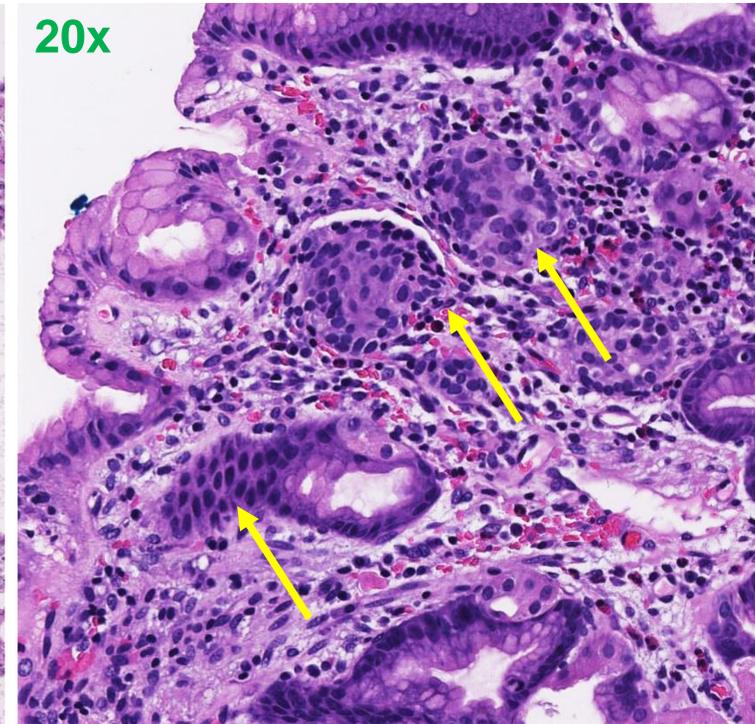
A 53-year-old female presented with hematemesis. At endoscopy, 35 sessile polyps ranging from 10-18 mm were identified and resected.

H&E: On histologic sections, all were fundic gland polyps. One of the polyps showed scattered small nests of epithelial cells with monomorphic round nuclei, inconspicuous nucleoli, and moderate eosinophilic cytoplasm. The epithelial nests were situated just below the luminal surface in continuity with adjacent glands. The histologic differential diagnosis includes well-differentiated neuroendocrine tumor.

Results



β -catenin



p63

Immunohistochemistry: The epithelial nests showed focal expression of synaptophysin and cytokeratin 5/6, and striking nuclear expression of β -catenin, and no expression of p63. The Ki67 proliferative index was <1%. The absence of diffuse strong synaptophysin and the strong nuclear accumulation of β -catenin are consistent with squamous morules.

Clinical correlate: Interestingly, all reported cases of gastric squamous morules (including this case) have arisen in adults with gastroesophageal reflux who were on a proton pump inhibitor. All were identified in a gastric polyp (either hyperplastic or fundic gland) within a background of numerous large fundic gland polyps (up to 20 mm), and none were associated with lower gastrointestinal polyposis.

Take home message.....

Gastric squamous morules are a rare finding. Given the nested arrangement of cells and bland cytology, a well-differentiated neuroendocrine tumor may enter the differential diagnosis. Features that can help distinguish squamous morules from neuroendocrine tumor are: (1) focal expression of synaptophysin, (2) superficial location and continuity with adjacent glandular epithelium, and (3) nuclear accumulation of β -catenin.

References

- (1) Schlosnagle DC et al. Squamous morules in gastric mucosa. *J Clin Gastroenterol.* 1988 Jun;10(3):332-4.
- (2) DePetris G et al. Morules in fundic gland polyposis: a case report. *Int J Clin Exp Pathol.* 2014 Feb; 7(3):1241-5.