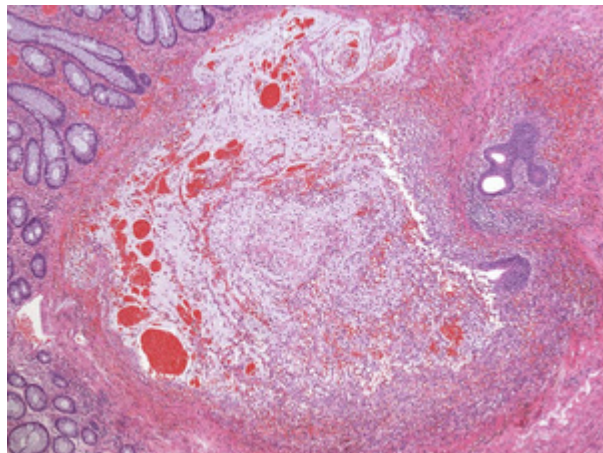
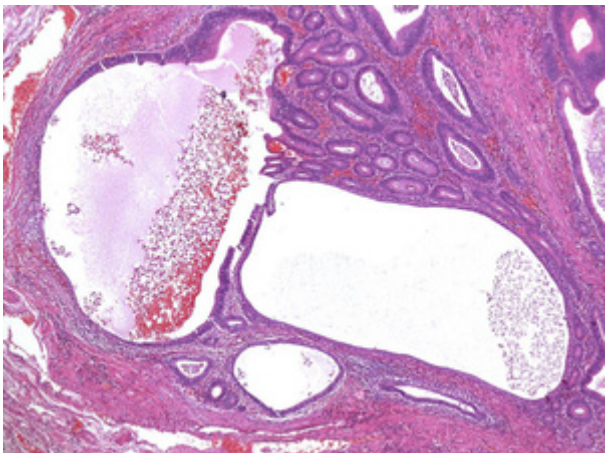
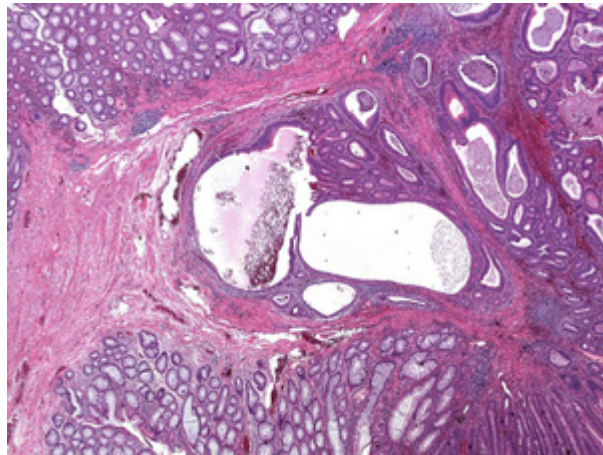
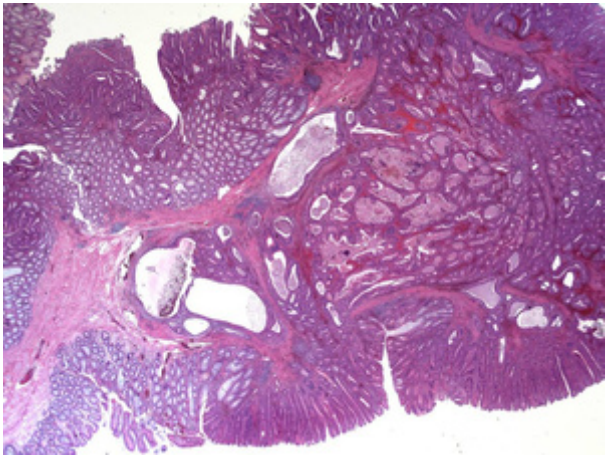
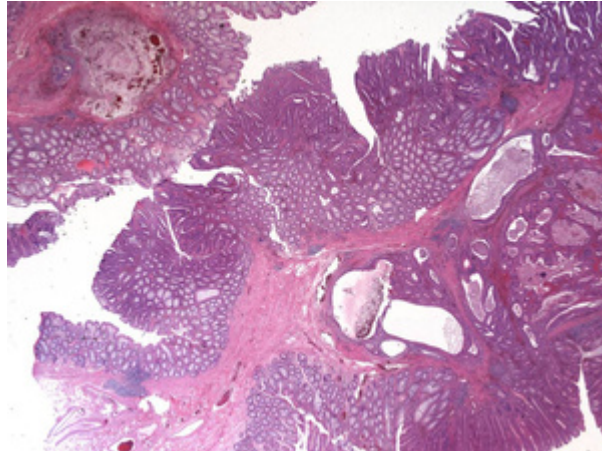
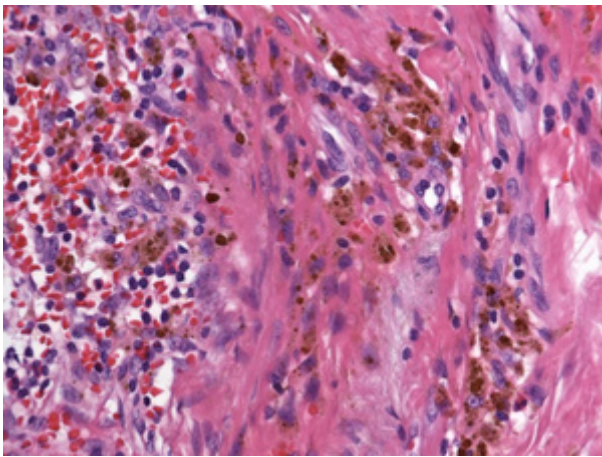


# June 2014

Pedunculated polyp in the sigmoid colon of a 55-year-old female.

What is your diagnosis?





## Diagnosis

Tubular adenoma with epithelial misplacement (pseudoinvasion).

## Comment

Panel A shows the endoscopic appearance of a 15 mm pedunculated polyp, located in the sigmoid colon. The histological evaluation demonstrates a tubular low grade adenoma. Centrally, in the upper half of the stalk of the lesion, neoplastic glands can be found in the submucosa (Panel B-D; different magnifications). On high power, the glands within the submucosa are rounded, sometimes cystic, with lamina propria, but no desmoplastic stroma response around them. The epithelial atypia is the same as in the superficial adenomatous component (Panel E). Extracellular mucin pools (Panel F) and haemosiderin granula (Panel G) are present.

Tubular adenoma with epithelial misplacement is characterized by the presence of neoplastic glands of a classical (low or high grade) adenoma within the submucosa, yet lacking features of true invasion. The term “pseudoinvasion” was described for the first time in 1973 by Muto et al. and it is commonly used in the literature as an alternative term. Epithelial misplacement can be observed in 2 to 10 % of all resected polyps. It is usually seen in large pedunculated polyps, with long stalks, especially when located in the sigmoid or upper rectum, i.e. within the segment with the most powerful muscular activity. The pathogenesis of the lesion has been related to repeated bending and twisting of the stalk which lead to herniation of adenomatous tissue through the attenuated muscularis mucosae.

The differentiation from adenomas with an invasive adenocarcinoma component may be challenging, in particular when the misplaced glands show high grade dysplasia. The distinction is crucial: patients with a malignant polyp may require a colectomy with lymph node dissection, whereas adenomas with epithelial misplacement are adequately treated by polypectomy. Histological criteria that may help to recognize pseudoinvasion include the following (from Morson and Dawson's Gastrointestinal Pathology): Misplaced glands are round and commonly cystic (irregular and infiltrative in invasive adenocarcinoma), surrounded by a rim of normal lamina propria (desmoplastic stroma in invasive adenocarcinoma) and with epithelial atypia identical to the superficial adenoma component (usually high grade in invasive adenocarcinoma). Mucin pools with neoplastic epithelium confined to the periphery (neoplastic cells floating in mucin in mucinous adenocarcinoma) are common as are haemosiderin granula due to the repeated twisting of the stalk.

## For further reading

- Yantiss RK, Bosenberg MW, Antonioli DA, Odze RD. Utility of MMP-1, p53, E-cadherin, and collagen IV immunohistochemical stains in the differential diagnosis of adenomas with misplaced epithelium versus adenomas with invasive adenocarcinoma. *Am J Surg Pathol.* 2002;26:206-15.

- › Morson and Dawson's Gastrointestinal Pathology. 5th Edition. Edited by Neil A Shepherd, Bryan F Warren, Geraint T Williams, Joel K Greenson, Gregory Y Lauwers and Marco R Novelli. Wiley Blackwell 2013

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