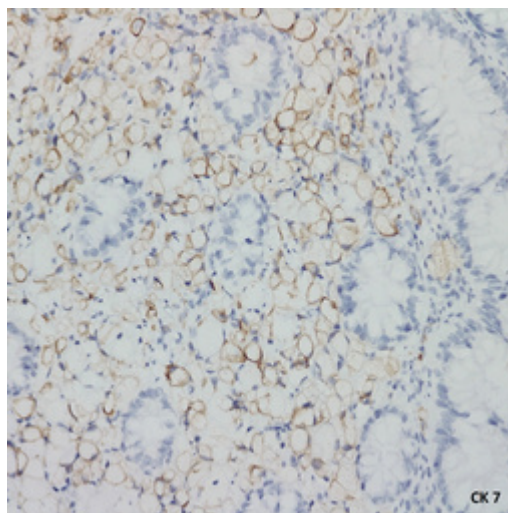
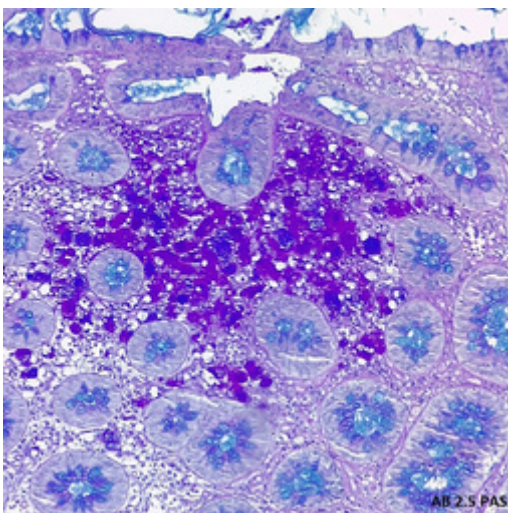
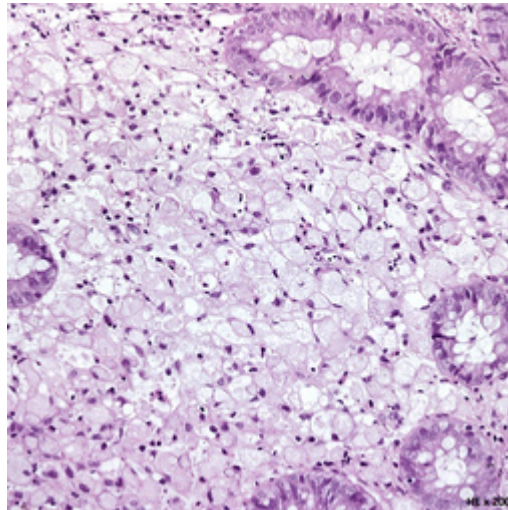
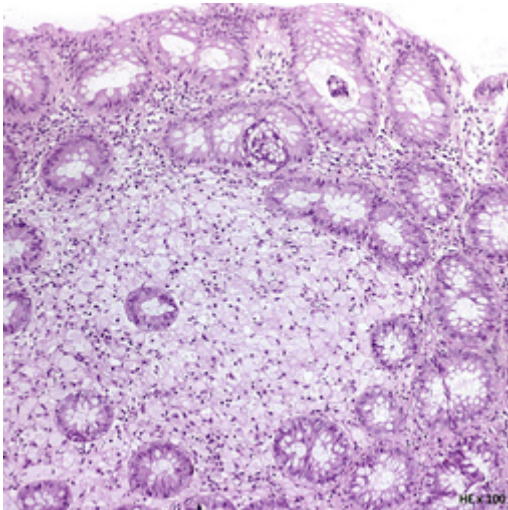
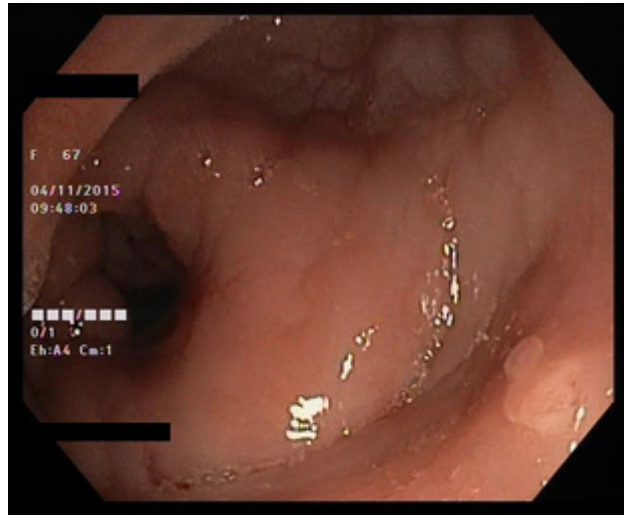
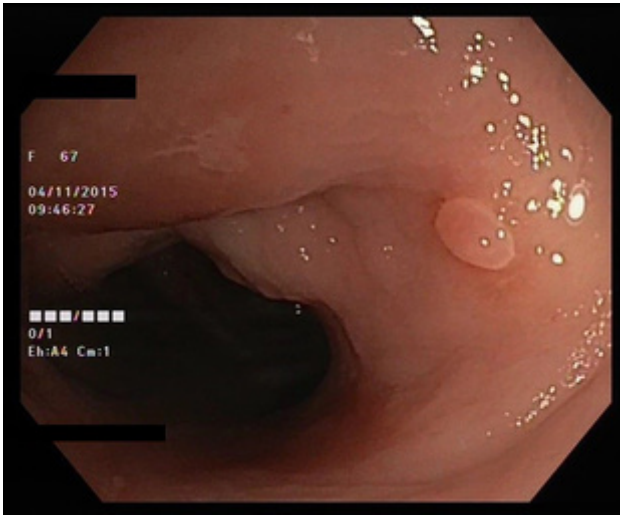
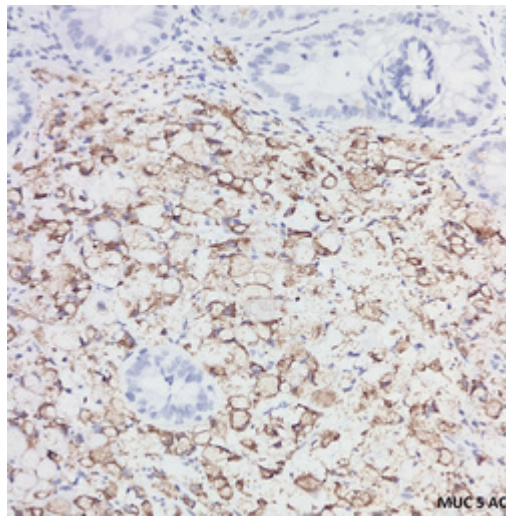
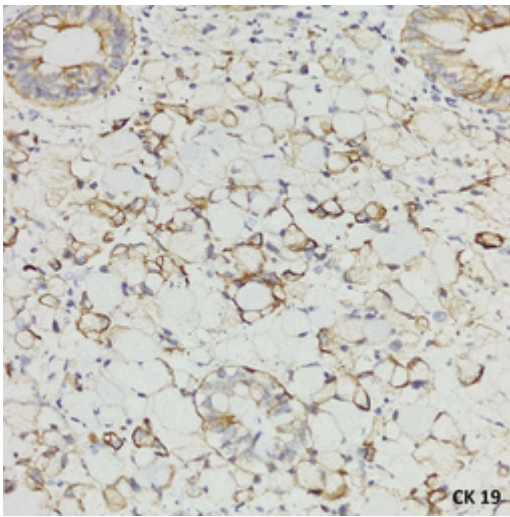


November 2016

Multiple sessile polypoid lesions in the transverse colon of a 67 year-old female.

What is your diagnosis?





Diagnosis:

Metastatic gastric signet ring cell carcinoma.

Comment:

A 67-year-old female, diagnosed with diffuse gastric carcinoma with signet ring cells and total gastrectomy in 2012, was referred for endoscopic examination of the large bowel after PET-CT examination raised the suspicion of a colonic tumour. Colonoscopy revealed 3 to 4 small sessile polypoid lesions in the transverse colon that measured 2 to 3 mm in largest diameter (Panel A and B). Multiple biopsies were taken.

Histology showed colonic mucosa, focally eroded, covered by exudate and a small amount of granulation tissue, and areas with preserved glandular architecture. The lamina propria contained isolated cells and groups of cells with “signet ring features”, that is, characteristic intracellular mucin vacuoles that push the atypical nuclei to the periphery of the cells (Panel C and D). AB2.5-PAS stain is positive in the tumour cells (Panel E).

Differential diagnosis implies additional immunohistochemical examination. The tests revealed positivity for cytokeratin (CK) 7 in the tumour cells (Panel F), while CK 20 was negative, with positive internal control in normal colonic epithelium. CK 19 positivity was noted in tumour cells and in normal glandular epithelium (Panel G). MUC 2 was negative in the tumour cells, with positive internal control in crypt and surface epithelium. However, the tumour cells intensely expressed MUC 5, whereas the normal surface epithelium displayed only weak and focal positivity (Panel H). CDX2 was negative in the tumour cells, with positive internal control in the normal glandular epithelium. Finally, CD 68 was negative in tumour cells, with positive internal control in macrophages within the superficial lamina propria.

Colonic signet ring cell carcinomas are uncommon, high-grade neoplasms. Given their rarity, the question of primary colon or metastatic gastric carcinoma frequently arises when cells with “signet ring features” are seen in lower GI tract biopsy.

Primary signet ring cell carcinoma of the colon was first described by Laufman and Saphir in 1951. It represents approximately 0.5% to 1 % of all colorectal cancers, being more common in men (M: F ratio 1.3:1), and occurring at a younger age. Thus, in some studies, more than 50% of signet ring cell carcinomas were detected in individuals younger than 40 years of age.

The stomach is the most common source of secondary (metastatic) “signet ring” cell carcinoma within the colon and rectum. Of note, the most frequently involved site is the transverse colon.

Still, colonic metastases from gastric cancer are rare. They usually present as linitis plastica or annular stricture, thereby resembling advanced primary colon cancer. In addition, several cases of colonic metastases with polypoid or non-polypoid appearance mimicking early colon cancer have been reported. Accurate clinical

information is paramount in resolving these cases.

In our case, clinical history, tumour location, the classical morphology on H&E-stained slides as well as the immunohistochemical profile of the lesion clearly support the final diagnosis of metastatic gastric signet ring cell carcinoma.

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