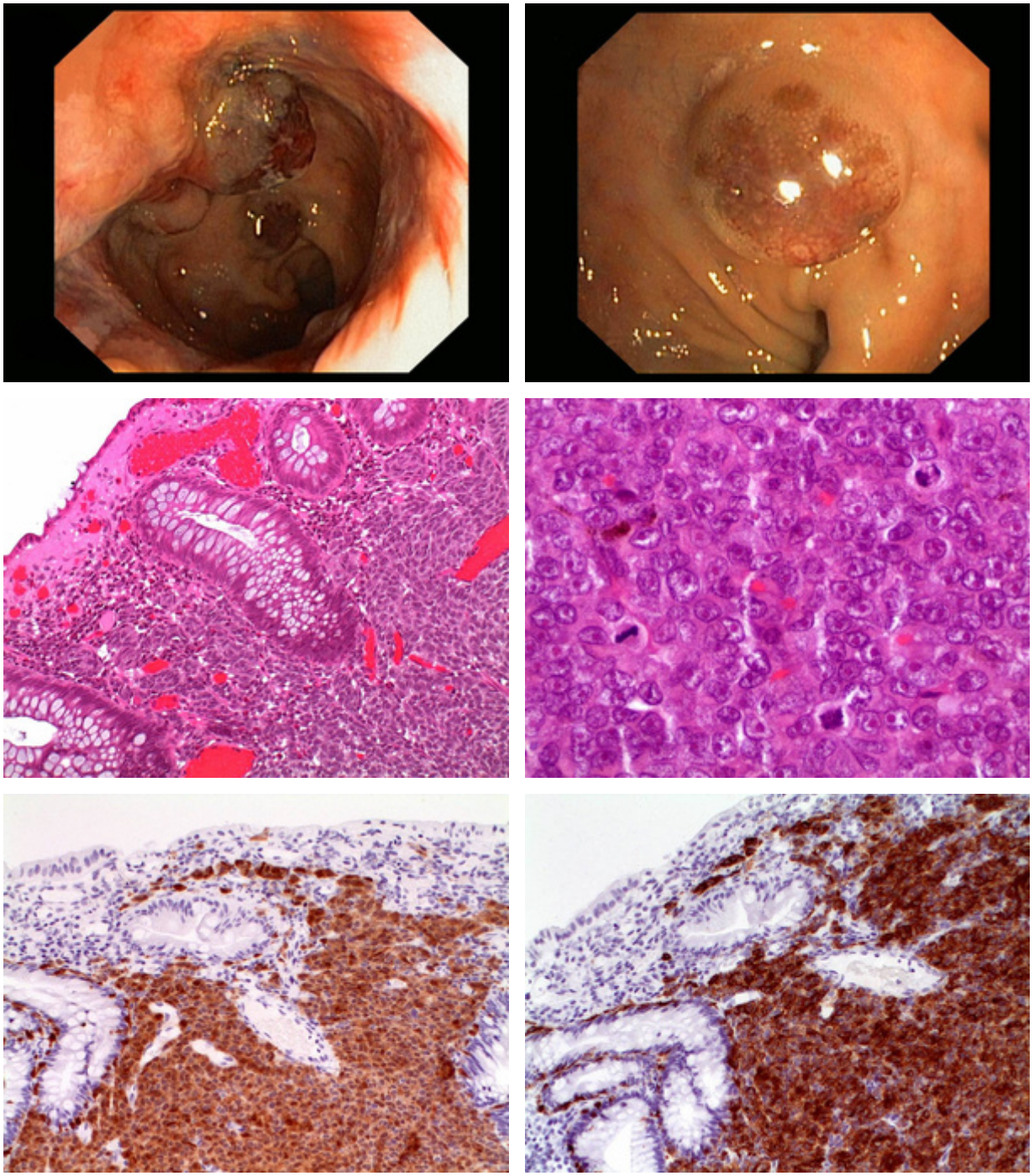
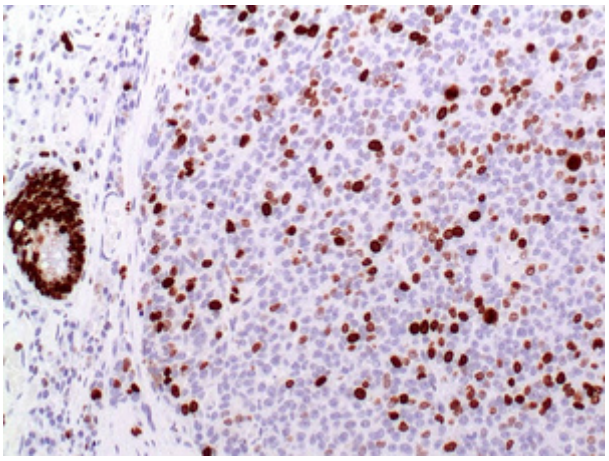
April 2013

A 57-year-old woman with positive faecal occult blood test presents with sessile reddish polyps in the rectum.

What is your diagnosis?





Diagnosis

Rectal malignant melanoma.

Comment

Low-power-HE reveals a solid proliferation of cells enlarging the lamina propria (Panel C). Notice the severe vascular congestion. At higher magnification, the cells grow in solid nests with very little intervening stroma and a rich fine congestive vascularization. The cells are intermediate size, with high-grade atypia, ill-defined amphophylic cytoplasm, and vesicular nuclei with conspicuous reddish nucleoli and abundant mitotic figures (Panel D). Small foci of melanin pigment are present. Upon immunohistochemistry, the tumour cells are strongly immunoreactive for S-100 protein (Panel E), HMB45 (Panel F), and Ki-67 proliferation index is 30% (Panel G). Synaptophysin is negative.

Anorectal melanoma represents a rare and aggressive subtype of melanoma. Of note, the anorectum is the third most common location of melanoma after skin and retina. Anorectal melanoma presents in the 5th to 6th decade, mostly in Caucasian patients and with female predilection. The most common symptom is rectal bleeding, pain or mass, and it may clinically be mistaken for a thrombosed haemorrhoid.

Most anorectal melanomas arise from melanocytes of the anal transition and squamous zones, and are located either within the anal canal or rectum. Presence of melanin within tumour cells facilitates diagnosis. Approximately 30% of tumours, however, are amelanotic, and the diagnosis is made using immunohistochemistry (HMB45, S-100, Melan-A).

The finding of a junctional component adjacent to the invasive tumour supports a primary rather than a metastatic melanoma. They frequently are of the acrolentiginous type, and often epithelioid rather than fusiform-sarcomatous or desmoplastic. The main differential diagnosis is anal Paget’s disease (negative for melanoma markers, positive for keratin). Neuroendocrine tumours and lymphomas can be ruled out using appropriate markers.

Surgical resection although recommended, should not be radical in advanced stages. The tumour spreads along submucosal planes. Therefore, it is often beyond complete resection at the time of diagnosis. The role of sentinel lymph node mapping and lymph node dissection remains unclear. Adjuvant chemotherapy, immune therapy, and radiation have a limited role in curing. Other novel treatments, such as targeted therapy selectively inhibiting oncogenic pathways related to KIT and B-RAF mutations, may help to improve outcome. Some treatment strategies are focused on the immunologic components of the disease, including vaccines.

The prognosis is poor, with 5-year survival rates between 15 and 35%, due to the common presence of multifocal disease and lymph node or distant metastases at diagnosis. Tumours proximal to the dentate line present with more advanced disease, possibly related to a delay in diagnosis. Many histologic factors have been associated with poor outcome, e.g. perineural invasion, tumour size >2 cm, depth of invasion >2mm, tumour necrosis, and Ki-67 >10%.

For further reading

- Balachandra B, Marcus V, Jass JR. Poorly differentiated tumours of the anal canal: a diagnostic strategy for the surgical pathologist. Histopathology. 2007;50:163-74.
- Shia J. An update on tumors of the anal canal. Arch Pathol Lab Med. 2010;134:1601-11.
- Kanaan Z, Mulhall A, Mahid S, et al. A systematic review of prognosis and therapy of anal malignant melanoma: a plea for more precise reporting of location and thickness. Am Surg. 2012;78:28-35.

Presented by

Dr. Miriam Cuatrecasas and Dr. D. Bargallo, Barcelona, Spain