

### SOFT-TISSUE IMAGES. MELANOSIS COLI

A 76-year-old diabetic woman, who had chronic constipation and laxative abuse, underwent colonoscopy and was found to have multiple colorectal adenomas and severe melanosis coli. A subtotal colectomy was done to treat her constipation and to remove multiple polyps (Figs. 1 and 2).

Melanosis coli was first described by Cruveilhier in 1829 as a condition affecting the colon from the cecum to the dentate line, with pigmentation ranging from a barely discernible brown to jet black.<sup>1</sup> Its presence is a

reliable indicator of anthracene laxative abuse (i.e., cascara, aloe, senna and rhubarb).<sup>2,3</sup> After the ingestion of such laxatives, anthracene is converted from its glucuronated form to its active form by cecal bacteria, resulting in damage to the colonic epithelium. The damaged epithelial cells are phagocytized by macrophages, which migrate to the lamina propria and submucosa. Here, the digestion of the damaged cells is completed as lysosomes are converted into residual bodies containing lipofuscin, which

gives melanosis coli its typical black appearance.<sup>2,4,5</sup>

This condition has been reported in 1% to 8% of proctoscopies and in 12% to 31% of unselected constipated patients.<sup>6</sup> There is generally considered to be no risk or association between melanosis coli and colorectal carcinoma. However, an association with colorectal polyps has been reported.<sup>7</sup> This may be due partly to the relative ease of detection of the typically unpigmented colorectal adenomas on the darkly pigmented colon of melanosis coli (Fig. 2).<sup>7</sup>



FIG. 1. Excised specimen showing severe melanosis coli.



FIG. 2. Section of colon with severe melanosis coli demonstrating complete lack of pigment in adenomatous polyps.

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## SESAP Question / Question SESAP

### CATEGORY 5, ITEMS 20 AND 21

A 62-year-old man who weighs 67 kg and who takes hydrochlorothiazide (50 mg, twice a day) for hypertension has a bowel preparation for colon operation with oral polyethylene glycol with electrolytes (Golytely). Laboratory values are: serum sodium, 141 mEq/L; serum potassium, 2.6 mEq/L; serum chloride, 104 mEq/L; total carbon dioxide, 26 mEq/L; and serum magnesium, 1.9 mEq/L.

20. The most likely explanation for this patient's hypokalemia is

- (A) loss of electrolytes from his colon carcinoma
- (B) water and electrolyte loss from bowel preparation
- (C) use of a routine clear liquid diet for two days
- (D) thiazide diuretic
- (E) electrolyte intake with bowel preparation

21. This degree of hypokalemia represents a loss of

- (A) 25–50 mg or mEq
- (B) 50–100 mg or mEq
- (C) 100–200 mg or mEq
- (D) 200–300 mg or mEq
- (E) 300–600 mg or mEq

For each incomplete statement above select the 1 answer that is best of the 5 given.

For the critique of items 20 and 21, see page 462.

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