

# Anthranoid self-medication causing rapid development of melanosis coli

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## ABSTRACT

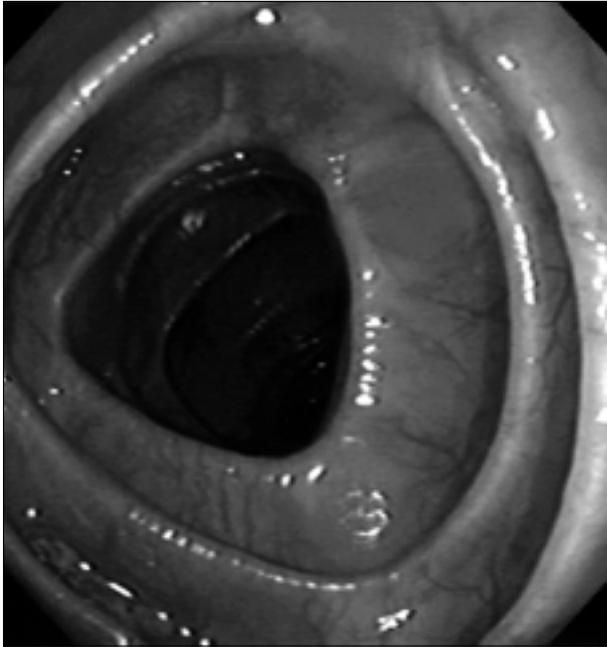
It is widely known that long-term use of anthranoid-containing laxatives is the cause of melanosis coli. We describe a case of melanosis coli, which occurred in a 39-year-old liver transplant patient who took an over-the-counter product containing aloe, rheum and frangula. The typical brownish pigmentation of the colonic mucosa developed in a period of ten months. The anthranoid medication was stopped and follow-up colonoscopy one year later showed normal looking mucosa once more. However, in contrast to previous examinations, a sessile polypoid lesion was found in the transverse colon. Histology showed tubulovillous adenoma with extensive low-grade dysplasia. Since there have been preliminary reports suggesting a possible role of anthranoid-containing laxatives in the development of colorectal adenomas and cancer, their use should be discouraged.

## INTRODUCTION

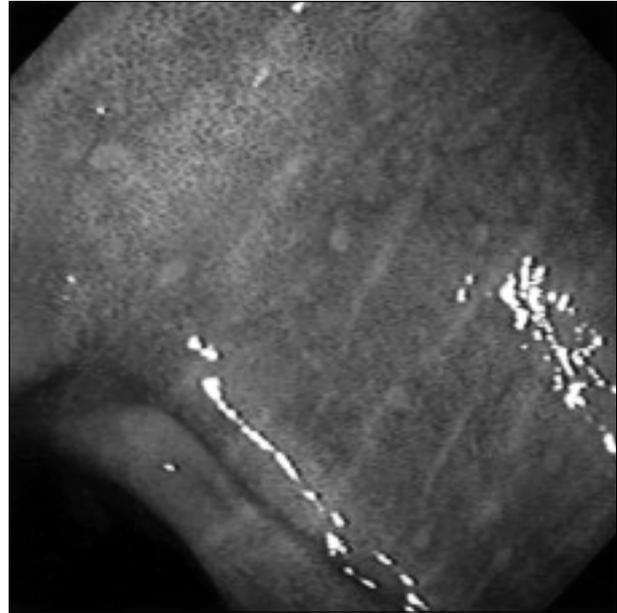
Anthranoid-containing laxatives frequently cause melanosis coli, a condition which may be associated with an increased risk for colorectal cancer.<sup>1,2</sup> These products are widely used and self-administered for constipation. Few studies have actually documented how long it takes before the colonic lesions develop.<sup>3</sup> We detected melanosis coli in a patient ten months after he started to use an anthranoid-containing laxative.

## CASE REPORT

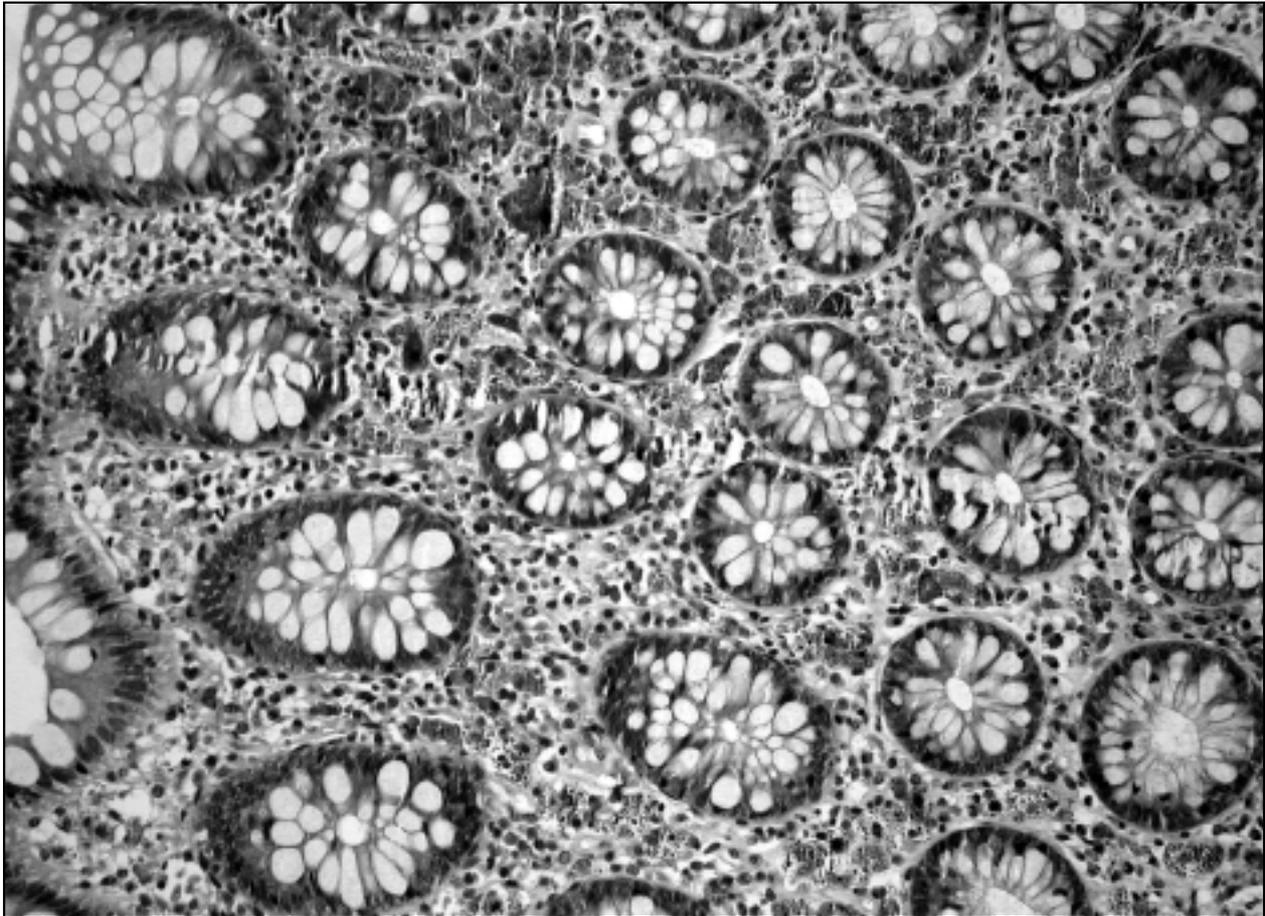
A 39-year-old patient underwent liver transplantation in 1999 for end-stage primary sclerosing cholangitis. Since 1977 he was also known to suffer from ulcerative colitis which had been clinically quiescent during recent years. In January 2000 surveillance colonoscopy revealed no significant abnormalities. In particular, no abnormal mucosal discoloration was noted (*figure 1*) and colonic histology was normal. In contrast, in January 2001 a further colonoscopy showed a marked brownish pigmentation of the mucosa of the entire colon, compatible with melanosis coli (*figure 2*). Macrophages loaded with pigment were found in all biopsies taken from different areas of the colon (*figure 3*). At the time of the last examination he was being treated with mesalazine, tacrolimus, etidronate, vitamin D, psyllium and occasionally with polyethylene glycol (the last two because of constipation). Further medical history revealed that for the last ten months he had been taking two tablets of another product called 'Rheum Frangula' daily. This product consists of aloe, rheum and frangula, all three anthranoid-containing laxatives, which are known to be the cause of melanosis coli. We advised our patient to stop taking this product. A year later colonoscopy showed normal looking mucosa; biopsies showed no evidence of melanosis. However, in contrast to previous examinations, a large sessile polypoid lesion was found in the transverse colon. Histological examination showed tubulovillous adenoma with extensive low-grade dysplasia. The patient was listed to undergo total colectomy in the near future.



**Figure 1**  
*Colonoscopy in January 2000 showing a normal appearing mucosa*



**Figure 2**  
*Colonoscopy in January 2001 showing diffuse brownish pigmentation of the colonic mucosa compatible with pseudomelanosis coli*



**Figure 3**  
*Colonic biopsy showing macrophages loaded with pigment (haematoxylin and eosin staining, 40x)*

## DISCUSSION

It is well known that anthranoid-containing laxatives frequently cause melanosis coli, a disease entity which can be identified by a brownish pigmentation of the colonic mucosa. Long-term use of anthranoids is generally believed to be necessary to cause melanosis coli. However, as long as 50 years ago it was documented that this condition can develop within periods varying from only 3 to 13 months.<sup>3</sup> A clearly established picture of melanosis coli was found in our patient after ten months.

Anthranoid-containing herbal laxatives damage epithelial cells, leading to changes in absorption, secretion and motility.<sup>4</sup> They can induce cell loss, shortening of mucosal crypts and increased cell proliferation.<sup>2</sup> It remains controversial whether melanosis coli is associated with an increased risk for colorectal cancer, as reported by Siegers *et al.*<sup>1</sup> Other studies, however, have either failed to confirm this<sup>5</sup> or found an increased risk for colorectal adenomas but not for cancer.<sup>6</sup> Our patient clearly was at risk for developing colonic neoplasm considering his long-standing ulcerative colitis in association with primary sclerosing cholangitis and the use of immunosuppressive medication after liver transplantation.<sup>7,8</sup> Therefore, the role of the short-term use of the laxative in the development of this patient's adenoma is highly speculative. From a practical point of view, it may be wise and prudent to discourage the use of anthranoid-containing laxatives, also considering the availability of safe alternatives.

## REFERENCES

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