

# Melanosis Coli, a Consequence of Laxative Abuse? A Case Report

## *Laksatif Kötüye Kullanımı Melanozis Koli'ye Yol Açabilir mi? Olgu Sunumu*

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### SUMMARY

Long-term use of anthraquinone-containing laxatives frequently causes melanosis coli. Our aim was to overview the topic and related literature by presenting the case report of a patient with melanosis coli. A 27-year-old Turkish woman was being prepared for a hemorrhoidal operation. She had a history of chronic constipation and had been using an anthraquinone-containing laxative for the last five years. When colonoscopy was performed, the whole mucosa from the rectum to the cecum was found hyperemic-edematous with brown pigmented areas and some ulcerated-polypoid lesions. Histopathological examination of the colon biopsies revealed melanosis coli. The patient was advised to stop taking the laxative and dietary modifications were made for constipation. Melanosis coli is a benign and generally reversible pathology when laxatives are discontinued but may be related to an increased risk of colorectal carcinoma, which should always be kept in mind.

**Key words:** Laxatives; melanosis.

### ÖZET

Antrakinin içeren laksatiflerin uzun süreli kullanımı, sıklıkla melanozis koliye sebep olur. Amacımız, melanozis koli tanılı bir hastayı sunarak konuyu ve ilgili literatürü gözden geçirmektir. Hasta, hemoroid ameliyatına hazırlanan, 27 yaşındaki bir Türk kadını idi. Hikayesinde kronik kabızlık olup, son 5 yıldır antrakinin içeren bir laksatif çeşidi kullanmakta idi. Hastaya kolonoskopi yapılırken, rektumdan çekuma dek tüm mukozanın yer yer kahverengi lekeli, hiperemik-ödemli olduğu ve bunlara az sayıda ülser polipoid lezyonun eşlik ettiği görüldü. Kolon biyopsilerinin histopatolojik inceleme sonucu, melanozis koli tanısı ile uyumluydu. Hastaya artık laksatif kullanmaması tavsiye edilerek kabızlık için gerekli beslenme düzenlemeleri yapıldı. Melanozis koli genellikle selim ve laksatifler kesildiğinde geri dönüşümlü bir patolojik durum olmakla birlikte, artmış bir kolorektal karsinom riskinin eşlik edebileceği daima akılda bulundurulmalıdır.

**Anahtar sözcükler:** Laksatifler; melanozis.

### INTRODUCTION

Melanosis coli is a frequent finding of colonoscopic and histopathologic examinations. It is a dark brown pigmentation of the colon, as a result of long term anthraquinone containing laxative and senna like herbal tea abuse for chronic constipation.<sup>[1]</sup> The lesion was first demonstrated by Cruveilhier in 1829.<sup>[2]</sup> Endoscopists frequently notice the pigment deposits of the intestinal mucosa; during colonoscopies

performed for chronic constipation. Pigments can also be seen in the small intestines. Although it is named as melanosis; electrone microscopy<sup>[3]</sup> and X-ray analytic methods demonstrated that this pigment is not melanin but lipofuscin granules, produced by the destruction of the apoptotic epithelial cells.<sup>[4]</sup> That is why it is also named as pseudomelanosis coli.<sup>[5]</sup> Pigment intensity is not uniform. When comparing the proximal colon with distal colon, caecum is more

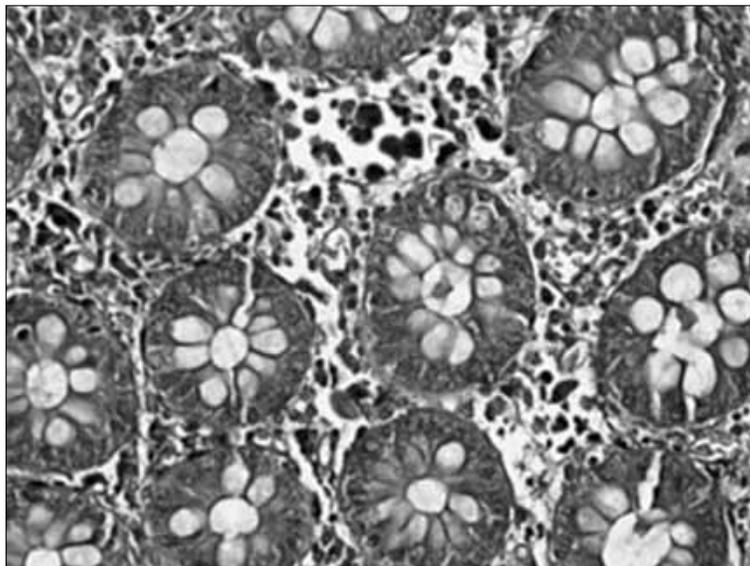
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**Fig. 1.** Histiocytes with cytoplasmic brown pigments; forming groups or standing solitary in the lamina propria of the colonic mucosal specimens (H-E x 40).

intensely pigmented. Occasionally, pigmentation can be found at the whole colon; including caecum, distal ileum and appendix.<sup>[3]</sup> Melanosis coli is a benign and generally reversible pathology when laxatives are discontinued but an increased risk of colorectal carcinoma has been discussed.<sup>[6-8]</sup>

### CASE REPORT

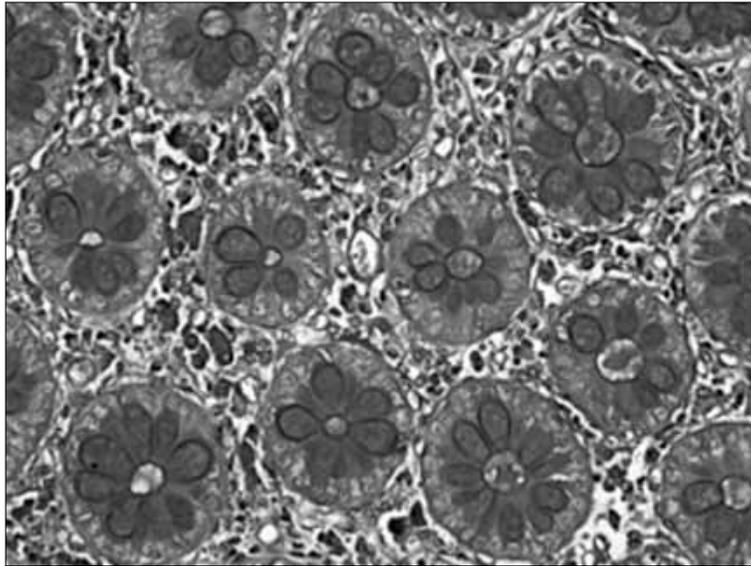
A 27-year-old Turkish woman was admitted to our outpatient clinic with complaints of chronic constipation, bloating, discomfort after defecation and anal pain. She had been taking anthraquinone containing laxatives for 5 years. She said, she could not defecate without using a laxative. Moreover, grade 4 hemorrhoids were found during her physical examination. Colonoscopy results showed that she had a normal appearing terminal ileum. All the remaining colonic segments including rectum, had hyperaemic-edematous mucosa with diffuse, brown pigmented areas. Multiple biopsies were obtained. On histopathologic examination, minimal chronic nonspecific inflammation and rare lymphoid aggregates at lamina propria were found. In addition, at superficial lamina propria, histiocytes with cytoplasmic yellow-brown granules forming groups of 2 or 3 were present at all the biopsy specimens and the pigment was found PAS posi-

tive (Figs 1, 2). In accordance with these findings, the patient was diagnosed as melanosis coli and laxative intake was immediately stopped, a fiber-rich diet program was started for her constipation.

### DISCUSSION

Constipation is a common gastrointestinal problem. Anthraquinone containing laxatives are frequently used for chronic constipation. Long term exposure to these laxatives may result in melanosis coli.<sup>[9]</sup> Melanosis coli as result of increased apoptosis of epithelial cells may have other causes than laxative abuse.<sup>[10,11]</sup> Melanosis coli is more common in elderly people and two times common in women than in men. Besides long term laxative abuse, the real etiologic factor seems to be chronic intestinal stasis. Melanosis may be seen in anorectal pathologies like contracted anus or rectal obstruction.<sup>[12]</sup> Although melanosis coli is widely accepted as a benign condition; we do not have enough data on its relationship with colorectal carcinoma.

Anthranoid containing laxatives give damage to the colonic epithelial cells and cause changes in normal pathophysiology.<sup>[5]</sup> Death of cells, shortening of the mucosal crypts and increased cellular proliferation are common changes.<sup>[7]</sup> The most popular laxative



**Fig. 2.** PAS positive cytoplasmic staining of the histiocytes in the lamina propria (PAS x 40).

group, anthranoids; have proved to be carcinogenic and mutagenic *in vitro* and in animal studies.<sup>[13,14]</sup>

Recent experimental and clinic studies have revealed some proofs of laxative abuse-melanosis coli and colorectal carcinoma relationship, but the topic is still quite speculative. Siegers et al. have reported the relation between melanosis coli and the increased rate of colorectal cancer, in a prospective study. They reported the rate of melanosis coli as: 6.9% in patients with normal endoscopy; 9.8% in patients with adenoma and 18.6% in patients with colorectal carcinoma.<sup>[6]</sup>

Nusko et al.<sup>[15]</sup> have reported that melanosis coli-using laxatives and colorectal carcinoma have no relationship but colorectal adenomas are significantly more common in patients with melanosis coli, according to a rethrospective study of 2229 patients.

Melanosis coli may seem like a benign disease which resolves in 9 months after stopping the laxatives, but segmentary biopsies from the pigmented and depigmented areas must be obtained to eliminate colorectal carcinoma.<sup>[15]</sup>

Is melanosis coli related with colorectal carcinoma? An elevated risk has been suggested by some authors<sup>6</sup> and refused by others.<sup>[15]</sup> This topic is not fully understood yet and needs further clinical and experimantal studies. We suggest that, the main

problem for melanosis coli is missing the colon carcinoma in the pigmented and depigmented mucosal areas during colonoscopy.

The diagnosis of melanosis coli needs a detailed colonoscopy and taking segmentary biopsies; in order not to miss other colonic pathologies. Besides a regular colonoscopic surveillance, we recommend patients with constipation to stop using anthraquinone containing laxatives, and start a fiber-rich diet.

## CONCLUSION

Anthraquinone containing laxatives are frequently used for chronic constipation. Long term exposure to these laxatives may result in melanosis coli. Melanosis coli may seem like a benign disease which resolves in 9 months after stopping the laxatives, but segmentary biopsies from the pigmented and depigmented areas must be obtained to eliminate colorectal carcinoma.

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