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CASE REPORT

Melanosis Coli in Different Clinical Presentations: Report of Two Cases

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ABSTRACT

Melanosis coli is a common condition characterized by the deposit of brown-black pigment called lipofuscin in the lamina propria of the colon. The condition is in association with persistent ingestion of anthraquinone laxatives and can mimic other diseases such as ulcerative colitis or ischemic bowel. We herein describe two cases of melanosis coli, both with long-standing constipation and chronic laxative use. This first case required subtotal colectomy due to unresolved pseudo-obstruction. In the second case, a colonoscopy suggested ulcerative colitis, but the final diagnosis was melanosis coli. In conclusion, caution should be taken with the long-term liberal use of laxatives, as functional changes may only partially resolve even if the laxatives are discontinued. Otherwise, progression to diffuse involvement of the entire colon by melanosis coli may lead to pseudo-obstruction.

Key words: *Melanosis coli, Anthraquinone laxatives, Pseudo-obstruction*

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ÖZET

Melanosis Kolinin Farklı Klinik Prezentasyonları: İki Olgu Sunumu

Melanosis koli, lipofuksin olarak adlandırılan kahverengi-siyah renkte bir pigmentin kolon duvarındaki lamina propriya tabakasında depolanmasıyla karakterize, sıkça karşılaşılabilen bir durumdur. Bu oluşum, uzun süreli antrakinon türü laksatif alımıyla ilişkili olup, iskemik bağırsak hastalığı ve ülseratif kolit gibi diğer hastalıklardaki bağırsak görünümünü taklit edebilir. Biz, bu olgu sunumunda, kronik konstipasyondan muzdarip ve uzun süredir laksatif kullanan melanosis kolili iki olgu tarif ettik. Birinci olguda, geçmeyen psödoobstrüksiyon nedeniyle subtotal kolektomi ameliyatı yapıldı. İkinci olguda kolonoskopik bulgular ülseratif koliti düşündürdü fakat histopatolojik tanı melanosis koli olarak rapor edildi. Sonuç olarak, uzun süreli liberal laksatif kullanımından kaçınmak gerekmektedir; zira laksatif kullanımı bırakıldığında dahi bağırsak fonksiyonları kısmen geri dönebilmektedir. Aksi takdirde, kolonun tamamına yakınının melanosis koli ile yaygın tutulumu psödoobstrüksiyon gelişimine yol açabilir.

Anahtar kelimeler: *Melanosis koli, Antrakinon laksatifler, Psödoobstrüksiyon*

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INTRODUCTION

Melanosis coli is a common condition characterized by the deposit of brown-black pigment called lipofuscin in the lamina propria of the colon. The initial event is mucosal cell death or apoptosis, often resulting from chronic anthraquinone laxative use. Anthraquinones appear to damage the colonic epithelial cells, which leads to changes in absorption, secretion and motility. Production of lipofuscin occurs following phagocytosis of these cells by macrophages in the lamina propria[1]. The condition may reverse on discontinuing laxative use. We report two cases of melanosis coli in different clinical presentations.

CASE REPORTS

Case 1

A 70-year-old male patient presented with a three-day history of worsening abdominal pain and distention. He had a history of long-standing constipation and use of herbal laxatives. The episodes had become more and more frequent; even during the previous month, he had been admitted to the emergency clinic three times. As mechanical obstruction was ruled out, the patient was discharged every time after improvement was achieved by using laxatives or colonic decompression with rectal tubes. On the last occasion, the patient's abdominal distention persisted and did not resolve. The patient underwent an abdominal exploration, which revealed a patulous distended megacolon. Hence, a subtotal colectomy with end ileostomy was performed. In the postoperative period, the patient began oral intake and recovered rapidly. However, pulmonary emboli developed on the seventh postoperative day and the patient died due to cardiopulmonary insufficiency. Histopathological diagnosis of the subtotal colectomy specimen revealed melanosis coli, which involved nearly the entire colon (Figures 1, 2).

Case 2

A 63-year-old female patient was admitted to the gastroenterology clinic for investigation of iron defi-

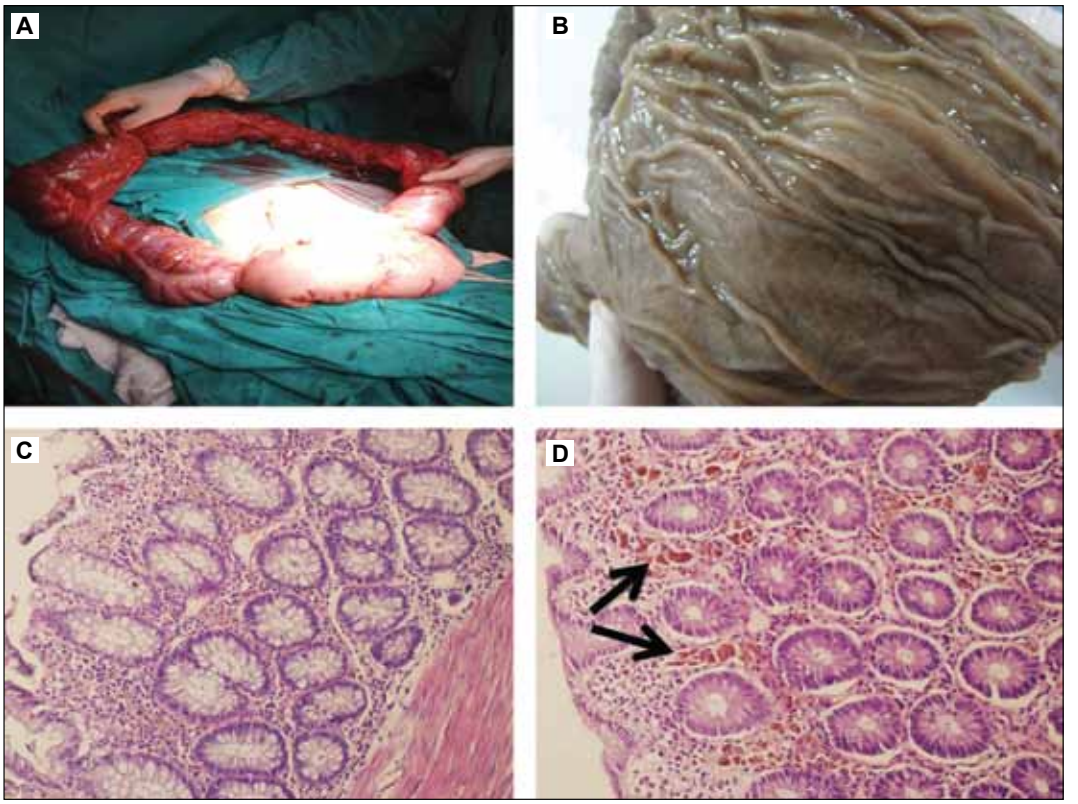

Figure 1. A) Image of the patulous distended megacolon. B) Macroscopic appearance of the colonic mucosa, which was brown pigmented. C) Hematoxylin & eosin (H&E): Brown pigment-laden macrophages were noted in the lamina propria of the colonic mucosa. Myenteric neural plexuses are within normal limits. The colon was ganglionic with a normal muscular layer. D) H&E: Intramucosal lipofuscin-laden macrophages.

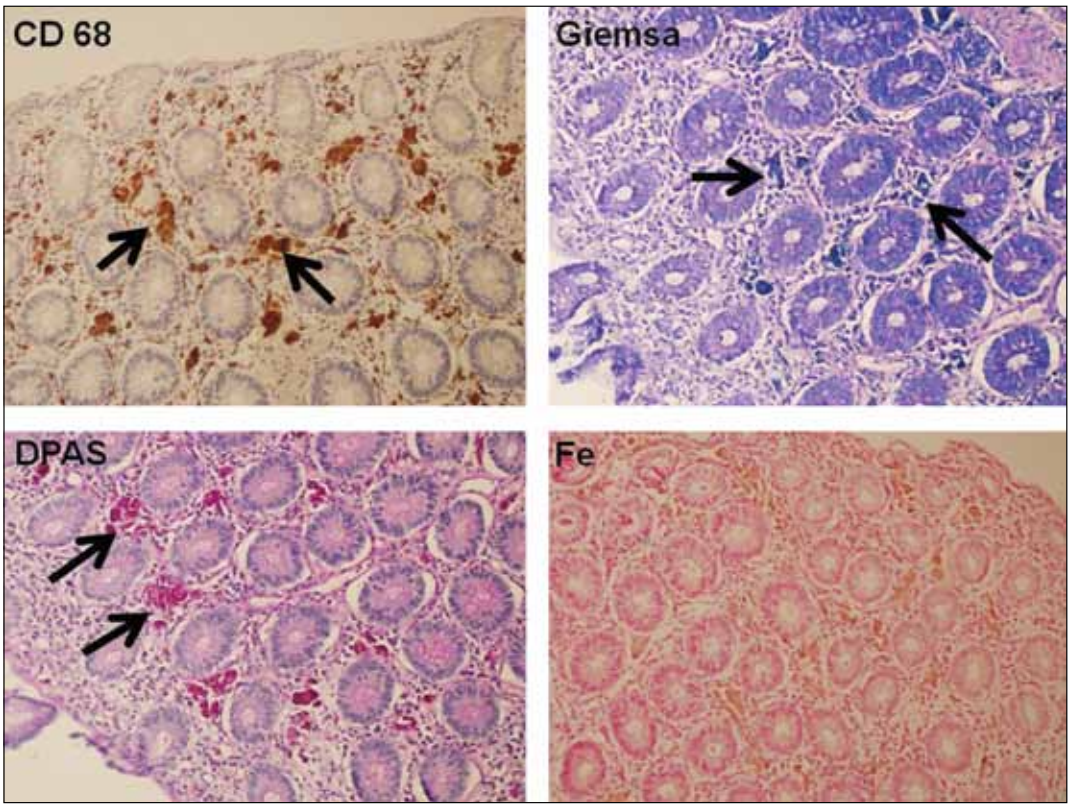

Figure 2. Pigmented mucosal cells were identified as macrophages with immunohistochemical CD68 positivity. Histochemically, gold-brown pigment-laden macrophages were Giemsa- and diastase-resistant periodic acid-Schiff (DPAS)-positive and Perl's iron (Fe) for hemosiderin-negative.

ciency, anemia and weight loss. She was symptomless except for constipation, which had persisted for more than two years. She had begun to take an herbal laxative including anthraquinone one year before. A colonoscopy exam was performed to rule out a malignant lesion, which revealed a hyperemic and edematous lumen in the sigmoid colon, including multiple superficial exudative lesions like ulcerative colitis. Multiple biopsies were taken from the lesions for further histopathological evaluation. However, the patient had no history of inflammatory bowel disease and no symptoms or signs such as abdominal pain or episodes of diarrhea containing mucus or blood. No additional cause of anemia was found during her hospitalization, and oral iron supplementation was introduced at discharge. As the histopathological exam determined melanosis coli, the patient was advised to stop laxative use (Figure 3).

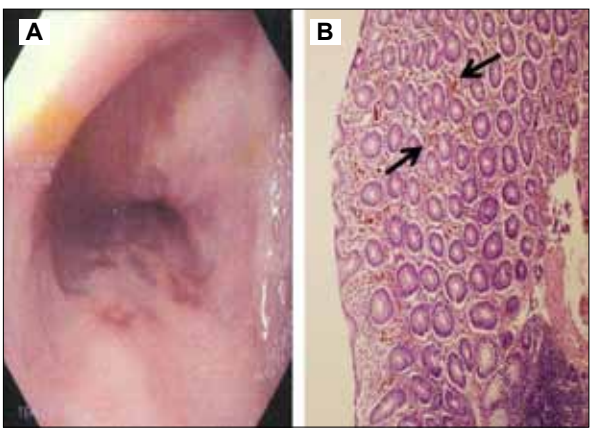

Figure 3. A) Colonoscopic exam showed hyperemic and edematous lumen of the sigmoid colon including multiple superficial exudative lesions like ulcerative colitis. B) H&E: Intramucosal pigmented macrophages.

DISCUSSION

Intestinal pseudo-obstruction is a condition that includes features of intestinal ileus but in the absence of mechanical obstruction. Chronic intestinal pseudo-obstruction can be congenital or acquired, neuropathic or myopathic. Treatment of chronic intestinal pseudo-obstruction is not standardized, and laxatives, prokinetics, anticholinesterase agents, and motilin receptor antagonists have been tried in a variety of studies[2].

Chronic use of laxatives causing stimulation and irritation of the large bowel may result in cathartic colon. Patients generally complain of constipation and bloating, but may not always reveal a history of laxative abuse. The diagnosis is often made by barium enema, which demonstrates an atonic and redundant colon with an ahaustral tubular appearance[3]. Our Case 1 had neither a history of neuropathic or metabolic disorders nor use of anti-depressant or anticholinergic agents. To our knowledge, our Case 1 is the second reported case in the literature of a patient who presented with colonic pseudo-obstruction due to melanosis coli[4]. The discontinuation of laxatives may bring some improvement; however, because the changes in the cathartic colon are due to damage to the myenteric plexus, functional changes may only partially resolve.

Melanosis coli is probably the most common pigmentation change seen in the colonic mucosa. However, the pigmentation of melanosis coli does not affect the small bowel. The postulated hypotheses are: a lack of anthraquinone receptors in the small bowel and the conversion of anthraquinones to active metabolites by colonic bacteria. The rectum is usually involved in the late stage of the disease[5]. Melanosis coli can lead to overestimation of endoscopic findings -like in our Case 2- and consequent excessive aggressiveness in the treatment. There are some case reports of melanosis coli misdiagnosed as ischemic colitis. It is difficult to differentiate melanosis coli from ischemic colon during abdominal laparotomy-particularly in emergency circumstances-if the colon looks distended and akinetic with a necrotic mucosal appearance from the outside[6]. Further, melanosis coli can also be overestimated as inflammatory bowel disease[7]. Differentiation with ulcerative colitis is generally made by the appropriate history, lack of colonic shortening and mucosal ulceration in the cathartic colon, and the presence of pseudo-polyps and strictures in ulcerative colitis.

In summary, melanosis coli is a common condition that can mimic other diseases such as ulcerative colitis or ischemic bowel. Caution should be taken with the long-term liberal use of laxatives, and it should also be kept in mind that functional changes may only partially resolve due to damage to the myenteric plexus, even if the laxatives are discontinued. Otherwise, progression to diffuse involvement of the entire colon by melanosis coli may lead to pseudo-obstruction.

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