Case in Point

A Case of Severe Melanosis Coli

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A 51-year-old woman with a history of chronic constipation presented with a severe case of melanosis coli, developed secondary to the use of anthroquinone laxatives sold as herbal supplements.

Melanosis coli is a brownish discoloration of the colon mucosa, caused by the accumulation of pigment in macrophages within the lamina propria. First described in the early 19th century, the pigment was initially thought to be melanin, but it was later found to be lipofuscin deposited in macrophages within the lamina propria as a result of apoptosis.[1,2]

Animal and human studies have shown an association between m. coli and the chronic use of anthraquinone laxatives, such as cascara sagrada, aloe, senna, rhubarb, and frangula.[3,4] The discoloration often appears within 4 months of use and is observed in up to 70% of chronic users of implicated laxatives. The condition is widely regarded as benign and reversible, and the pigment generally disappears within 1 year of stopping laxatives.[5] Earlier concerns about a possible relationship between m. coli and the development of colonic neoplasia have not been substantiated in prospective studies.[6]

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CASE REPORT

The patient was a 51-year-old woman with a history of chronic constipation who was scheduled for colonoscopy because of recent changes in bowel habits and bloating. She reported not using any medications, expressing lack of faith in modern pharmaceutical medications. Her colonoscopy 5 years ago was reported as normal.

The results of the colonoscopy showed diffuse staining of the entire colonic mucosa, with a very dark discoloration (Figures 1 and 2). The mucosa of the terminal ileum was normal (Figure 3). Histopathologic analysis of the colonic biopsies confirmed the presence of severe melanosis (Figure 4).

The patient reported having used an herbal preparation that was sold on several websites and was marketed as "promoting regular, healthy, and complete bowel movements." Among the ingredients for this "intestinal formula" are aloe, senna, and cascara.

DISCUSSION

Melanosis coli has been associated with the chronic use of anthroquinone laxatives. These include several plants, such as aloe, cascara, and senna. Aloe plants are members of the lily family, of which the aloe vera plant is the most common. Cascara sagrada is the common name of the California buckthorn (Rhamnus purshianus), a shrub that grows in the Pacific Northwest. The bark of the cascara sagrada shrub and juice from the leaves of aloe plants have been used for medicinal purposes. Folk medicine has historically used both as laxatives.

On November 5, 2002, the U.S. Food and Drug Administration (FDA) issued a final ruling stating that aloe and cascara sagrada cannot be labeled or sold as stimulant laxatives in over-the-counter (OTC) drug products due to a lack of research on safety and efficacy.[7] All OTC medications containing these ingredients have not been available since then. Research about the efficacy and safety of senna was submitted to the FDA, and senna-containing products were allowed to stay in the OTC category.

Herbal supplements are regulated by the FDA under the category of dietary supplements. The regulations covering these are different from those covering conventional foods and drug products (both prescription and OTC). Under the Dietary Supplement Health and Education

Act of 1994, the dietary supplement manufacturer is responsible for ensuring that a dietary supplement is safe before it is marketed. The FDA is responsible for taking action against any unsafe dietary supplement product only after it reaches the market.[7]

In summary, we have described a case of severe m. coli that developed secondary to the use of anthroquinone laxatives, sold as herbal supplements with a goal of optimizing colon health. Fortunately, there seems to be no association between colorectal cancer and m. coli, and this condition is benign and reversible. However, there are many other herbal supplements containing ingredients that can be potentially harmful, such as ephedra, which was widely available in the U.S. until it was eventually banned by the FDA in December 2003 due to its risk of cardiovascular adverse effects (AEs).[6]

This case illustrates the risk associated with the current situation in the U.S., where medications extracted from plants might not be allowed to be marketed as medications; however, they can be widely sold as dietary supplements while keeping all their medicinal properties and AEs. The authors strongly encourage patients to be aware of these potential risks. ●

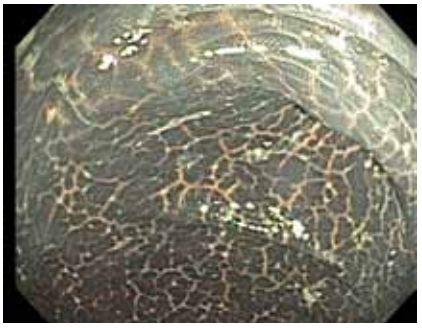
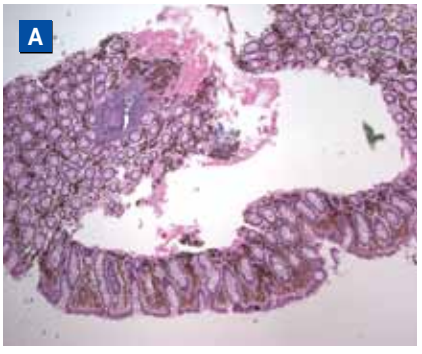


Figure 1. Melanosis in the colon.

Figure 2. Melanosis in the colon.

Figure 3. Normal terminal ileum.



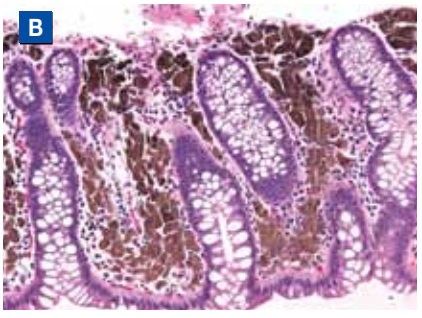


Figure 4 (A and B). Hematoxylin and eosin (H&E) staining. A, Magnification X40. B, Magnification X200.

Author disclosures

The authors report no actual or potential conflicts of interest with regard to this article.

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