CASE REPORT

MELANOSIS COLI - A HARMLESS PIGMENTATION OR A PRECANCEROUS CONDITION?

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SUMMARY

Melanosis coli is a benign, reversible condition characterized by dark pigmentation of the colonic mucosa, with the most probable etiology of chronic use of anthraquinone laxatives. Thus, due to purgative-induced apoptosis, epithelial cells are phagocytized by macrophages in the lamina propria. MC has been reported to increase the risk of development of colorectal cancer. A 60-year-old woman presented with diffuse abdominal pain and meteorism. Symptomatology and physical examination was suggestive for intestinal obstruction, but, colonoscopy showed the aspect of melanosis coli. The hystopathological exam confirmed the diagnosis. Because it has been pointed out an association with colorectal cancer, it is important to have in mind melanosis coli as a possible diagnosis in patients with chronic use of anthranoid-containing laxatives.

Key words: Melanosis coli, Constipation, Hemosiderin

INTRODUCTION

Melanosis coli (MC) is a benign condition where macrophages in the colonic mucosa phagocytize apoptotic bodies of epithelial cells, resulting a dark pigmentation [1, 2]. A certain etiology of this ailment is not yet discovered. Researches on animal models revealed that anthraquinone laxatives, including aloe, senna and rhubarb could cause MC [3]. Despite that, melanosis coli may be seen in absence of laxative use [4]. This condition is usually asymptomatic, but in some cases chronic constipation or intestinal obstruction may appear. Early and correct diagnosis is important because a relation between melanosis coli and the development of colonic adenomas and carcinomas has been pointed out [6].

CASE PRESENTATION

A 60-year-old woman presented with diffuse abdominal pain, meteorism and constipation. Her medical history

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includes: operated perineal tear, hysterectomy with bilateral adnexectomy due to a uterine fibroma, anal fissure which required surgery, stroke and essential hypertension controlled with medication. She also had a history of long standing constipation with chronic use of over-the-counter laxatives.

Physical examination revealed abdominal pain with palpation. Rectal examination showed absence of intestinal transit for solids and liquids. The patient was admitted with a susceptibility of ascending colon tumor.

Colonoscopy infirmed the presence of the colonic tumoral mass, but showed accentuated, diffuse, darkly pigmented appearance of the colonic mucosa (fig. 1 and 2). Internal hemorrhoids were also present, along with uninflamed diverticuli located in the sigmoid.

A biopsy on the pigment deposition was performed, and histology sections using hematoxilin-eosin stain disclosed stromal tissue containing macrophages with brown pigment in lamina propria, with no evidence of epithelial atypia, consistent with the diagnosis of melanosis coli (fig. 3).

Once the diagnostic was set, laxative treatment was discontinued. After the symptomatology of the patient improved, she was discharged with hemorrhoidal treatment and the follow-up colonoscopy was scheduled 12 months later.

**DISCUSSION**

Melanosis coli is a benign condition, in which the mucous membrane of the colon and rectum become darker than usual, with the color shifting from pale grey to brown or black [2].

The most probable etiology is chronic use of anthraquinone laxatives, however, MC might be seen in absence of their chronic administration [4]. Moreover, while pigment deposits are inducible in guinea pigs, they do not seem to occur in rats, mice or dogs [7].

The distinctive pigmentation of the bowel wall develops when, due to purgative-induced apoptosis, a sufficient number of epithelial cells become apoptotic bodies which are phagocytized by macrophages in the lamina propria [1,2]. The pigmentation of the colonic lining can disappear if the use of anthraquinone is discontinued [9].

Due to the content of the pigmentated macrophages which is not melanin, but lipofuscin, it has been suggested that this entity should be more precisely named “lipofuscinosis” or “pseudomelanosis” [8] instead of melanosis.

A study stated that aquaporines 8 could have a role in the pathological mechanism: long-term use of purgatives may reduce their expression in colon, inducing colonic mucosa epithelial cell apoptosis [4].

In MC the balance of fluid needs of the colon is altered because of the damage of the colonic lining. This results in chronic constipation, which leads to a prolonged use of laxatives. In very severe cases, obstruction of the bowel may occur, which can be a medical emergency.

Melanosis coli can be diagnosed during colonoscopy by the dark color of the intestinal lining which can be uniform.
or patterned. In selected cases, a biopsy of the colonic epithelium is required for histopathology examination.

Early and correct diagnosis is important because a long-standing use of anthraquinone laxatives have been found to have mutagenic and carcinogenic effects by in vitro and animal studies [10].

Once diagnosed, one possible therapeutical attitude is the surgical resection of the involved segment for safety reason. The authors agreed that the optimal attitude is to stop the use of anthraquinone laxatives and to schedule the follow-up colonoscopy after one year.

**CONCLUSION**

Melanosis coli represents a brownish pigmentation of colonic mucosa. The most probable etiology is the chronic use of anthraquinone laxatives and it is widely recognized to be reversible after stopping laxatives.

Since MC has been reported to increase the risk of development of colorectal cancer, chronic use of anthranoid-containing laxatives should be discouraged and future research in this area is needed.

**REFERENCES**