

Case Report

Pseudo-obstruction with pitch black colon - A very rare Presentation of Melanosis Coli

Arshad H Malik¹, Syed IH Andrabi², Mohammad Niayesh³

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ABSTRACT

Melanosis coli is associated with an increased risk of colorectal tumors but is not agreed to be a precancerous lesion. The condition has been associated with the ingestion of anthracene laxatives and is believed to be caused by increased epithelial apoptosis. Although melanosis coli is a frequent finding in colonic biopsies and resection specimens, to our knowledge severe jet black melanosis coli with pseudo-obstruction has not been reported in literature. Such gross Melanosis is exceptional and particularly striking.

Key Words: Melanosis coli, pseudo-obstruction, laxative

INTRODUCTION

Laxative use is integrally linked to constipation. Melanosis coli is a brownish pigmentation of colonic mucosa which, since 1933¹, has been related with the persistent ingestion of anthranoid laxatives. Anthranoid laxatives have been found to have mutagenic and carcinogenic effects by in vitro and animal studies². Melanosis coli has also been found in patients who do not use laxatives or suffer from constipation, possibly because of the apoptosis of epithelial cells and their

subsequent phagocytosis by macrophages of lamina propria with accumulation of lipofuscin pigment³. Few studies have explored a possible connection of anthranoid laxative use and melanosis coli with colorectal carcinoma in humans and the outcome are incongruous⁴. We present a very rare case of severe melanosis coli with pseudo-obstruction which has not been reported in literature to our knowledge.

CASE REPORT

A 71 year old lady presented with a one week history of gradually worsening abdominal pain. On examination she was pale and the abdominal was distended with sluggish bowel sounds. She was constipated and the clinical signs were suggestive of intestinal obstruction. Blood tests revealed anemia with normal electrolytes. Abdominal radiograph showed distended transverse colon. A CT scan showed distended large bowel with sigmoid diverticulosis. Persistent non-resolution of symptoms lead to exploration which revealed a pitch black colon with black pigment in inferior mesenteric nodes (fig 1). A sub-total colectomy was performed. Histology revealed gross melanosis coli with pigment in mesenteric nodes. Post operatively the patient recovered well.

DISCUSSION

Melanosis coli is a condition usually associated with chronic laxative use in which dark pigment is deposited in the lamina propria of the colon⁵. The pigment deposition results in a distinctive dark brown to black staining of the lining of the large intestine. This condition at times is called pseudomelanosis coli⁶ because the pigment deposits consist of a pigment known as lipofuscin and do not contain melanin as implied by the term "melanosis." Lipofuscin is a cellular pigment that forms when cells are destroyed, frequently called "wear and tear" pigment that can be found all over the body.

The dark color of the intestinal lining may be uniform or patterned, and the pigmentation may be slight - or very marked as in our case. The concentration and pattern of the discoloration may even differ among different sites in the



Figure 1: Melanosis coli

¹ Department of Surgery, Causeway Hospital, Coleraine, UK,

² Craigavon Area Hospital, Portadown, UK, ³Yeovil Foundation NHS Trust, Somerset, UK

Correspondence to Dr Malik

8 Bellview Court, Coleraine, Northern Ireland, UK.

drarshadmalik@hotmail.com

colon of a patient. The condition may reverse on discontinuing laxative use. The wall of the colon may appear grossly normal, but microscopic examination may show areas of pigment.

Melanosis coli usually results from chronic use of laxatives of the anthranoid group⁵, including senna and rhubarb derivatives⁷. Animal studies show that extremely high doses of phenolphthalein led to tumors in animals, but it has never been shown to cause cancers in humans². Chronic laxative use induces melanosis coli and possibly increases colorectal cancer risk^{5,8}. Colorectal adenomas are more frequently found in patients with melanosis coli⁸.

The anthranoid laxatives pass through the bowel unabsorbed till they reach the large intestine, where they are changed into their active forms⁶. These anthranoid laxatives exert their laxative effect by damaging epithelial cells, which leads directly and indirectly to changes in absorption, secretion and motility⁶. The resulting activation causes injury to the cells in the lining of the intestine and leads to apoptosis (a form of cell death). The apoptotic cells appear as darkly pigmented bodies that are taken up by macrophages. When sufficient cells have been damaged, the distinctive pigmentation of the bowel wall develops⁶.

Melanosis coli can be observed during colonoscopy and sigmoidoscopy. Sometimes the diagnosis is made upon histological examination of biopsies taken during endoscopic procedures.

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 discouraged⁹ and long term use cannot be recommended⁶.

CONCLUSION

It is known that long-term use of anthranoid containing laxatives is the cause of melanosis coli. The presence of melanosis coli might signal an increased risk for the development of colorectal cancer which merits resection of the colon at laparotomy. Chronic misuse of such laxatives should be avoided as other safer laxatives are available.

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