CASE REPORT: A 60 year male was referred to our clinic for colonoscopy. He had chronic constipation for last 3 years. He denied history of hematochezia, weight loss, abdominal pain, fever and anorexia. Total colon and terminal ileum was inspected. Colonic mucosa had striking color pattern. Colonic mucosa color varied from dark brown to black (seen in left 2 panels of the photograph). Pattern of color change varied from uniform to various grades of patterned and speckled (seen in the lower right panel). At places the pigment had wavelike pattern (Moiré pattern) (seen in the top right panel). The color change extended from rectal mucosa to caecum. Terminal ileum had normal color. Other than color change, mucosa was normal without any friability, edema, ulcerations, polyps or tumor. Biopsies were taken from right colon, transverse colon, and left colon and sigmoid. Histological examination showed numerous macrophages containing a granular dark pigment in the lamina propria. The pigment stained with periodic acid Schiff (PAS) staining. Apart from pigment laden macrophages mucosa was normal without evidence of inflammation or ulcerations. On enquiry patient accepted frequent intake of herbal laxatives which contained cascara, rhubarb and senna for last one year. He was advised to stop all laxatives containing anthraquinine preparations and constipation managed by bulk laxatives. A repeat colonoscopy at one year showed nearly complete regression of color changes in the colonic mucosa.

REVIEW: Melanosis coli is a brownish or balckish discoloration of the rectal and colonic mucosa caused by the accumulation of pigment in the macrophages in the lamina propria. The entity has been described in the early 19th century and the term melanosis coli was coined by Virchow in 1857 because the pigment
was considered to be melanin. Subsequently the pigment proved to be lipofuscin on histochemical and ultrastructural studies. Thus melanosis coli is a misnomer and some call this entity as *pseudomelanosis coli*. Melanosis coli is nearly always caused by chronic use of anthraquinone laxatives (cascara, sagrada, aloe, senna rhubarb and frangula). Pigmentation occurs in over 70% of persons who use anthraquinone laxatives for over 4 months. The anthraquinone laxatives pass through the gastrointestinal tract unabsorbed until they reach the large intestine, where they are changed into their active forms. The resulting active compounds cause damage to the cells in the lining of the intestine and leads to apoptosis. The apoptotic cells appear as darkly pigmented bodies that may be taken up by scavenger cells known as macrophages. When enough cells have been damaged, the characteristic pigmentation of the bowel wall develops. Melanosis coli is a benign condition and causes no symptoms. However, in severe cases it may reduce bowel function making constipation worse. Early studies suggested that anthraquinone laxatives might have carcinogenic or tumor-promoting activities in humans and that the presence of melanosis coli might signal an increased risk for the development of colorectal cancer. However, more recent follow-up studies have failed to show an association between colon cancer and anthraquinone laxative use or between colon cancer and the finding of melanosis coli. Melanosis coli is detected as an incidental finding on colonoscopy performed to evaluate chronic constipation or sometimes diarrhea caused by laxative use in such patients. The pattern and the degree of pigmentation varies in intensity from patient to patient, and may vary focally within the same patient. The dark color of the intestinal lining may be uniform or patterned, and the discoloration may be slight or very pronounced. The intensity and pattern of the discoloration may even vary among different sites in the colon of a patient. Sometimes the mucosa shows a brownish discoloration in a Moiré pattern. Histologic colonic specimens show numerous macrophages containing a granular dark pigment in the lamina propria. In some cases, the wall of the colon appears normal to the eye, but microscopic evaluation of biopsies by a pathologist reveals areas of pigment in the colon’s lining. The pigment in melanosis coli does not accumulate in polyps or tumors of the large intestine. Melanosis coli causes no long term adverse effects or consequences. The condition is unrelated to Peutz-Jeghers syndrome, which can cause pigmentation of the skin and mucous surfaces with melanin, and polyps in the digestive tract. The disease should be managed by withdrawal of the offending laxatives and substitution by a bulk laxative. The coloration is reversible and colon mucosa color returns to normal once anthraquinone laxatives are withdrawn from therapy.

REFERENCES:


SOURCE: Case report is from case records of Dr Khuroo’s Medical Clinic. Review was prepared by Mehnaaz Sultan Khuroo MD, E-mail: mkhuroo@yahoo.com.