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Dusky Colon - Unexpected Ischemic Colitis after Colonoscopy with Bisacodyl in a Healthy Patient

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1. Abstract

We present an endoscopic image of ischemic colitis that developed in a patient between two colonoscopies 5 weeks apart; while the first demonstrated normal colonic mucosa, the latter demonstrating dusky, friable, and ulcerated mucosa in a "watershed" distribution, consistent with the diagnosis of ischemic colitis secondary of Bisacodyl preparation.

2. Keywords: Colon; Ischemia; Colonoscopy; Coliti

2. Clinical Image

An endoscopic image of colonic mucosa with a nearly-circumferentially along the sigmoid colon (Figure 1A) and hemi-circumferentially near the splenic flexure (Figure 1B) in a 71-year-old woman who was referred for the resection of a sessile polyp. Her medical history is significant for hyperlipidemia. Bowel preparation at index colonoscopy with a divided 3-litre dose of Polyethylene Glycol (PEG) and 10 mg Bisacodyl BID was uneventful. A 3-cm, sigmoid, Paris 0-IIa, granular, lateral spreading lesion was noted and biopsied. Histology revealed a tubular adenoma with low-grade dysplasia. The patient presented 5 weeks later for scheduled Endoscopic Mucosal Resection (EMR). Bowel preparation was identical. On intake, the patient reported lower abdominal pain with passage of bright red stool after the first dose of Bisacodyl. Of note, the polyp was not located. Biopsies of the ischemic segment revealed active inflammation with superficial necrosis, erosion, fibrosis of the lamina propria and cryptal atrophy consistent with ischemic colitis (Figure 1C), strongly suggesting that bisacodyl was the causative agent. Ischemic colitis secondary to laxative use was first described in 1997 by Oh et al. who documented two cases of ischemic colitis following hyperosmotic laxative ingestion as bowel preparation prior to colonoscopy [1]. Bisacodyl has rarely been associated with ischemic colitis [2,3], with the mechanism thought to be multifactorial and related to the stimulating effect of the laxative that leads to increased colonic mobility and intraluminal pressures, decreased intravascular volume and subsequent hypoperfusion. Risk factors for ischemic colitis include advanced age (being the strongest with 90% of patients older than 60 years), hypertension, cardiovascular disease, dyslipidemia, diabetes mellitus, chronic obstructive pulmonary disease, and atrial fibrillation [4,5].

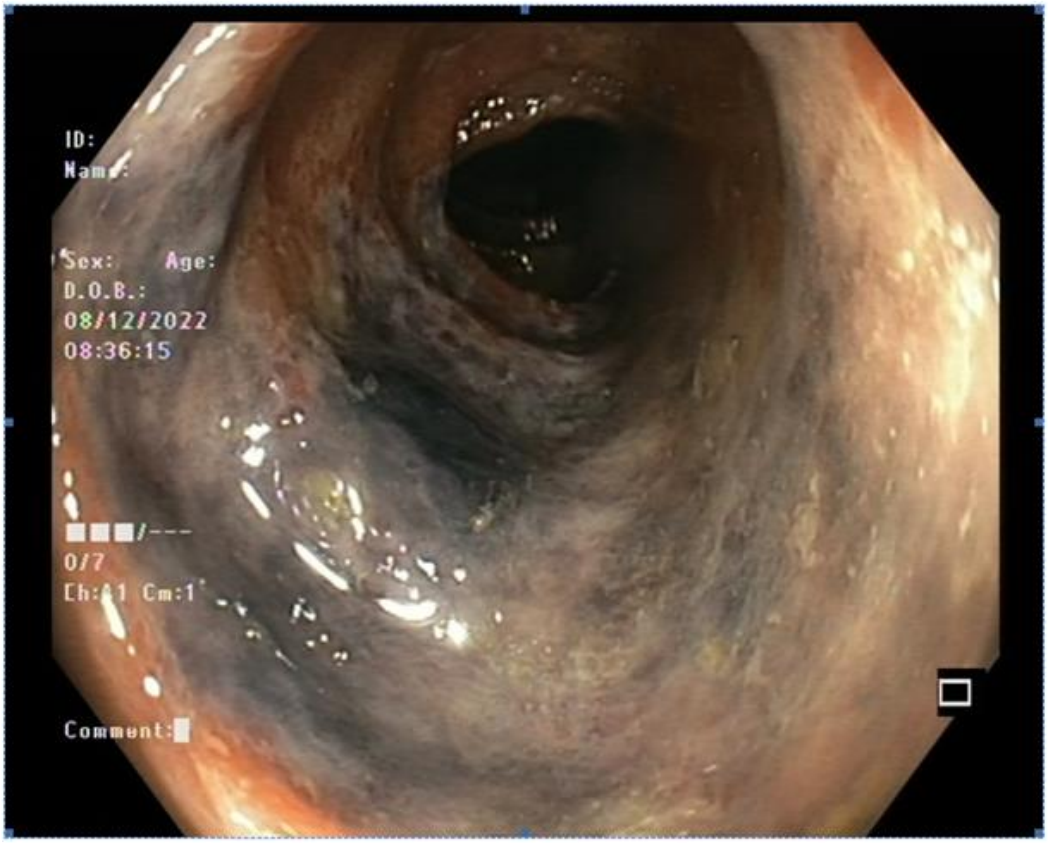

Figure 1A: A nearly-circumferentially ischemic colitis of the Sigmoid colon.

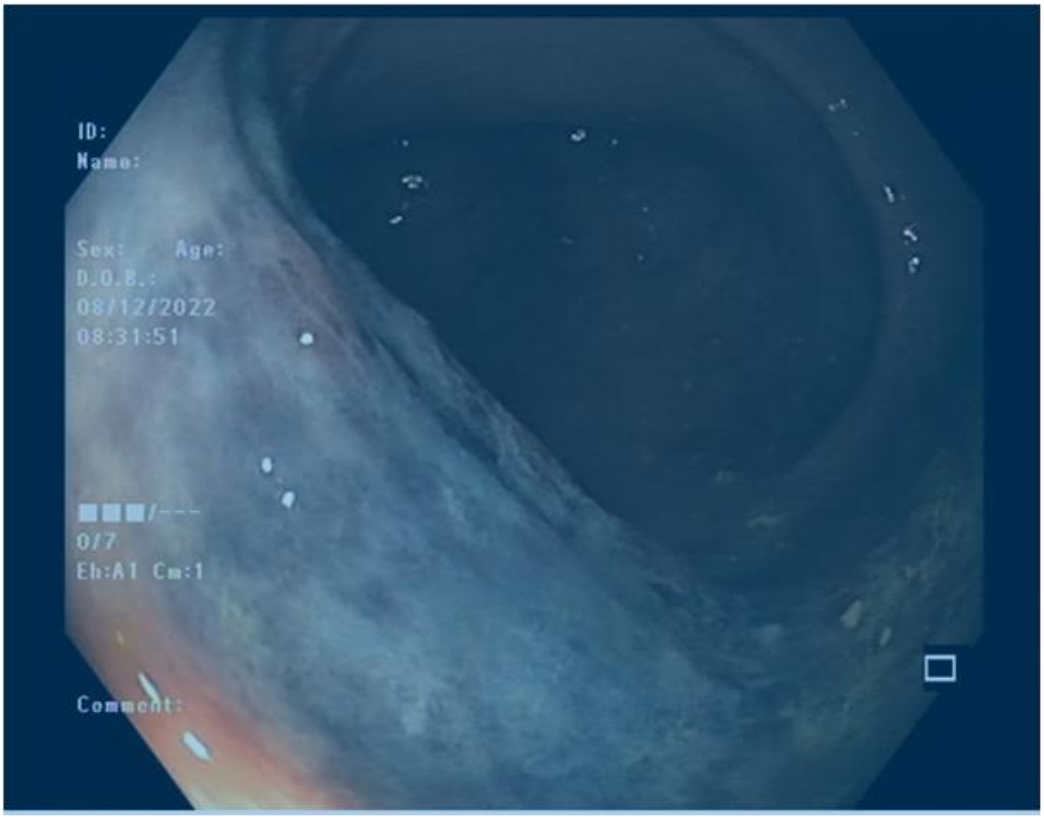

Figure 1B: A Hemi-circumferentially near the splenic flexure.

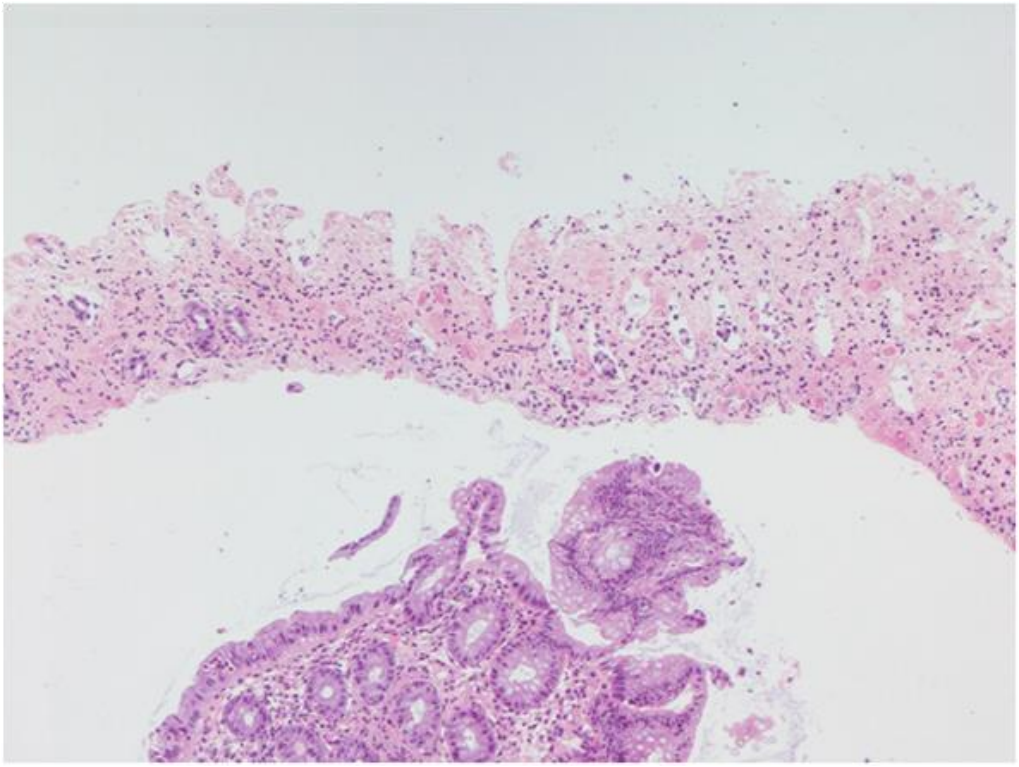

Figure 1C: Fragments of colonic mucosa showing active inflammation. Cryptal architecture is mostly preserved. No architectural distortionץ. Some areas show superficial necrosis, erosion, fibrosis of lamina propria and cryptal atrophy.

The presenting symptoms of ischemic colitis most commonly include rectal bleeding, diarrhea and abdominal pain [6]. When suspected, the diagnosis is confirmed by colonoscopy which helps to confirm the diagnosis and assess the extent of colonic involvement, preferably performed within 48 hours of presentation. Management is usually conservative with intravenous fluids and bowel rest, as the bowel injury is generally self-limiting. Severe cases can be complicated with necrosis and perforation of the colonic wall, potentially leading to hemodynamic instability and necessitating emergent surgical intervention. The need for such intervention is expectedly a poor prognostic marker with an estimated operative mortality of 40% [7].

A large retrospective study in Japan by Kawamura T et al. [8] analyzed all 14,924 outpatients who were prescribed standardized preparation drugs for colonoscopy between November 2011 and March 2020, and revealed that 14 patients were diagnosed with ischemic colitis (0.09%). Another large observational study in USA reported a 0.02% (62/287,323) incidence of ischemic colitis due to colonoscopy preparation [9]. A report of two cases published in 2020 by Shamatutu C et al. [10], and included a literature review of laxative-induced ischemic colitis, concluded that Bisacodyl at current doses in bowel preparation is unlikely to be independently associated with ischemic colitis, but may contribute in at-risk patients.

3. Patient Consent

Patient has given informed consent for publication of images. No identifying information is included.

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