Prolapsing Mucosal Polyps in the Sigmoid Colon: Presenting with Chronic Abdominal Cramping Pain and Colonic Obstruction

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Abstract

Colorectal polypoid lesions are classified as either neoplastic or non-neoplastic, and the differentiation between the two lesions is important for clinical practice, however, this is not easy in some rare cases. Cases of colonic prolapsing mucosal polyps are rare (1-3). They are often, but not always, associated with diverticular disease and present with abdominal pain, obstructive symptoms or bleeding. On colonoscopic examination, the lesions are characterized by multiple polyps or elevated patches with smooth and bright red colored surface. The histological features include: glandular crypt abnormalities, fibromuscular obliteration of the lamina propria, and thickened and splayed muscularis mucosa. We report herein a case of sigmoid colon prolapsing mucosal polyps presenting with acute lower abdominal cramping pain and colonic obstruction who was diagnosed based on colonoscopy and endosonography findings and treated with conservative management.

Key words: polyp, mucosal prolapse, sigmoid colon

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Introduction

Polypoid lesions in the colon are not infrequent findings during colonoscopy. The differential diagnoses for colonic polypoid lesions include neoplastic polyps, inflammatory polyps, hyperplastic polyps, hamartomatous polyps, and submucosal lesions with polyp-like appearance. Among those, cases of colonic prolapsing mucosal polyps are rare (1-3). On colonoscopic examination, surface smoothness devoid of coarse lobulation and irregular nodularity, which are common features in neoplastic or dysplastic lesions, and sharply-contrasted bright red color due to hyperemia or congestion are the characteristic features of prolapsing mucosal polyp. However, the diagnosis is frequently confused with other neoplastic lesions and sometimes leads to unnecessary surgical treatment. Histological examination and endoscopic ultrasonography (EUS) may be helpful in the diagnosis. We report herein a case of sigmoid colon prolapsing mucosal polyps with diverticulosis presenting with acute lower abdominal cramping pain and diagnosed by colonoscopy.

Case Report

A 36-year-old male was admitted because of abdominal cramping pain and difficulty in passing stool even with stool softeners and laxatives for seven days. The patient had a history of alternating irritable bowel symptoms with recent painful and strenuous constipation. Physical examination revealed mild tenderness in the left lower quadrant. Laboratory test showed hemoglobin 12.5 g/dL and 12,000 leukocytes/mm³ with an 80% segment neutrophil fraction. Abdominal computerized tomography (CT) revealed a 5.0 cm segment of bowel wall thickening and diverticular outpouchings at the sigmoid colon (Fig. 1). A colonoscopy was performed for suspicion of diverticulitis, ischemic colitis, or other inflammatory bowel disease; the findings showed multiple polypoid or elevated patchy lesions, 0.5 cm to 1.5 cm

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Figure 1. Abdominal computed tomography (CT). A and B, Segmental wall thickening at the sigmoid colon, 5.0 cm in length, showed layered pattern wall enhancement and multiple diverticular outpouchings.

Figure 2. Colonoscopy. A, Multiple erythematous and elevated mucosal patchy lesions sharply contrasted with surrounding normal appearing mucosa in sigmoid colon. B, Multiple polypoid lesions with smooth and bright red surfaces. C, Small diverticular outpouching at the sigmoid colon.

Discussion

These unique polypoid lesions found in the sigmoid colon, associated with diverticular disease, have recently also been reported in the Western literature (1-3). The pathogenesis of prolapsing mucosal polyps remains unclear. Historically, however, these polyps differ from neoplastic polyps; in size, in sigmoid colon. The surfaces of lesions were smooth, bright red and sharply contrasted with surrounding normal-appearing mucosa. Diverticuli were also identified in the sigmoid and descending colon (Fig. 2). Endoscopic ultrasonography (EUS) showed diffuse wall thickening and mixed hypoechoic patterns throughout the entire colonic wall (Fig. 3). In order to obtain a sufficiently thick specimen, we resected the polypoid lesion using a loop snare in the same fashion as a routine polypectomy. The histology showed mucosal and submucosal hyperplasia, chronic inflammatory cell infiltration, and congested vessels. Trichrome staining demonstrated irregularly radiating muscle fibers from the thickened muscularis mucosa (Fig. 4). Based on these findings, the lesions were diagnosed as prolapsing mucosal polyps. The patient was treated with intravenous hydration and bowel rest, and a fiber-enriched soft diet sequentially; he was discharged with normal bowel frequency, stool consistency and no further abdominal pain.

Figure 3. Endoscopic ultrasonography (EUS) of the sigmoid colon. Diffuse thickening of mucosal and submucosal layers with a mixed hypoechoic pattern.

they more closely resemble those found in the mucosal prolapse syndrome which, including the solitary rectal ulcer syndrome, is characterized by the presence of polypoid or ulcerative lesions in rectum (4). Chronic intermittent ischemia, mechanical chafing stress and mucosal redundancy, resulting from diverticulitis-induced contraction of the muscle
layer, are thought to possibly contribute to the pathogenesis.

In patients with abdominal pain, constipation or diarrhea and bloody stools, an in-depth evaluation of patient history, physical examination and colonoscopic evaluation should be carried out to assess for a variety of colonic diseases as well as prolapsing mucosal polyps.

In most cases, the characteristic colonoscopic features can allow the diagnosis of prolapsing mucosal polyps. The two major macroscopic characteristics of these lesions are surface smoothness devoid of coarse lobulation and irregular nodularity, which are common features in neoplastic or dysplastic lesions, and sharply-contrasted bright red color due to hyperemia or congestion.

Histological examination and endoscopic ultrasonography (EUS) may be helpful. EUS typically shows diffuse colonic wall thickening without structural distortion (5-7) and the mixed hypoechoic patterns as in the present case which were thought to reflect the histologic changes of mild to moderate fibromuscular obliteration and edema in the mucosa and submucosa. Histological examination with sufficient depth of submucosa can confirm the diagnosis of prolapsing mucosal polyps from other potentially malignant lesions such as colitis cystica profunda or neoplasm aberrantly presenting with gland forming epithelium (8-10). Other additional diagnostic studies such as mucosal mucin histochemical analysis have been reported to be useful (1).

The treatment of prolapsing mucosal polyps is fundamentally conservative and aims to alleviate the underlying constipation. Surgical intervention is rarely employed in cases with intractable bleeding or obstruction. It is important to recognize the endoscopic features and natural history of this disorder in order to avoid unnecessary follow-up colonoscopy or surgery.

References