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CASE REPORT | COLON

Colonic Mucosubmucosal Elongated Polyp in the Sigmoid Colon on Surveillance Colonoscopy

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ABSTRACT

Colonic mucosubmucosal elongated polyp (CMSEP) is a newly designated colorectal polyp. It has unique endoscopic features of a worm- or drumstick-shaped appearance. Histologically, it is composed of normal colonic mucosa and expanded submucosa with a prominent vascular component and no significant inflammation. CMSEP is usually detected incidentally on screening colonoscopy or colonoscopy for other causes. Differential diagnoses that need to be considered include mucosal prolapse syndrome, filiform polyposis, hamartomatous polyp, colon leiomyoma, inverted diverticulum, and residual stalk of a pedunculated adenoma. We present a case of CMSEP on surveillance colonoscopy and literature review.

INTRODUCTION

Colonic mucosubmucosal elongated polyp (CMSEP) is a pedunculated and elongated polyp composed of normal colonic mucosa and expanded submucosa with a prominent vascular component and no significant inflammation. Early CMSEPs were reported exclusively in Japan until their observation among Western populations in the last 8 years. Matake et al first described CMSEP in the Japanese literature in 1994 and then published larger case series in the English literature in 1998.[1,2] Alizart et al published the first series in a population of predominantly Western origin in 2011.[3] There have been over 60 cases reported in the English literature, but CMSEP still remains underrecognized by clinicians. Case series have found CMSEP sizes to range from 5 to 240 mm.[4,5] The prevalence of CMSEP was estimated at 0.39%, representing 0.1% of all colorectal polyps.[1,3,4] CMSEP is most commonly located in the large bowel, especially sigmoid and transverse colon, but has also been reported in the small bowel with similar endoscopic features.[3,5,6]

CASE REPORT

A 74-year-old Asian woman with a history of emphysema, hyperlipidemia, Parkinson's disease, and stage 1b lung adenocarcinoma in remission was evaluated for surveillance colonoscopy. Positron emission tomographic computed tomography for cancer staging 1 year prior noted a small hypermetabolic focus in the sigmoid colon, for which correlating colonoscopy with snare polypectomy at the time revealed 2 large (10 and 15 mm) tubulovillous adenomas. The patient reported chronic constipation but denied weight loss, abdominal pain, nausea, vomiting, hematochezia, or melena. Physical examination was unremarkable.

Surveillance colonoscopy identified a 10-mm pedunculated lesion suspicious for prior polyp stalk in the sigmoid colon, which was lifted with epinephrine 1:10,000 solution and then removed with a hot snare, and a 3-mm sessile polyp in the cecum later identified as a tubular adenoma (Figure 1). There was no diverticular disease. The patient did not have any periprocedural or delayed complications.

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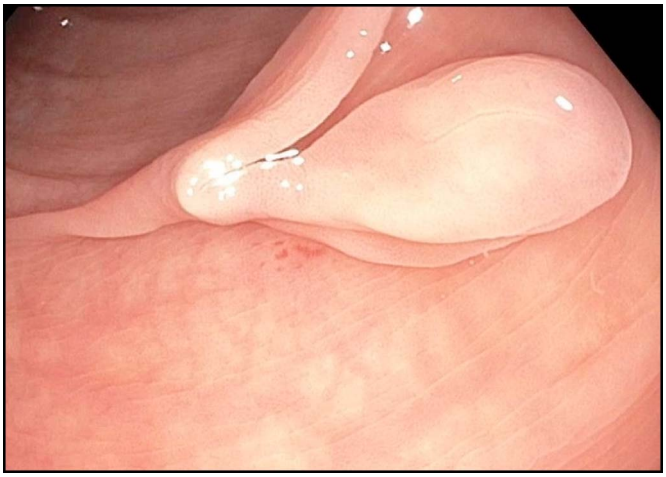

Figure 1. A pedunculated lesion measuring 10 mm in the sigmoid colon before resection.

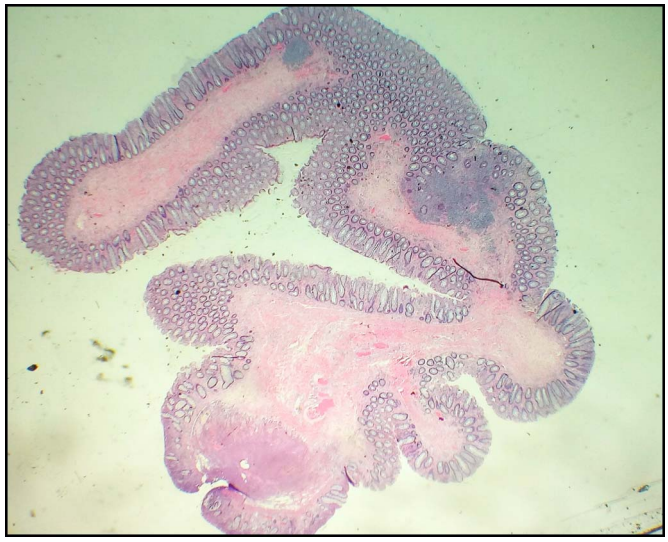

Figure 2. Microscopic view of the pedunculated polyp identified as a colonic mucosubmucosal elongated polyp.

On pathology examination, the villiform polyp from the sigmoid colon was identified as a CMSEP. The polyp was lined by normal-appearing colonic mucosa, and the underlying submucosa contained increased blood vessels and inconspicuous lymphatic channels (detected on immunohistochemistry stain for D2-40), without significant inflammation in the lamina propria (Figure 2). Hemosiderin deposition was absent on hematoxylin and eosin stain. Immunohistochemistry stains for CD31/CD34 confirmed the dual vascularity of both lymphatic and blood vessels within the submucosa. Five-year surveillance colonoscopy was recommended. The presence of CMSEP did not affect the follow-up interval.

DISCUSSION

CMSEP has unique morphologic and histologic characteristics that make it a separate category apart from hyperplastic, inflammatory, neoplastic, or hamartomatous polyps. The polyp we presented had the typical drumstick appearance endoscopically with classic microscopic and histologic features visualized.[1,3] The polyp consisted of normal colonic mucosa overlying submucosa containing increased blood vessels and inconspicuous lymphatic channels. No mucosal inflammation or fibromuscular proliferation characteristic of mucosal prolapse was observed, and there was no hemosiderin deposition that could be seen in a residual stalk from previous polypectomy.

The mechanism of developing CMSEP remains unknown, but it has been postulated that mechanical traction of the surface layers (mucosa and superficial submucosa) during peristalsis in a fragile area of the bowel might be a contribution, and CMSEP formation might be a reactive process that can happen in healthy or diseased colon.[1,3] As this process is not dysplastic, CMSEP should not affect surveillance protocols for colon cancer screening.

Morphologic and histologic assessment with additional clinical information can distinguish CMSEP from a broad variety of differential diagnoses, including mucosal prolapse syndrome, filiform polyposis, hamartomatous polyp, colon leiomyoma, inverted diverticulum, and residual stalk of a pedunculated adenoma. Mucosal prolapse syndrome presents as multiple polypoid lesions with villiform morphology, histologically with prominent inflammatory changes, crypt hyperplasia, and fibromuscular proliferation in the lamina propria.[7] Filiform polyposis is thought to be a reactive process during post-inflammatory repair and has been reported in association with inflammatory bowel disease. The polyps have a clustered, slender appearance and are usually covered by inflamed colonic mucosa with occasional hyperplastic lymphoid follicles.[4,8]

Hamartomatous polyps often have a multilobular appearance and are composed of normal mucosal and submucosal components such as CMSEP. However, these polyps have a distorted architecture characterized by branching frameworks of muscularis mucosae and hyperplastic epithelia, dilated mucous glands, and inflammation in the stroma.[9] Unlike the more common esophageal leiomyomas arising from the muscular layer and thus presenting as subepithelial tumors, colonic leiomyomas arise from the muscularis mucosae and infrequently can present as semipedunculated or pedunculated lesions.[10] An inverted diverticulum often occurs in the background of diverticular disease and histologically appears either normal or with mild chronic inflammation in mucosa and submucosa. Endoscopic resection may result in perforation.[11] The diagnosis of residual stalk of a pedunculated adenoma would be supported by a history of previous polypectomy and procedure-related microscopic changes including granulation tissue or scar and hemosiderin deposition.

CMSEP is usually detected incidentally and can be detected coincidently with other unrelated pathological findings. No correlation with age, sex, previous clinical history, or subjective symptoms has been identified for CMSEP. It has been identified

in patients with inflammatory bowel disease, diverticular disease, colorectal adenoma or adenocarcinoma, and various other gastrointestinal or extra-gastrointestinal comorbidities, and in healthy subjects.[4,12] CMSEP is a benign lesion rarely causing clinical complications, but it has been reported in association with bleeding, intussusception, and, very rarely, cancerous transformation. Tozawa et al described continuous bleeding on the head of a CMSEP causing hematochezia and anemia in a patient with hemophilia inhibitor A.[5] Kim et al reported rectosigmoid intussusception due to multiple large CMSEPs treated with a laparoscopic low anterior resection.[13] Shin et al reported a case of ascending colon CMSEP with an early nonpolypoid type cancer developed at the tip of the polyp.[14] Endoscopic resection is an adequate treatment for CMSEP.

In conclusion, CMSEP still remains underrecognized by many clinicians despite being recently reported in the Western literature. With an increasing rate of colon cancer screening, CMSEP will likely be encountered more frequently by clinicians.

DISCLOSURES

Author contributions: X. Fan wrote the manuscript and is the article guarantor. M. Hershman and I. Weisberg were responsible for critical revision of the manuscript. G. Levi provided pathology report and images.

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