Polypoid angiodysplasia: an unusual cause of lower gastrointestinal bleeding

L’angiodysplasie sous forme de polype : une cause inhabituelle de l’hémorragie gastro-intestinale basse

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Abstract Angiodysplasia is one of the most leading causes of lower gastrointestinal bleeding in elderly patients. Polypoid angiodysplasia is extremely rare; however, in the literature, a few cases have been reported as single polypoid lesion from Eastern countries. The lesions in our case were multiple polypoid, octopus-like, and were associated with diverticula. We managed to remove the polypoid angiodysplasia using snare polypectomy. This is the first reported case of multiple polypoid angiodysplasia associated with diverticula.

Keywords Polypoid angiodysplasia · Lower gastrointestinal bleeding · Diverticula

Introduction

Vascular ectasias frequently causes lower gastrointestinal bleeding in elderly patients. It leads to multiple vascular lesions that are usually located in the cecum and ascending colon. They are obtained with aging by intermittent obstruction of submucosal venous outflow, during muscle contraction and distension of the colon. Although its pathogenesis remains unclear, increased expression of angiogenetic factor and chronic ischemia of microcirculation are supposed to play a role in pathogenesis [1,2].

In the literature, lesions diagnosed as a polypoid angiodysplasia are extremely rare, and most of the cases have been reported as single polypoid lesion of the colon [3–6]. In contrast, the vascular lesions in our case were multiple polypoid, longer, highly vascular, octopus-like, and it was associated with diverticula. We managed to remove the polypoid angiodysplasias using snare polypectomy in three courses, consecutively. To our knowledge, this is the first reported case of multiple polypoid angiodysplasia associated with diverticula outside Southern Asia region.

Case report

A 55-year-old male was admitted to outpatient clinic with a history of painless, intermittent rectal bleeding for 1 year. He had been taking antihypertensive medication. He took no aspirin and other anticoagulation drugs, and has no alcohol history. His family history was unremarkable. Physical examination was normal. Blood pressure was 160/80 mmHg, pulse rate was 78 beats/min, and hemoglobin level was 11.0 g/dL. We performed colonoscopy after informed consent for endoscopy was obtained from the patient. Colonoscopy revealed normal mucosa from rectum to cecum except multiple polypoid, long tubular-shaped, reddish, and some octopus-like lesions at two different segmental locations in the sigmoid colon (Fig. 1a). The length of segments was approximately...
5 cm. Chromomagnifying endoscopy (with Indigo-Carmine) revealed type I pit pattern for this polypoid lesions (Fig. 1b). In addition, multiple diverticula were also seen in the sigmoid colon. Three polyps were removed endoscopically with snare polypectomy without complication. Microscopic examination revealed numerous dilated submucosal, distorted vessels lined by endothelium, and rarely enlarged (Fig. 1c). Verhoeff’s elastic stain showed an internal elastic lamina that confirmed the arterial nature of some of the blood vessels (Fig. 1d). The vessels showed no evidence of thrombus formation, vasculitis, or neoplasia. The surface epithelium was intact without evidence of ulceration or erosion. The morphology of the colonic crypts was not altered, and the congested lamina propria was not significantly inflamed. Histopathologic findings were similar to angiodysplasia. Ten days later, we performed second colonoscopy and found the surface of polypectomy was with clean base. The other polyps were safely removed with polypectomy snare after 1/10000 adrenalin injection on those bases. During 6 months of follow-up, there has been no recurrence of bleeding.

Discussion

Vascular lesions such as angiodysplasia are common and have been recognized as a major cause of recurrent lower intestinal bleeding in the elderly patients. They were diagnosed on the basis of their typical endoscopic appearance and usually treated with endoscopic management such as argon plasma coagulation, heater probe, and adrenalin injection.

Polypoid vascular lesions similar to that of pediculated polyp in appearance are extremely rare in the colon, and all cases were reported from Eastern countries [3–6]. In case of polypoid angiodysplasia, polypoid arteriovenenous malformations (AVM) are also rarely reported [7,8]. Although AVM and angiodysplasia are usually used to be synonym, they have distinctive features. Generally, in AVM there is an increase in the elastic fibers of the vessel walls that are thicker. AVM tend to involve the entire bowel wall, contain large arteries and arterioles. Moreover, it is a congenital lesion and characterized by large complex vascular communication [9]. On the other hand, angiodysplasia has wider vessels with thinner walls and fewer smooth muscle bundles. The lesions cover ectatic thin-walled veins, venules, and capillaries lined by endothelium in the mucosa and submucosa. The muscularis propria is not usually involved. In pathogenesis of angiodysplasia, repeated episodes of transiently elevated pressure during the muscular contractions and distention of the colon over many years ultimately result in dilatation and tortuosity of the vein, venules, and capillaries, which causes small arteriovenous fistula [7]. Although some investigators have proposed that angiodysplasic lesions could develop as a consequence of chronic ischemia of microcirculation in concern of associated diseases, increased angiogenetic factors like vascular endothelial growth factor and fibroblast growth factor are more seen in the pathogenic role of colonic angiodysplasia [2].

The distribution of the polypoid angiodysplasia may be different from typical angiodysplasia. While typical angiodysplasia is commonly located in the cecum and ascending colon, all polypoid angiodysplasias were detected on the left-sided colon except in three cases where they were detected in the hepatic flexura [1,4]. In our case, the lesion was polypoid with ectatic vessels in the submucosa. These vessels were generally thin walled with few smooth muscle bundles. The absence of large and complex vessels was also noted, and there were no connections between the arteries and veins. Furthermore, after proper staining an elastica interna layer was observed albeit without an increase in elastic fibers. All of the above morphological findings led us to a diagnosis of polypoid angiodysplasia. The coexistence of diverticula and angiodysplasia has been found in the colon [10]. However, previous cases did not report the association of polypoid angiodysplasia with diverticular disease. We believe that this may be due to a common etiological factor, high intraluminal pressure in the left colon, polypoid angiody-splasia like our case, or coincidental. Polypoid vascular malformations were treated with endoscopic ablation or surgical removal. Before endoscopic treatment, involving of