Pyogenic Granuloma of the Ileum Diagnosed by Double-balloon Enteroscopy

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Abstract

A pyogenic granuloma (PG) is a capillary hemangioma that usually occurs on the skin or in the oral cavity; it is rarely observed in the gastrointestinal tract. We herein describe a case of an 86-year-old woman who presented with anemia. Esophagogastroduodenoscopy and colonoscopy did not reveal any significant bleeding focus, but capsule endoscopy revealed a bleeding focus in the small intestine. We performed double-balloon enteroscopy and identified a 7-mm-diameter, reddish, subpedunculated, hemispheric polyp with a smooth surface in the small intestine, approximately 100 cm from the ileocecal valve. The polyp was surgically removed, and the histological findings were consistent with a diagnosis of PG.

Key words: pyogenic granuloma, obscure gastrointestinal bleeding, double-balloon enteroscopy


Introduction

The source of obscure gastrointestinal bleeding (OGIB) is frequently located in the small intestine, and capsule endoscopy (CE) and double-balloon endoscopy (DBE) can be used to identify bleeding foci. Pyogenic granuloma (PG) is a common inflammatory vascular tumor that typically affects the skin or oral cavity; it does not often occur in the gastrointestinal tract, and PG is a rare cause of small intestinal OGIB. We herein describe a case of PG diagnosed by CE and DBE.

Case Report

An 86-year-old woman underwent coronary artery bypass grafting for myocardial infarction in 2003 and thereafter took low-dose aspirin. She developed anemia in 2011. Although she stopped taking oral aspirin immediately after the diagnosis, her anemia had not improved after six months. A positive stool occult blood test was indicative of gastrointestinal bleeding, and she was referred to our hospital in April 2012. She had a red blood cell count of $357 \times 10^4$/mm³ and a hemoglobin level of 8.1 g/dL. Neither esophagogastroduodenoscopy (EGD) nor colonoscopy revealed definitive find-
Histological examination of the resected lesion showed capillary and microvessel proliferation with dense inflammatory cell infiltration and granulation tissue in both the mucosa and submucosa. Hematoxylin and Eosin staining, ×20 (left panel), ×100 (right panel).

Discussion

OGIB is defined as gastrointestinal tract bleeding that persists or recurs without any obvious etiology after EGD or colonoscopy. The bleeding source of OGIB is frequently located in the small intestine, and CE and DBE are highly effective in diagnosing the cause of OGIB (1, 2). DBE is a new method that allows the visualization, tissue sampling, and therapeutic intervention of a variety of small intestinal pathologies. PGs are benign granulomas like telangiectasia or lobular capillary hemangiomas. They occur mostly in the skin and are rarely found in the intestine (3-6).

PGs in the gastrointestinal tract are caused by mucous membrane damage due to food, Barrett’s esophagus, or gastroesophageal reflux (7). PGs are found in the oral cavity and colon but are extremely rare in the small intestine. The reason why PG occurs in the intestine is still unknown because only few cases have been reported. The present patient had taken low-dose aspirin for eight years, but she stopped taking aspirin six months after she was diagnosed with anemia. CE revealed erosive changes and bleeding in the small intestine. Although aspirin can induce erosive changes, it is unlikely in this case because the patient had stopped taking it. There are no reports of PG caused or exacerbated by low-dose aspirin. The endoscopic findings of PG are small, reddish lesions with a wide-based stalk and ulcers <3 cm in diameter, some of which bleed (5). The pathological features of PG include inflammatory cell infiltration and capillary proliferation (7). PG originates from the mucosa or submucosa.

Treatment for PG in the small intestine involves endoscopic (2) or surgical resection (3). Nagoya et al. (2) reported that endoscopic resection of PGs in the ileum was conducted with DBE. However, it was difficult to determine whether the vertical margin was positive or negative because vessel proliferation seemed to continue from the submucosal layer. Endoscopic resection of the PG, including the arteriovenous anastomosis under the tumor, is necessary because...
incomplete resection might cause recurrence. Nakaya and colleagues reported that PG was diagnosed by uncontrolled bleeding after biopsy; therefore, whether to perform a biopsy should be carefully considered (8). Endoscopically, the lesion in the present case seemed to reach the submucosal layer, and thus we were able to perform a complete surgical resection.

Identification of a PG as the cause of OGIB is very rare. This report described a case of PG in the small intestine that was detected by CE and DBE.

Author’s disclosure of potential Conflicts of Interest (COI).
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References