Successful Endoscopic Treatment of an Actively Bleeding Jejunal Dieulafoy’s Lesion

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Abstract

Although small bowel endoscopy is commonly performed, cases of ongoing bleeding from small bowel lesions have not been commonly encountered. In the present report, we describe a case of successful endoscopic treatment of an actively bleeding jejunal Dieulafoy’s lesion in a 79-year-old man with persistent anemia and melena. Capsule endoscopy indicated active bleeding in the jejunum. Thereafter, double-balloon endoscopy—performed via the oral approach—showed active bleeding from a jejunal Dieulafoy’s lesion, which was treated using argon plasma coagulation and hemoclips. The melena subsequently resolved, and the patient’s condition improved after the endoscopic treatment.

Key words: small bowel, Dieulafoy’s lesion, ongoing bleeding, capsule endoscopy, double-balloon endoscopy

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Introduction

Due to the advances in small bowel mucosal imaging, including techniques such as capsule endoscopy and double-balloon endoscopy, the rate of diagnosis of small bowel lesions has markedly increased. Obscure gastrointestinal bleeding, which accounts for 5% of all cases of gastrointestinal hemorrhage (1), is a common indication for endoscopic modalities. However, despite the development of small bowel endoscopy, some cases remain difficult to diagnose unless the lesions are actively bleeding during the examination. In particular, Dieulafoy’s lesion in the small bowel is difficult to diagnose and is likely an underdiagnosed cause of obscure gastrointestinal bleeding (2, 3). The small size of the lesion and the associated intermittent hemorrhaging makes it difficult to detect; hence, multiple endoscopies are often required for the diagnosis. In the present report, we describe a case of Dieulafoy’s lesion in the proximal jejunum, with active bleeding, which was diagnosed and treated using double-balloon endoscopy.

Case Report

A 79-year-old man presented to a clinic with exertional breathlessness that had first developed in March 2015. He was hospitalized due to the presence of melena and severe anemia, with a hemoglobin level of 6.5 g/dL. Although upper gastrointestinal tract bleeding was suspected, no obvious source of bleeding could be detected using either esophagogastroduodenoscopy or colonoscopy. After admission, the aspirin and clopidogrel treatment he was receiving for a prior occurrence of angina pectoris was discontinued. Despite daily transfusions and the withdrawal of anticoagulation therapy, his melena and anemia did not improve. Plain computed tomography did not indicate any specific lesion in the abdomen; therefore, he was transferred to our hospital for a small bowel evaluation. Upon arrival, a laboratory examination was conducted to determine his white blood cell count (5,970/μL), red blood cell count (245×10⁴/μL), hemoglobin level (8.3 g/dL), blood urea nitrogen level (25 mg/dL), and creatinine level (1.7 mg/dL).

Capsule endoscopy was initially performed in April 2015,
which provided evidence of jejunal bleeding, but did not indicate any specific lesion (Fig. 1). Total enteroscopy was achieved using capsule endoscopy and confirmed that the bleeding source was confined to the jejunum.

Subsequently, a punctulate lesion with pulsatile bleeding was identified in the proximal jejunum using double-balloon endoscopy via an oral approach. Hemostasis was performed using argon plasma coagulation, and hemoclips were placed to successfully treat Dieulafoy’s lesion (Fig. 2). The patient’s melena and anemia resolved, and his condition improved after this endoscopic treatment. No evidence of rebleeding has been detected within the first 4 months of follow-up, even though the patient’s anticoagulant therapy was resumed after treatment of the Dieulafoy’s lesion.

**Discussion**

To evaluate obscure gastrointestinal bleeding, a small bowel examination using capsule endoscopy and/or double-balloon endoscopy is required; these modalities have comparable abilities for detecting small bowel lesions (4, 5). As in the present case, capsule endoscopy is likely to be initially selected because it causes much less discomfort than double-balloon endoscopy and also allows for a superior examination of the entire small bowel mucosa. The sensitivity and specificity of capsule endoscopy for detecting findings detected using double-balloon endoscopy are 89.3% and 100%, respectively (5). The presence of multiple small bowel vascular lesions appears to be an independent risk factor for episodes of rebleeding after endoscopic treatment, compared with single lesions (6). Therefore, a survey to determine the number of sites responsible for the bleeding is necessary before conducting double-balloon endoscopy. In the present case, we explored the patient’s entire small bowel using capsule endoscopy and confirmed that the bleeding was confined to the jejunum.

The lesion in the present patient was categorized as a Type 2a small bowel vascular lesion according to the Yano-
Yamamoto classification (i.e., Dieulafoy’s lesion) (7). The endoscopic finding of micropulsatile streaming through the surrounding normal mucosa also met the criteria for a gastrointestinal Dieulafoy’s lesion (8). This lesion type consists of an abnormal, submucosal, caliber-persistent artery that typically protrudes through a minute 2-5 mm mucosal defect (9). These lesions are most commonly found in patients with other co-morbidities, including cardiovascular disease, chronic renal disease, hypertension, and diabetes mellitus (9, 10).

Pérez-Cuadrado Robles et al. stated that the detection rate of Dieulafoy’s lesions is significantly higher in emergency double-balloon endoscopy patients than in obscure gastrointestinal bleeding patients who undergo double-balloon endoscopy ≥24 h after symptom onset (40.7% vs. 0.9%) (11). Although Dieulafoy’s lesion can be potentially life-threatening, such results suggest that the difficulty in detecting these lesions, in the absence of bleeding, remains a major problem. Fortunately, we successfully detected the bleeding site, despite the presence of a prolonged period between the presumed onset and our evaluation.

According to Kanth et al., endoscopic therapy results in successful hemostasis in approximately 90% of patients with Dieulafoy’s lesions (12). Furthermore, thermal endoscopic therapy is the most frequently performed treatment, followed by injection and mechanical endoscopic therapy. Rebleeding is rare and particularly uncommon in those treated with combined endoscopic therapy (9, 12). Hence, this is the main reason we treated Dieulafoy’s lesion using both argon plasma coagulation and hemoclip placement. Such advances in endoscopic techniques have reduced the mortality rate in patients with Dieulafoy’s lesions from 80% to 8% (13). However, several studies have identified the use of nonsteroidal anti-inflammatory drugs or anticoagulants as risk factors for rebleeding (14). We successfully performed combined endoscopic therapy and resumed the patient’s anticoagulant therapy immediately after treatment of his Dieulafoy’s lesion. Although evidence of rebleeding was not found during the first 4 post-treatment months, careful monitoring is being continued in an effort to detect potential rebleeding.

In conclusion, we herein reported the case of a patient with a Dieulafoy’s lesion and active bleeding. Consistent follow-up is considered to be necessary after endoscopic treatment for such patients.

The authors state that they have no Conflict of Interest (COI).

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