

CASE REPORT

Actively bleeding Dieulafoy's lesion of the small bowel identified by capsule endoscopy and treated by push enteroscopy

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Abstract

Dieulafoy's lesion is an unusual cause of recurrent GI bleeding. This report describes a case of actively bleeding Dieulafoy's lesion of the small bowel in which the diagnosis was made by capsule endoscopy, followed by treatment with the use of push enteroscopy. The case illustrates that capsule endoscopy and enteroscopy are highly complementary in patients with small bowel diseases.

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Key words: Dieulafoy's lesion; GI hemorrhage; Small bowel; Capsule endoscopy; Push enteroscopy

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INTRODUCTION

Dieulafoy's lesion (DL) is an unusual cause of recurrent gastrointestinal (GI) bleeding^[1-3]. It consists of a large-caliber, tortuous artery, 1-3 mm in diameter, that lies in the submucosa in close contact with the mucosa over a variable distance. Massive bleeding can occur with erosion of the mucosa and arterial wall^[4].

Because of the small size of the lesion and the normal surrounding mucosa, the diagnosis of a Dieulafoy's lesion

can be made with confidence only during active bleeding. A variety of endoscopic modalities have been used, either alone or in combination, with high success rates. This report describes a case of actively bleeding Dieulafoy's lesion of the small bowel in which the diagnosis was made by capsule endoscopy (CE), followed by treatment with the use of push enteroscopy.

CASE REPORT

A 50-year-old man was admitted to our hospital with chief complain of melena. He had a 1-year history of prosthetic heart valves implantation and was taking coumadin. At admission, Hb level was 83 g/L, hematocrit 21.5%, red blood cell count $2.15 \times 10^{12}/L$, a platelet count $249 \times 10^9/L$ and international normalized ratio (INR) 3.35. However, the patient was hemodynamically stable. Esophagogastroduodenoscopy (EGD) and colonoscopy, performed on emergent basis, were negative for a source of bleeding. Hence, capsule endoscopy was performed because it was necessary to rule out other possible sources of bleeding, which revealed a single active bleeding vascular lesion of the small bowel (Figure 1). Peroral push enteroscopy disclosed a single oozing vessel with normal surrounding mucosa and no evidence of ulceration (Figure 2).

A hemostatic clip (Quick-Clip; Olympus Optical Co. Ltd., Tokyo, Japan) was applied to the vessel (Figure 3). The course of the patient after endoscopic treatment was uneventful and the patient was discharged 5 d later. Hemoglobin was 108 g/L on the day of discharge. At 6 mo after the endoscopic treatment, there had been no recurrence of upper GI bleeding.

DISCUSSION

Dieulafoy's lesion accounts for 2% to 5% of all cases of acute GI bleeding, but it can be the cause of recurrent and often potentially life-threatening hemorrhage^[1-4]. Previous descriptions of the Dieulafoy's lesion emphasized a predilection for the proximal stomach. However, it is increasingly apparent that these lesions, although usually gastric, may develop throughout the GI tract (esophagus 2%, jejunum 2%, colon 10%)^[5,6]. A variety of endoscopic modalities, including monopolar and bipolar electrocoagulation, heat probe coagulation, injection sclerotherapy, hemoclip placement, endoscopic band ligation, and laser photocoagulation, have been used, either alone or in combination, with a success rates of 90%-95% and a rate of recurrent bleeding of 5%-10%^[7-16]. Because of the small size of the lesion, the



Figure 1 Capsule endoscopy showing a single active bleeding vascular lesion of the small bowel.



Figure 2 Enteroscopy showing a single oozing vessel with normal surrounding mucosa and no evidence of ulceration.



Figure 3 Application of a hemostatic clip to the vessel.

normal surrounding mucosa and the intermittent nature of the bleeding, endoscopic diagnosis is challenging and may require multiple and combined procedures.

This report describes a case of actively bleeding Dieulafoy's lesion of the small bowel in which the diagnosis was made by capsule endoscopy, followed by treatment with the use of push enteroscopy. Capsule endoscopy is a technically simple procedure that is extremely well tolerated by patients. However, possibility for therapeutic maneuvers cannot be performed with the capsule. By contrast, push enteroscopy is more labor intensive, but it enables various endoscopic therapeutic procedures. Thus, capsule endoscopy is suitable as an initial imaging study for small bowel disorders, whereas enteroscopy is desirable for the confirmation of small-bowel diseases, tissue sampling, and therapeutic applications. The combination of capsule endoscopy and enteroscopy provides a powerful strategy for the diagnosis, as well as treatment of small bowel diseases. As illustrated by the case presented, these procedures are highly complementary.

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