

The role of empiric embolization in diverticular bleeding

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A 90-year-old man presented with painless, fresh rectal bleeding, but was otherwise asymptomatic. Examination was normal except for the fresh blood on rectal examination. He had undergone colonoscopy for a previous episode of bleeding, which had shown only diverticulosis and no treatment had been required. His colonoscopy on admission showed diverticulosis without active bleeding. After a recurrence of his bleeding, he underwent small-intestinal enteroscopy, which was negative, but a further colonoscopy revealed two bleeding sigmoid diverticula and five endoclips were placed (● Fig. 1). This initially secured hemostasis but he had another recurrence 2 days later. This time he underwent a ^{99m}Tc -labeled red cell scan, which was also negative. The patient refused to undergo a colectomy but subsequently had another episode of bleeding. On this occasion arteriography was unsuccessful despite positive red blood cell scanning. The patient still refused surgery but did agree to undergo empirical embolization of the artery supplying the general region in which the endoclips had been placed. Following this procedure, the patient had an uneventful course and, to date, he has had no further episodes of bleeding. The annual incidence of lower gastrointestinal hemorrhage is around 20.5 per 100 000, with the major cause being colonic diverticular bleeding [1]. The incidence of recurrence is 13.8% [2], with the risks being much higher in the elderly [3]. Red

blood cell scanning and arteriography detect active gastrointestinal bleeding when the rates of blood loss are >0.2 mL/min and >0.5 – 1 mL/min, respectively, so will be negative if the rate of bleeding is slow. The diagnostic sensitivity is estimated at approximately 55% for red blood cell scans [4–7]; 77% and 41% for arteriography in cases of massive [8] and any bleeding [9], respectively; 29% for arteriography after provoking an occult bleeding site [10]; and 72% for colonoscopy [11]. Surgical intervention for recurrent diverticular bleeding was almost 97% [3]. Colectomy, the current definitive therapy, is unacceptable for many patients who will not consider having an ileostomy bag or are not suitable candidates for such surgery. Emergency colectomies have a 15% mortality rate [12]. We propose colonoscopy to identify the source and the placement of endoclips, which can also as a marker. Should therapeutic failure of the endoclips occur, empiric embolization of the artery supplying the region can then be performed. While this is not a routine procedure, we have successfully treated one patient in this way and it promises to be a possible solution for patients refusing, or unsuitable for, surgery that would have a drastic effect on their quality of life.

Endoscopy_UCTN_Code_TTT_1AQ_2AZ

Competing interests: None

References

- 1 Longstreth GF. Epidemiology and outcome of patients hospitalized with acute lower GI hemorrhage: a population-based study. *Am J Gastroenterol* 1997; 5: 189
- 2 Poncet G, Heluwaert F, Voirin D et al. Natural history of acute colonic diverticular bleeding: a prospective study in 133 consecutive patients. *Aliment Pharmacol Ther* 2010; 32: 466–471
- 3 Aytac E, Stocchi L, Gorgun E et al. Risk of recurrence and long-term outcomes after colonic diverticular bleeding. *Int J Colorectal Dis* 2014; 29: 373–378
- 4 Olds GD, Cooper GS, Chak A et al. The yield of bleeding scans in acute lower gastrointestinal hemorrhage. *J Clin Gastroenterol* 2005; 39: 273–277
- 5 Tabibian JH, Wong Kee Song LM, Enders FB et al. Technetium-labeled erythrocyte scintigraphy in acute gastrointestinal bleeding. *Int J Colorectal Dis* 2013; 28: 1099–1105
- 6 Howarth DM, Tang K, Lees W. The clinical utility of nuclear medicine imaging for the detection of occult gastrointestinal haemorrhage. *Nucl Med Commun* 2002; 23: 591–594
- 7 Bentley DE, Richardson JD. The role of tagged red blood cell imaging in the localization of gastrointestinal bleeding. *Arch Surg* 1991; 126: 821–824
- 8 Browder W, Cerise EJ, Litwin MS. Impact of emergency angiography in massive lower gastrointestinal bleeding. *Ann Surg* 1986; 204: 530–536
- 9 Colacchio TA, Forde KA, Patsos TJ et al. Impact of modern diagnostic methods on the management of active rectal bleeding. Ten year experience. *Am J Surg* 1982; 143: 607–610
- 10 Bloomfield RS, Smith TP, Schneider AM et al. Provocative angiography in patients with gastrointestinal hemorrhage of obscure origin. *Am J Gastroenterol* 2000; 95: 2807–2812

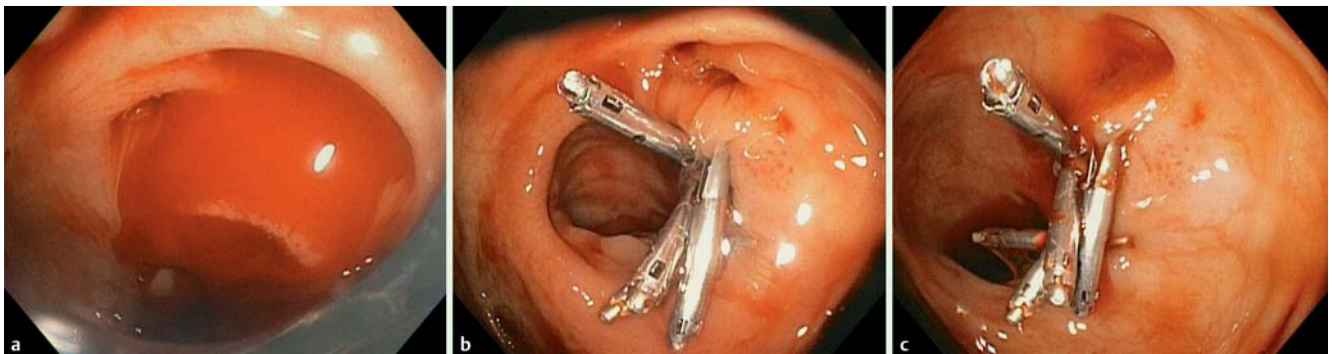


Fig. 1 Endoscopic image showing: **a** an actively bleeding diverticulum in the sigmoid colon; **b** three endoclips positioned on the diverticulum, but evidence of ongoing bleeding at a slow rate from a second diverticulum; **c** two further endoclips positioned at the second site, which secured complete hemostasis.

- 11 *Caos A, Benner KG, Manier J et al.* Colonoscopy after Golytely preparation in acute rectal bleeding. *J Clin Gastroenterol* 1986; 8: 46–49
- 12 *McGillicuddy EA, Schuster KM, Davis KA et al.* Factors predicting morbidity and mortality in emergency colorectal procedures in elderly patients. *Arch Surg* 2009; 144: 1157–1162

Bibliography

DOI <http://dx.doi.org/10.1055/s-0034-1391829>
Endoscopy 2015; 47: E219–E220
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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