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.

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Competing interests: None

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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.

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