Embolization of a GI Bleed

BY TREVOR CLEVELAND, MD, SHEFFIELD VASCULAR INSTITUTE

OVERVIEW

A 94-year-old woman presented to the accident and emergency department in the early hours of the morning (approximately 2:00 AM) with rectal bleeding.

When she arrived to the hospital, she was hemodynamically stable but had further rectal bleeding. After initial assessment, she was referred to the acute medicine team who organized for her to have an emergency upper gastrointestinal (GI) endoscopy. Clinically, it was most likely that the bleeding source was in the lower GI tract, but an upper GI source needed to be excluded at an early stage. Proctoscopy was obscured by the blood in the rectum.

The upper GI endoscopy was normal, with no evidence of blood as far as the second part of her duodenum.

Despite the administered clear fluids and blood, her hemoglobin, which was 11 g/dL on admission, had fallen to 8 g/dL.

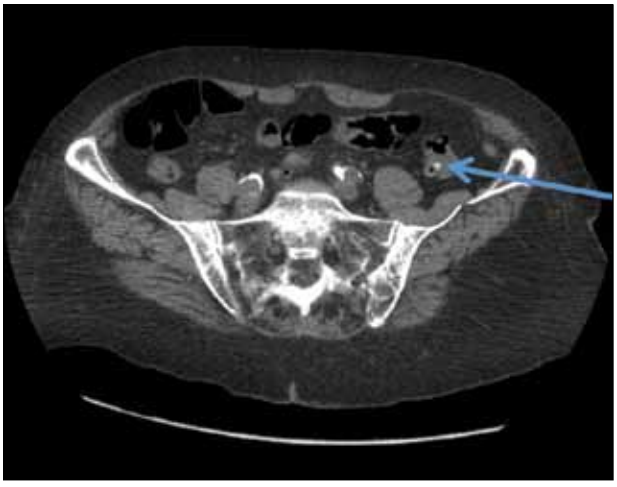

Figure 1. Calcification in the diverticular disease, which simulates contrast extravasation.

PROCEDURE DESCRIPTION

At 7:30 AM, the interventional radiology team (radiologist, radiographer, and nurse) was contacted to consider trying to find the bleeding source and treat it with embolization. A triple-phase (plain, arterial, and venous) computed tomography (CT) scan was immediately organized.

The unenhanced CT showed diverticular disease of the colon, with calcification associated with multiple diverticula (Figure 1); this can look like contrast extravasation. After injection of contrast, the arterial phase scan showed active bleeding in the sigmoid colon, with contrast in the lumen (Figure 2). The delayed scan showed further contrast spreading from the bleeding point (Figure 3).

After speaking with the patient in the CT scanning room, we transferred her directly to the interventional radiology suite, where she underwent selective angiography of the inferior mesenteric artery (IMA). She had significant atheroma in her aorta and at the origin of the IMA (which was seen on the CT). As a result, despite great care, there was a mild, non–flow-limiting dissection

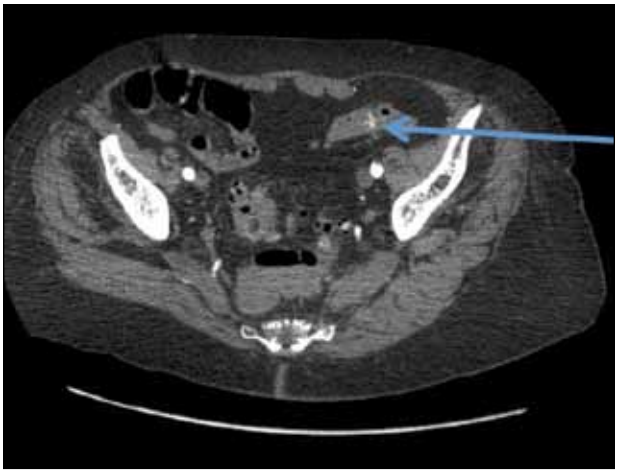

Figure 2. Contrast extravasation in the sigmoid colon.

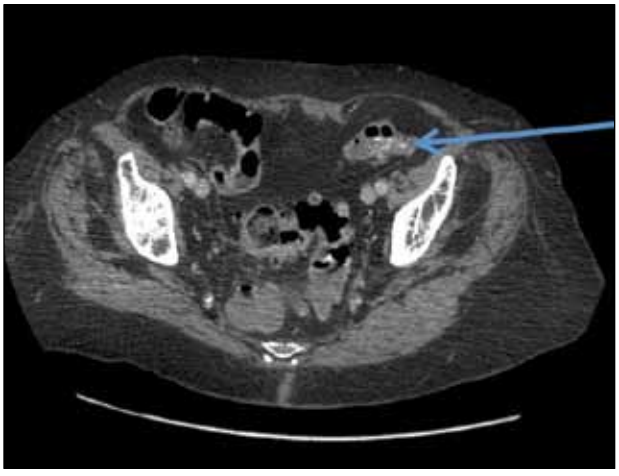

Figure 3. Contrast spreading from the bleeding point on the delayed scan.

Figure 4. Dissection of the origin of the IMA.

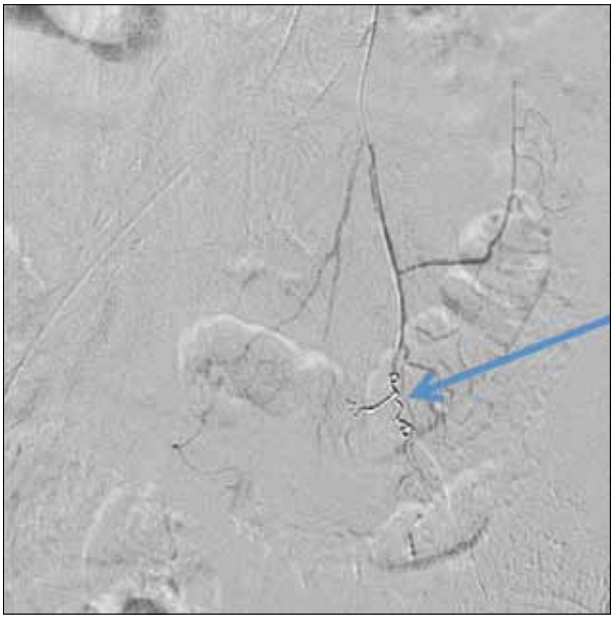

Figure 6. Bleeding stopped after placement of two Interlock™ Coils.

of the IMA (Figure 4). However, it did prove possible to selectively catheterize the IMA with a microcatheter, and the bleeding point was identified (Figure 5). Using the microcatheter, Interlock™ Coils were used to selectively embolize the bleeding point (Figure 6), and the bleeding was stopped.

DISCUSSION

The use of emergency three-phase CT can identify bleeding if it is active. A precontrast CT avoids some false-positive scans. The CT scan will direct angiographic

Figure 5. Active bleeding on the angiogram.

imaging, and there should be minimal delay between the positive CT and angiography. Elderly patients have arteries prone to catheter and wire damage. Embolization is a quick and effective treatment for lower GI bleeding. ■

Trevor Cleveland, MD, is Consultant Vascular Radiologist at the Sheffield Vascular Institute in Sheffield, England. He has disclosed that he has no financial interests related to this article.