AMSER Case of the Month
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83-year-old female with hematochezia

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Patient Presentation

- Patient is an 83-year-old female with PMHx of HTN, CAD, hypothyroidism, colonic diverticulosis and mechanical aortic valve on Coumadin, who presented to the ED from a nursing home with hematochezia.

- She reported large volume bright-red, clotted blood in her stool accompanied by abdominal pain. Patient denied chest pain, fever, chills, shortness of breath, fatigue, weakness and lightheadedness.

- Patient was scheduled for outpatient EGD and colonoscopy and had held Coumadin for 5 days prior to presentation to ED.

- Patient was hemodynamically stable and in no acute distress.

- Physical exam revealed LLQ tenderness to palpation, and maroon, tarry stool without hemorrhoids or palpable masses on DRE. Vitals were as follows: BP 174/68, pulse 80, RR 31, SpO₂ 93%.
Pertinent Labs

• CBC ordered upon patient presentation to the ED.

• Patient’s baseline hemoglobin is 13.3 g/dL. Down trending hemoglobin noted on admission likely attributable to the GI bleeding.

**CBC**

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<table>
<thead>
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<tbody>
<tr>
<td>WBC</td>
<td>5.69</td>
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<tr>
<td>RBC</td>
<td>4.47</td>
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<tr>
<td>Hemoglobin</td>
<td>12.6</td>
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<tr>
<td>Hematocrit</td>
<td>39.5</td>
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<tr>
<td>MCV</td>
<td>88.4</td>
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<tr>
<td>MCH</td>
<td>28.2</td>
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<tr>
<td>MCHC</td>
<td>31.9</td>
</tr>
<tr>
<td>RDW</td>
<td>15.2</td>
</tr>
<tr>
<td>Platelet Count</td>
<td>224</td>
</tr>
<tr>
<td>MPV</td>
<td>10.0</td>
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What Imaging Should We Order?

CT Angiogram Abdomen & Pelvis
American College of Radiology
ACR Appropriateness Criteria®
Radiologic Management of Lower Gastrointestinal Tract Bleeding

**Variant 1:** Lower gastrointestinal tract bleeding. Active bleeding clinically observed as hematochezia or melena in a hemodynamically stable patient. Next step.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
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<tbody>
<tr>
<td>CTA abdomen and pelvis without and with IV contrast</td>
<td>Usually Appropriate</td>
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<tr>
<td>Diagnostic/therapeutic colonoscopy</td>
<td>Usually Appropriate</td>
</tr>
<tr>
<td>RBC scan abdomen and pelvis</td>
<td>Usually Appropriate</td>
</tr>
<tr>
<td>Transcatheter arteriography/embolization</td>
<td>May Be Appropriate</td>
</tr>
<tr>
<td>MRA abdomen and pelvis without and with IV contrast</td>
<td>Usually Not Appropriate</td>
</tr>
<tr>
<td>Surgery</td>
<td>Usually Not Appropriate</td>
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</tbody>
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This imaging modality was ordered by the ER physician.
Findings (unlabeled)

Non contrast  Arterial Phase  Venous Phase  Coronal - Arterial Phase
Findings: (labeled)

Bleeding not visible on non-contrast study in absence of intravenous contrast. Focal intraluminal contrast extravasation is identified within a diverticulum during arterial phase imaging which pools during venous phase imaging, consistent with active arterial bleeding.
Final Dx:

Lower GI Bleed Involving Sigmoid Diverticula
Case Discussion

- Interventional Radiology was consulted for a visceral angiogram with selective angiography and embolization of the bleeding vessel.
- Access was gained via the right femoral artery using a micropuncture system.
- Using a 4 French Omniflush catheter, an abdominal aortogram was performed, demonstrating normal patency and branching pattern of the visceral arteries.
Case Discussion (cont.)

Arterial Extravasation

Extravasation into Diverticula
Case Discussion (cont.)

• Selective catheterization of the inferior mesenteric artery and subsequent angiography demonstrated contrast extravasation originating in sigmoid branches of the left colic artery.

• After identifying this focal extravasation, embolization of the area was performed using Hilal and Concerto coils across the feeding branches.
Case Discussion (cont.)

• Post-embolization angiogram demonstrated resolution of contrast extravasation in the area of interest.

• Patient tolerated the procedure well. Her hemoglobin remained stable after the embolization and she did not have recurrence of the GI bleed.

• The patient had stable vital signs for the duration of her hospital stay and was discharged 5 days post-procedure with plans for a follow up colonoscopy.
References:


