Gastroduodenal Artery Pseudoaneurysm: When Endoscopy Is Not the Answer

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Introduction

- Visceral artery aneurysms (VAAs) and pseudoaneurysms (VAPAs) are a rare cause of upper gastrointestinal (GI) bleeding with mortality rates up to 40%
- We present a patient with massive GI bleeding resulting in cardiac arrest secondary to gastroduodenal artery (GDA) pseudoaneurysm

Case Presentation

- 75-year-old woman presented with fatigue and anorexia to outside hospital, followed by abdominal pain and melena nine days after admission
- Past Medical History: hypertension, diabetes mellitus, obstructive sleep apnea
- Medications: denied non-steroidal anti-inflammatory, anti-platelet, and anti-coagulation agent use
- Labs: see Table 1
- Esophagogastroduodenoscopy (EGD) (Hospital Day 9, Outside Hospital): non-bleeding ulcer with visible vessel in the duodenal bulb requiring epinephrine injection and hemoclip placement with hemostasis
- Clinical Course: recurrent melena nineteen days after admission, prompting transfer to our facility
- EGD (Hospital Day19, Outside Hospital): poor visibility due to blood in duodenum

Case Presentation (Cont.)

- EGD (Hospital Day 19, GW): hemi-circumferential ulcer with arterial spurting in the duodenal bulb (Figure 1) requiring epinephrine injection and hemoclip placement with persistent bleeding leading to pulseless electrical activity with resuscitation
- Mesenteric Angiogram: 0.8 x 0.8 centimeter GDA pseudoaneurysm with extravasation into the duodenum (Figure 2) requiring coil embolization with resolution of GI bleed
- Recommendations: pantoprazole 40 mg twice daily, repeat EGD in 8 weeks

Hospital Day	Hemoglobin [g/dL]	Reference Range
0	13.2	12.0-16.0
9	11.8	
19	6.1	

Table 1. Laboratory values

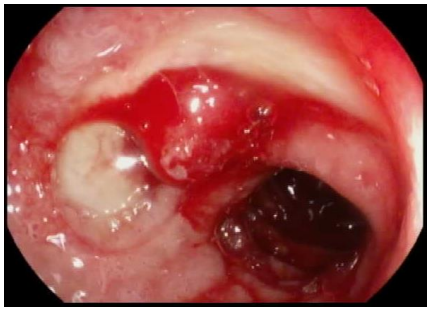

Figure 1. Duodenal ulcer with actively spurting visible vessel.

Discussion

- GDA aneurysms and pseudoaneurysms comprise 1.5% of VAAs and VAPAs
- “True aneurysms” are due to primary vessel wall defects, usually congenital. “Pseudoaneurysms” are due to secondary processes that damage the vessel wall, usually iatrogenic or from trauma, infection, or inflammation.
- Patients can be asymptomatic or present with GI bleed or abdominal pain
- CTA is the most used diagnostic tool; Mesenteric angiography is the “gold standard” diagnostic tool and allows for therapeutic endovascular intervention
- Follow-up imaging is needed after endovascular intervention to evaluate for persistent flow through the aneurysm or pseudoaneurysm sac

Figure 2. Mesenteric angiogram shows GDA pseudoaneurysm with extravasation of contrast (black arrow).