Obscure GI Bleeding

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March 27th, 2014
Case Presentation

• 49M p/w weakness, melena from colostomy

• Ex-lap for GSW 20 years ago

• Transferred from OSH after EGD with blood

• Received 4U pRBC, 1U FFP prior to transfer

• Sent to KCHC for further management
Physical Examination

- T: 99.3 HR: 131 BP: 140/88 RR: 22 O2: 100%
- Chest: CTA b/l
- CV: RRR
- Abd: well-healed incision, clots in ostomy
- Rectal: good rectal tone, mucus
Studies

- CBC: 14.3>5.8/18.2<120
- BMP: 140/4.1/110/22/22/0.97<159
- CT Angiogram of Abd/Pelv: no acute bleed
- Transferred to SICU, transfused blood
- GI consultation obtained
Endoscopy

• Repeat push enteroscopy
  – No bleeding lesions

• Colonoscopy
  – Significant clot

• 4U pRBCs, 2U FFP, 1U Plts transfused
Intraoperative Findings

- Midline laparotomy, adhesiolysis.
- No extraluminal lesions noted
- Enterotomy created, small bowel enteroscopy
- Repeat upper endoscopy
- Small bowel resection at prior anastomosis
- 5U pRBCs, 1U cryo during case
Postoperative Course

- Return to SICU intubated
- Slow downward trend of hematocrit
- POD#3: repeat angiogram: negative
- POD#5: transfused 1U pRBC
- Transferred to floor POD#9
Postoperative Course

• POD#9-10: hematocrit drop to 5.6/18.7
• CT abd/pelv: mesenteric hematoma
• Transfused 2U pRBCs
• No further bleeding over remainder of stay
• Discharged on POD#15.
Pathology

- Segment of small bowel with dilatation, edema, intramural hemorrhage, acute inflammation and serosal adhesions.
- Resection margins are histologically viable.
Questions?
• GI hemorrhage common surgical consult

• Organized approach to patient care
  – Confirm airway, breathing, ensure IV access
  – Establish upper vs lower bleed (lavage)
  – Endoscopy

• What if no source is found?
Obscure GI Bleed

- Obscure occult
- Obscure overt
  - Active
  - Non-active
Small Bowel Bleeding

• Differential diagnosis is vast
  – Angiodysplasias
  – Tumors
  – Diverticulae
  – Hereditary Hemorrhagic telangiectasias
  – Dieulafoy’s lesions
  – Cameron’s lesions
  – Aortoenteric fistulae, etc.

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Considerations for Diagnosis

• Clinical status
  – Is the patient stable?
  – Is the patient bleeding?

• Availability of technology/equipment

• Local expertise
Investigation (the basics)

- EGD/Colonoscopy
- Conventional imaging (enteroclysis)
- Nuclear medicine
- CTA
- Angiography
Newer Armamentarium

- Push enteroscopy*
- Sonde enteroscopy*
- Spiral enteroscopy
- Balloon assisted enteroscopy
- Video assisted capsule enteroscopy
- Provocative angiography
Sonde Enteroscopy
Double Balloon Enteroscopy
Capsule Enteroscopy
Spiral Enteroscopy
Advanced Angiography

- Provocative angiography
- Methylene blue test
Which Modality Is Best?

- Push vs capsule enteroscopy?
  - 30% higher yield with capsule

- Push vs double balloon enteroscopy?
  - Visualize 150 cm more with DBE (230 vs 80 cm)
  - 28% higher yield with DBE

- Capsule vs double balloon enteroscopy?
  - Comparable
When all else fails...

HEY... I SAW SOMETHING JUST LIKE THIS ON TV ONCE!
Indications for IOE

1. Small bowel lesions identified preop
2. Cannot be managed by endoscope/angio
3. Surgery is required for other reasons
4. Cannot be visualized during laparotomy
Conduct of Operation
Cost Effectiveness Analysis

• Multiple studies common

• Future healthcare dollars are limited

• Technology is expensive → which is best?
Summary

- Obscure GI bleed accounts for 5-10%
- Most lesions are found in the small bowel
- Capsule enteroscopy & DBE are best for SB
- Recognize who & what tools are available
- Localize first, blind resections are useless
References


• American Society for Gastrointestinal Endoscopy. The role of endoscopy in the management of obscure GI bleeding. *Gastrointestinal Endoscopy* Vol. 72:3 2010


• Pryor et Al. Gastrointestinal Bleeding: A Practical Approach to Diagnosis and Management *Springer 2010*
An 80-year-old woman comes to the emergency room with a 2-day history of moderate bleeding per rectum and has a bloody bowel movement upon presentation. She is hemodynamically stable, and a nasogastric tube aspirate returns bile and no blood. Which diagnostic test should be performed next?

a. Angiography  
b. Capsule endoscopy  
c. Colonoscopy  
d. Meckel scan  
e. Tagged red blood cell scan
12 year old boy presents with a large amount of bright red blood per rectum, combined with melena. He is hemodynamically stable. Subsequent workup include upper and lower endoscopies, both of which are negative. A technetium-99m pertechnetate nuclear scan is performed and lights up in the bowel and RLQ. Further management consists of:

- Arteriography
- Meckel diverticulectomy
- Small bowel follow-through
- Segmental resection of ileum to include Meckel’s
- CT scan with oral contrast
One year after open AAA repair, a patient presents to the ED vomiting blood. Vital signs are stable. The results of a routine EGD are negative. CT scan shows mild inflammatory changes around the aortic graft. All of the following are true except:

a. Upper endoscopy with pediatric colonoscope may be helpful
b. Arteriography is useful in diagnosis
c. A tagged white blood cell scan can assist in diagnosis
d. Patient should undergo excision of AAA graft and axillary bifemoral bypass
e. In situ placement of homograft is contraindicated