

HEMOBILIA

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CASE PRESENTATION

- 65 yo male BIBEMS s/p ped struck with LOC.
- PMH: Alcohol abuse
- PSH: none
- Meds: none
- ALL: NKDA
- SH: per PMH



CASE PRESENTATION

PE: Vitals 97.7F, 95, 26, 124/59 SaO₂ 100%

GCS 12, occipital scalp hematoma

Lungs clear

Abdomen soft, NT/ND

Pelvis stable

RUE deformity

Labs: CBC: 6.6/8.8/26.9/284

BMP: 136/3/101/13/13/1.2/259

LFTS: 5.9/3.2/552/205/68/0.2

Coags: 11.6/25.2/1.1

ETOH: 276.8

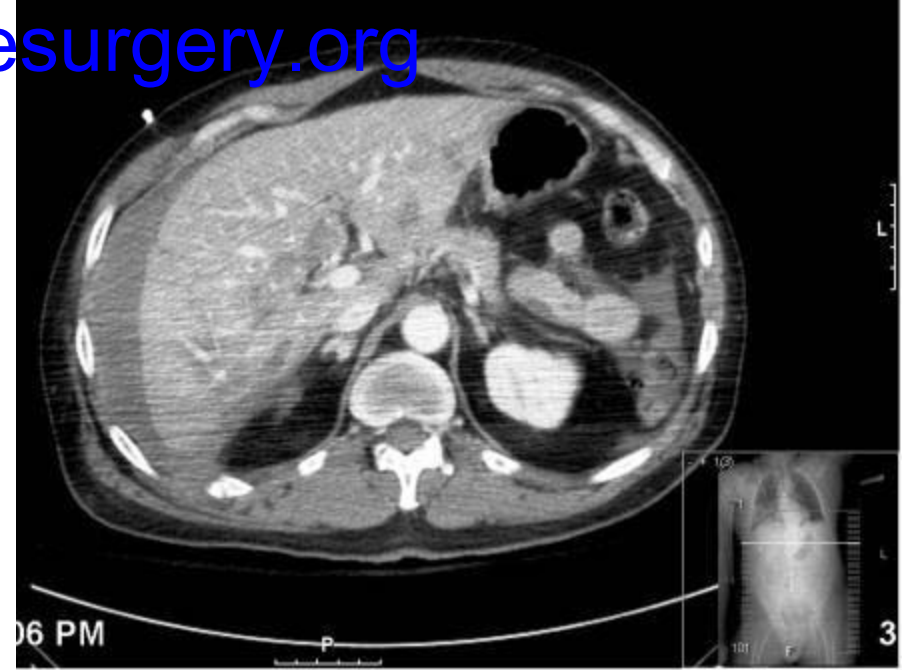


CASE PRESENTATION

Rad:

1. Rt Shoulder XR: midshaft humerus fx
2. CT Head: basal skull fx, SAH/ICH
3. CT C-spine: neg
4. CT Chest: multiple right sided rib fx's w/ RML/RLL pulmonary contusion
5. CT A/P: Grade 4 Liver laceration, no extravasation





CASE PRESENTATION

Hct dropped to 23

- 3U PRBC (Hct 23.3 → 34.9)
- Vitals signs remained stable

Admitted to SICU

- Day 2: Intubated
- Pulmonary and urosepsis. On TPN
- Day 4: IVC filter placed
- Remained HD stable, no transfusions



CASE PRESENTATION

HD 11: Alk Phos 728, T.bili 5.3 (Direct 5.8). WBC 14, Hct 29.

- Melena
 - NGTL neg
- GI c/s
 - **EGD:** diffuse gastritis w/o active bleeding, a visible non-bleeding vessel at the GE junction (clipped). Duodenum visualized to the 4th portion and appeared normal.
 - **Colonoscopy:** diverticulosis, no bleeding



CASE PRESENTATION

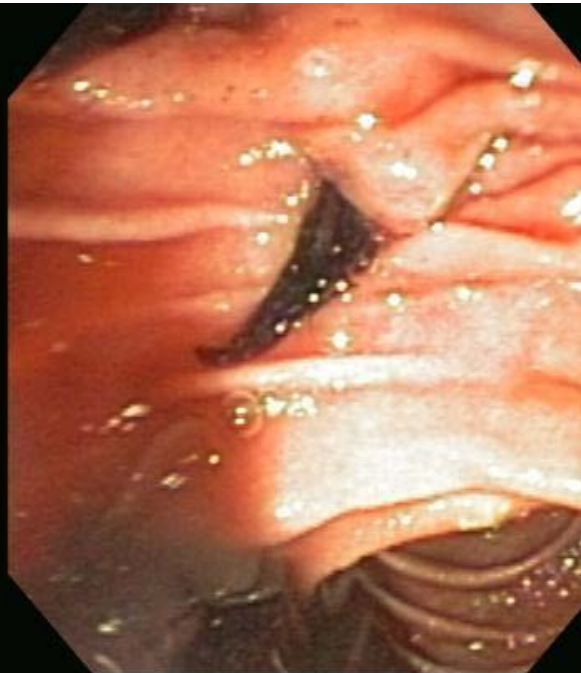
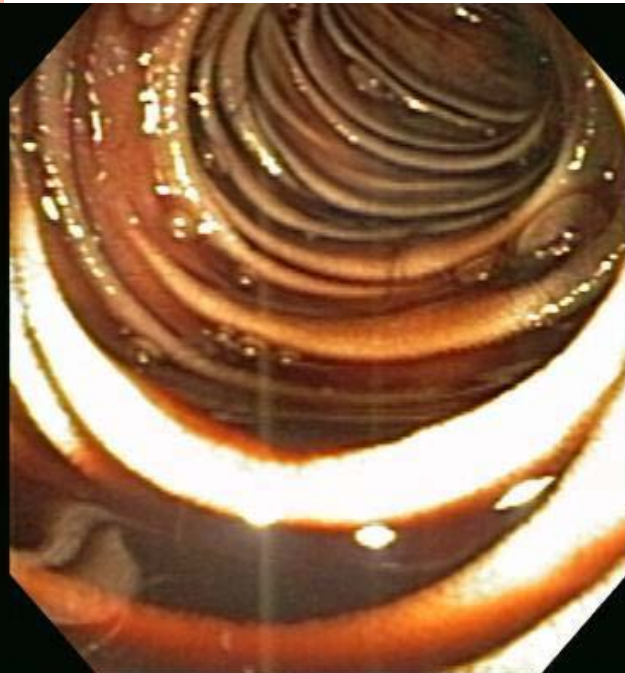
Transfused for Hct 23→31

- remained stable 24 hrs
- started on PPI drip, no anticoagulants

HD 13: Melena and hematemesis

- Blood and fluid resuscitation
- GI called for emergent EGD
 - Blood in the stomach with an area of active bleeding in the body (erosion was injected w/ epi and cauterized). There was blood in the duodenum with a blood clot at the major papilla





CASE PRESENTATION

IR for angiogram

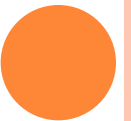
- 2x1 cm pseudoaneurysm from the superior branch of the right hepatic artery within the inferior right liver lobe.
- RHA coiled

Remaining ICU course

- HD 18: Tracheostomy
- HD 29: Tol trach collar, passed S/S → Puree diet
- HD 43: Discharged to NH. (Hct 32.6)
- Did not require additional transfusion



DISCUSSION



HEMOBILIA

- Connection btwn bile ducts and hepatic vasculature
- Px: UGIB or biliary obstruction
- Rare
 - 0.2-3% trauma rel.
- Types
 - Major vs. Minor
- May have delayed presentation
 - up to one yr
 - variable rate and intermittent nature of bleeding
- Mortality as high as 25%



HISTORY

- Described by Glisson (1654)
 - decompression of blood (↑ pressure) into biliary tree (↓ pressure)
- 1777 1st antemortem case described (Portal)
- Quincke (1871)
 - RUQ pain, jaundice, UGIB
- Coined by Sandblom (1948)



HEMOBILIA: ETIOLOGY

- Iatrogenic (65%)
 - Liver biopsy, PTC, PTBD, Instrumentation, Cholecystectomy
- Trauma (5%)
 - Blunt >> Penetrating
- Inflammation (13%)
 - Ascaris spp
 - Gallstones, Acalculous cholecystitis, Polyarteritis nodosa
- Vascular (9%)
 - Coagulopathy, PVH malformations
- Neoplasm (7%)
 - Cholangiocarcinoma, hepatoma, metastasis.
- Other (1%)
 - Pancreatic Pseudocyst



HEMOBILIA: PRESENTATION

Upper GI Bleeding (52%)

- Hematemesis
- Melena

Biliary obstruction

- RUQ pain (73%)
- Jaundice (30%)

- Complete Triad occurs in 22% of cases
- In malignancy, the rate of bleeding is rarely rapid and most present with chronic anemia.

DIAGNOSIS

- **History and Physical exam**

- PMH, h/o trauma, surgery, recent GI procedure
- RUQ pain, jaundice, UGIB

- **Labs**

- anemia, elev. LFT's

- **Tests**

- CT/MRI
 - trauma, AV abnormality
- Endoscopy
 - blood from A.o.V.
 - clots in the biliary tree
- Angiography
 - AV abnormality (aneurysm)

- **Surgery**

- exploration, gastrotomy or lateral duodenotomy, IOC

TREATMENT

- Depends on the cause

(Major)- Cholecystectomy, tumor resection, arterial embolization, liver resection , arterial ligation, etc.

(Minor)- often resolves spontaneously with observation.

- Fluid and blood resuscitation as needed
- Embolization is the gold standard for mgmt



TRANSARTERIAL EMBOLIZATION (TAE)

- Successfully used by Walter, et. al (1976)
- High diagnostic accuracy (80-100%)₁
- Allows selective control of hemorrhage
- Minimally invasive treatment
 - can serve as an alternative to surgery in hemodynamically stable patients _{2,3}
- Lower complication rates ₄
 - Abscess formation (9%)
 - Hepatic necrosis (6%)
 - Rebleeding (6%)
 - Gallbladder fibrosis (2%)

¹Liu, et al World J Gastroenterol (2003)

²Sclafani, *Semin Interv Radiol* (1985)

³Hagiwara, et al. Am J Roentgenol (1997)

⁴Merrell, et al. West J Med (1991)

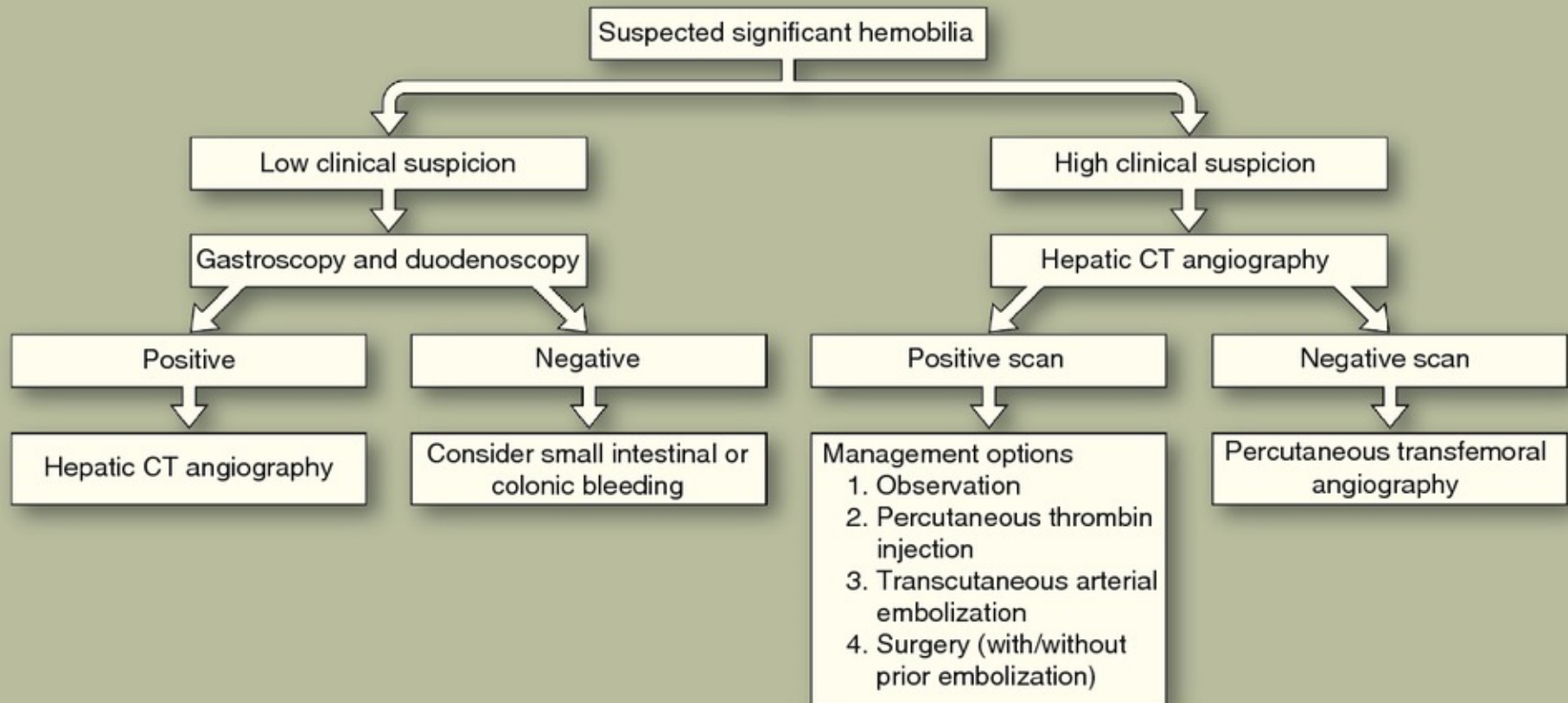
TRANSARTERIAL EMBOLIZATION (TAE)

- Limitations
 - Rate of hemorrhage
 - Intermittent bleeding
 - Hepatic artery abnormalities
- To avoid ischemic insult to the liver, the portal vein must be patent if embolization of the hepatic artery is necessary.
- Transient rise in LFT's normal, resolves in 6 wks (relative ischemia)



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Algorithm



CONCLUSION

- Rare diagnosis/cause of UGIB
- Life threatening → high index of suspicion
- Should be suspected in any patient sustaining abd. trauma or hepatobiliary procedure ,+/- triad.
- Presentation may be delayed
- Aims of treatment: stop bleeding and relieve biliary obstruction.
- TAE is diagnostic and therapeutic, with relatively low complication rates.



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