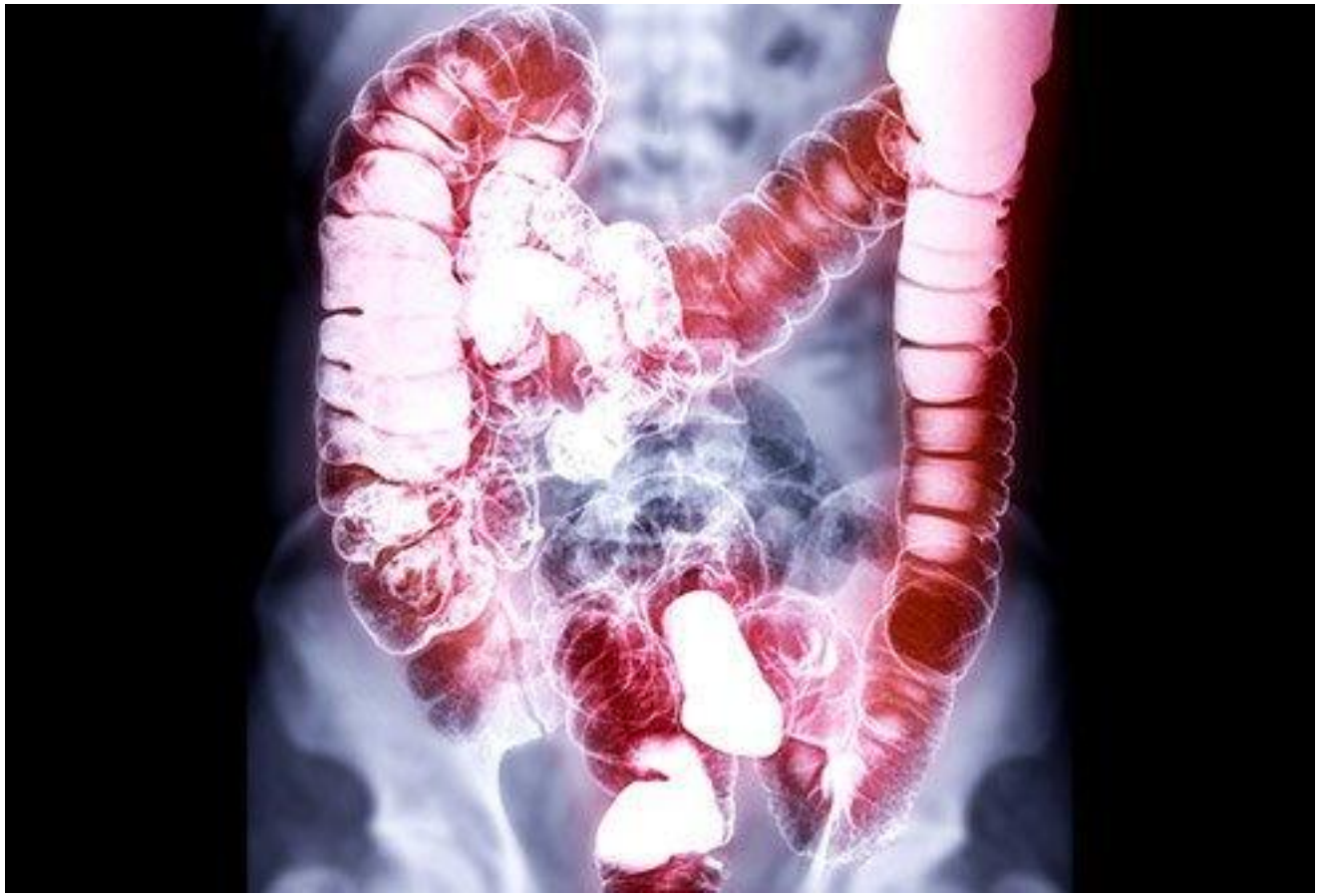

Gastrointestinal Bleeding and Intra-abdominal bleeding

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GI Bleeding

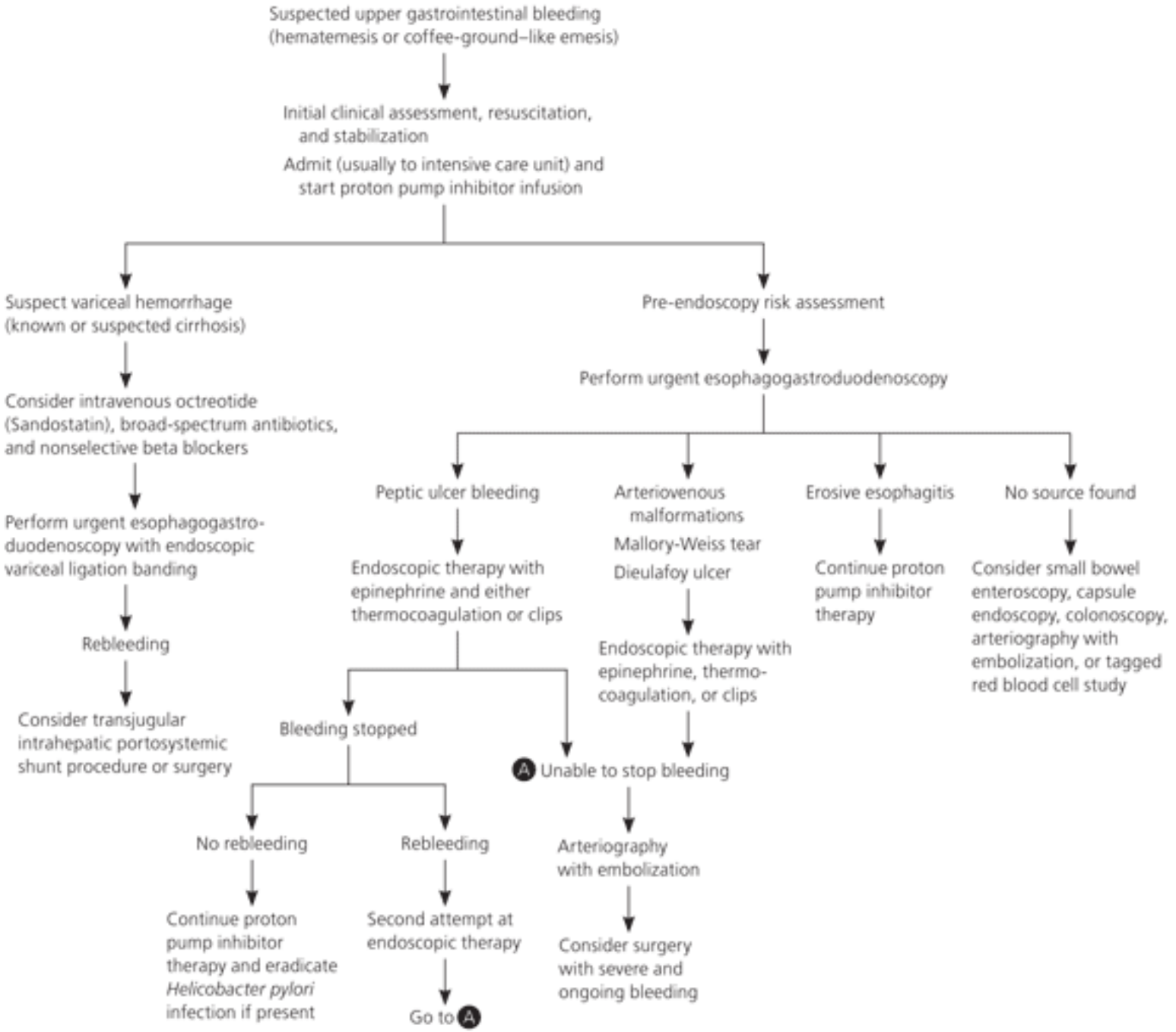
- Common problem
- Can be subtle presenting with anemia
- Can be significant presenting with
  - Coffee Ground Emesis
  - Hematemesis
  - Hematochezia
  - Melena
  - BRBPR

GI Bleeding

- Upper GI Bleed
  - Proximal to ligament of Treitz
- Lower GI Bleed
  - Distal to ligament of Treitz

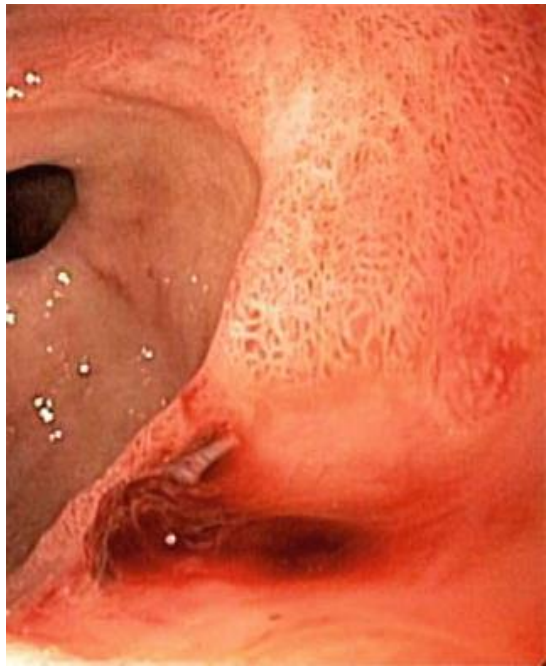
UGI Bleeding

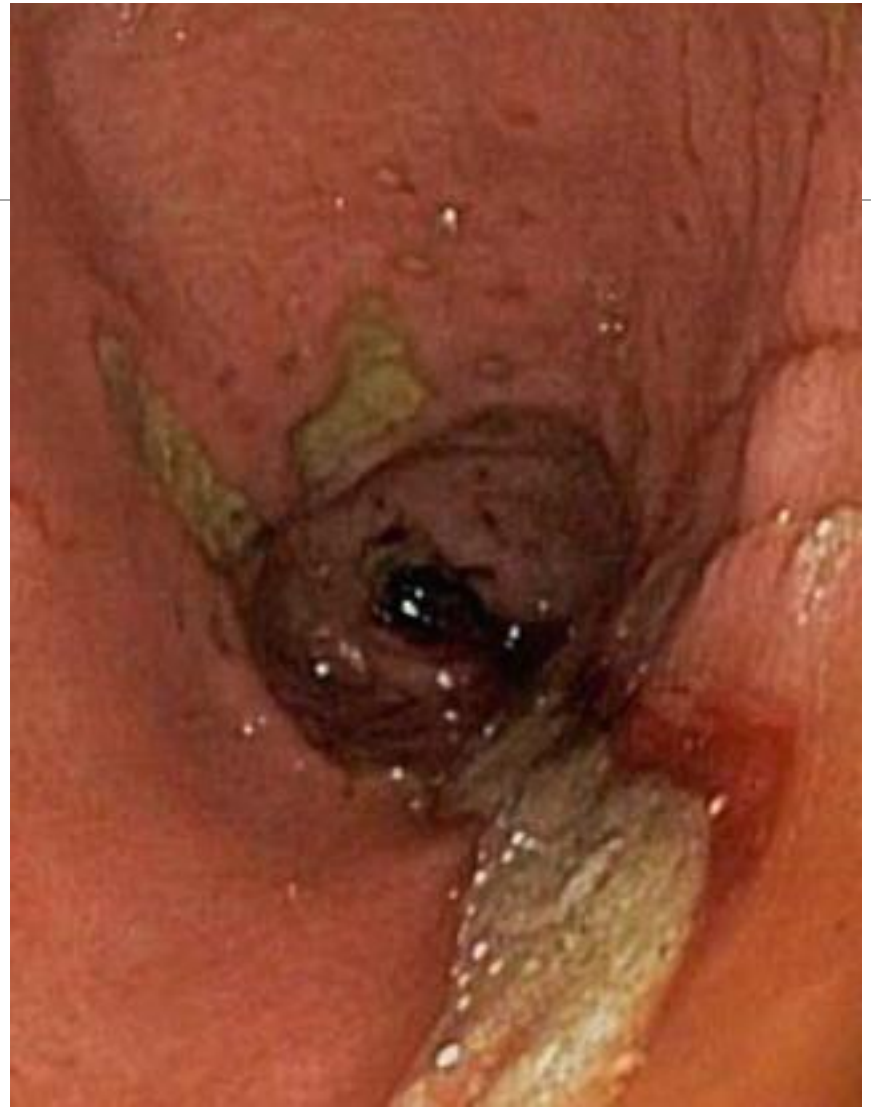
- DDX:
  - Peptic ulcer
  - Esophageal and gastric varices
  - Mallory Weiss tear
  - Dieulafoy lesion
  - Hemobilia
  - Neoplasm
  - Gastritis
  - Aortoduodenal fistulas



PUD

- Ulcer hemorrhage is a leading cause of acute UGIB worldwide
- Etiology of gastric and duodenal ulcers may be related to
  - *Helicobacter pylori* ,
  - nonsteroidal anti-inflammatory agents,
  - stress, and
  - increased acid secretion (e.g ZES)





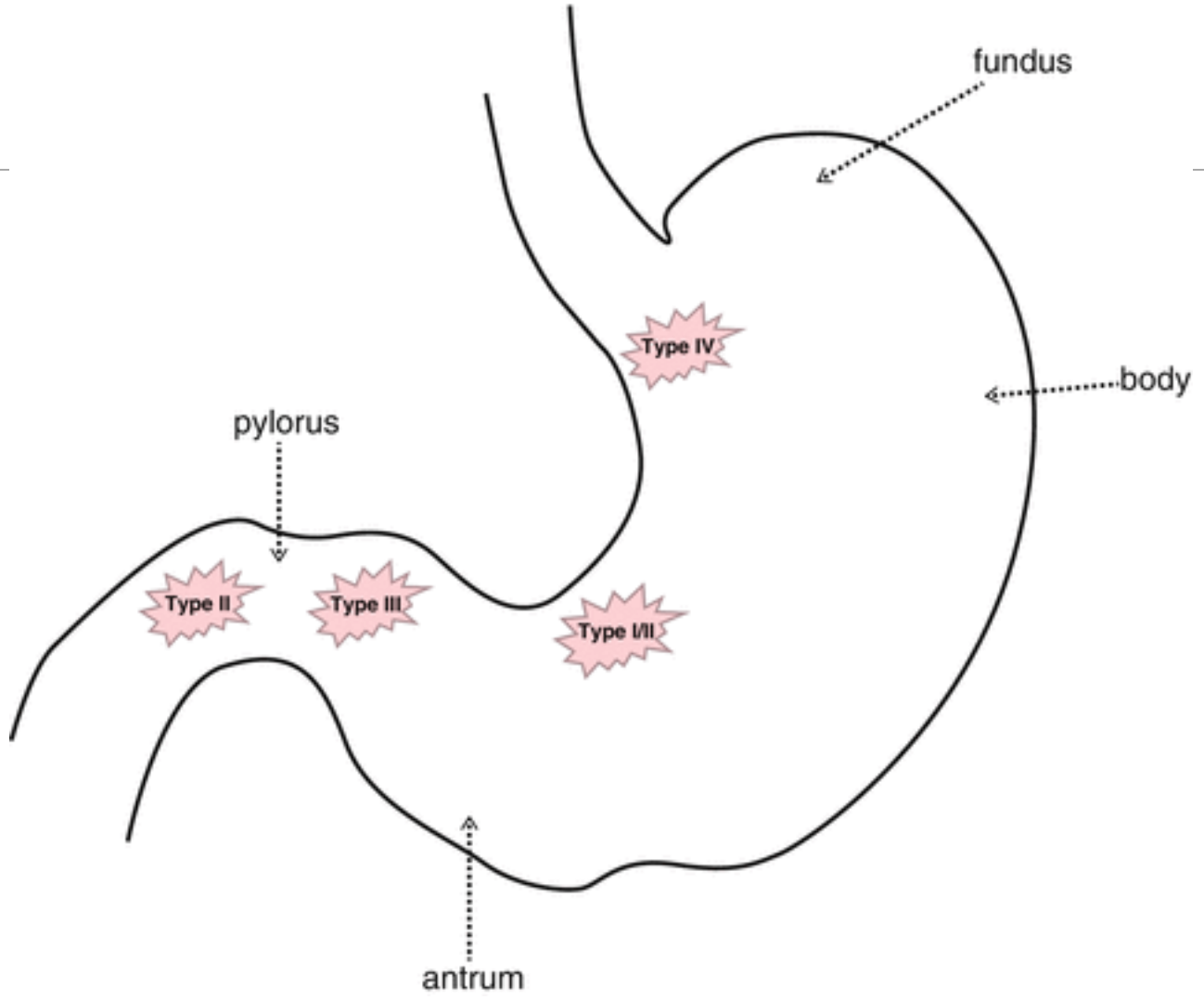

fundus
Type IV
body
pylorus
Type II
Type III
Type I/II
antrum

Table 74-1. The Five Types of Gastric Ulcers by Location, Gastric Acid Secretory Status, Complications, and Incidence

TYPE	LOCATION	ACID HYPERSECRETION	COMPLICATIONS	INCIDENCE
I	Gastric body, lesser curvature	No	Bleeding uncommon	55%
II	Body of stomach + duodenal ulcer	Yes	Bleeding, perforation, obstruction	20%
III	Prepyloric	Yes	Bleeding, perforation	20%
IV	High on lesser curvature	No	Bleeding	<5%
V	Anywhere (medication induced)	No	Bleeding, perforation	<5%

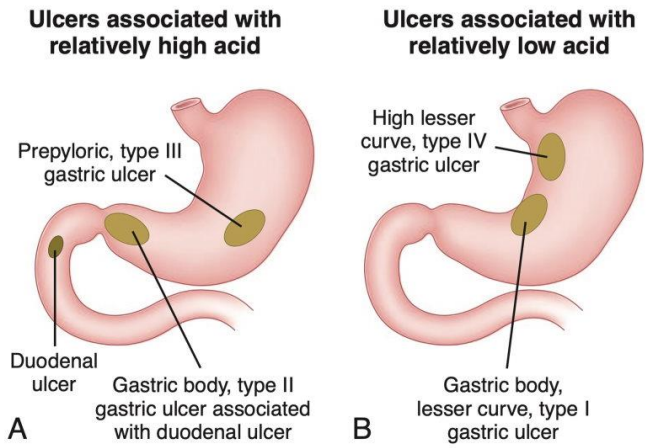
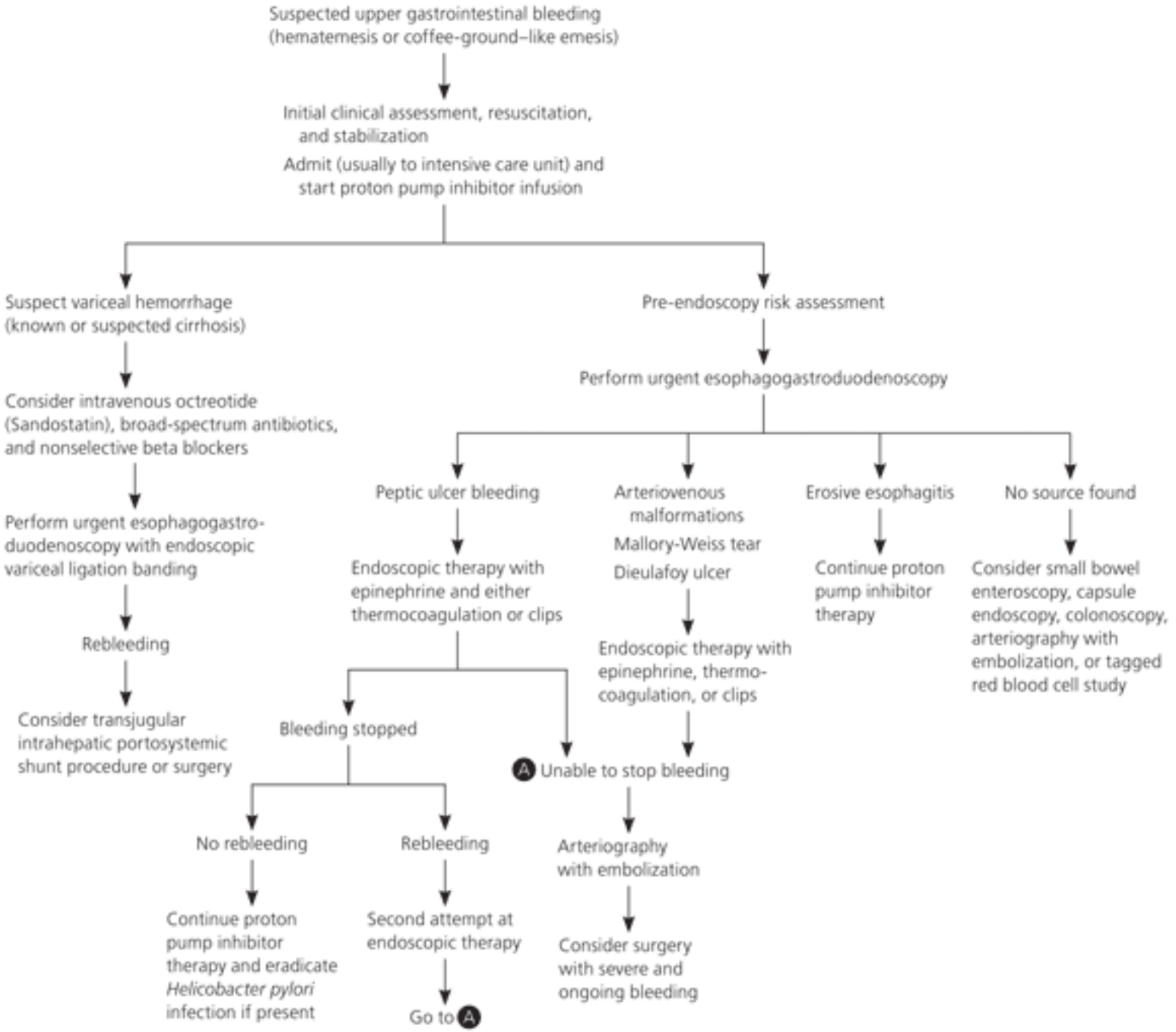
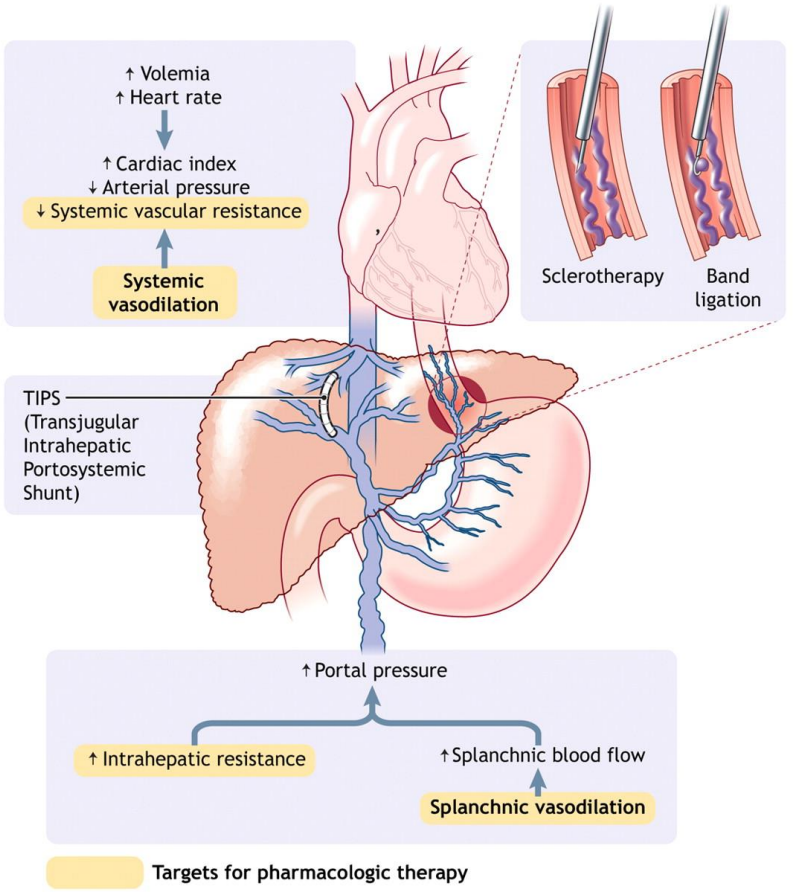


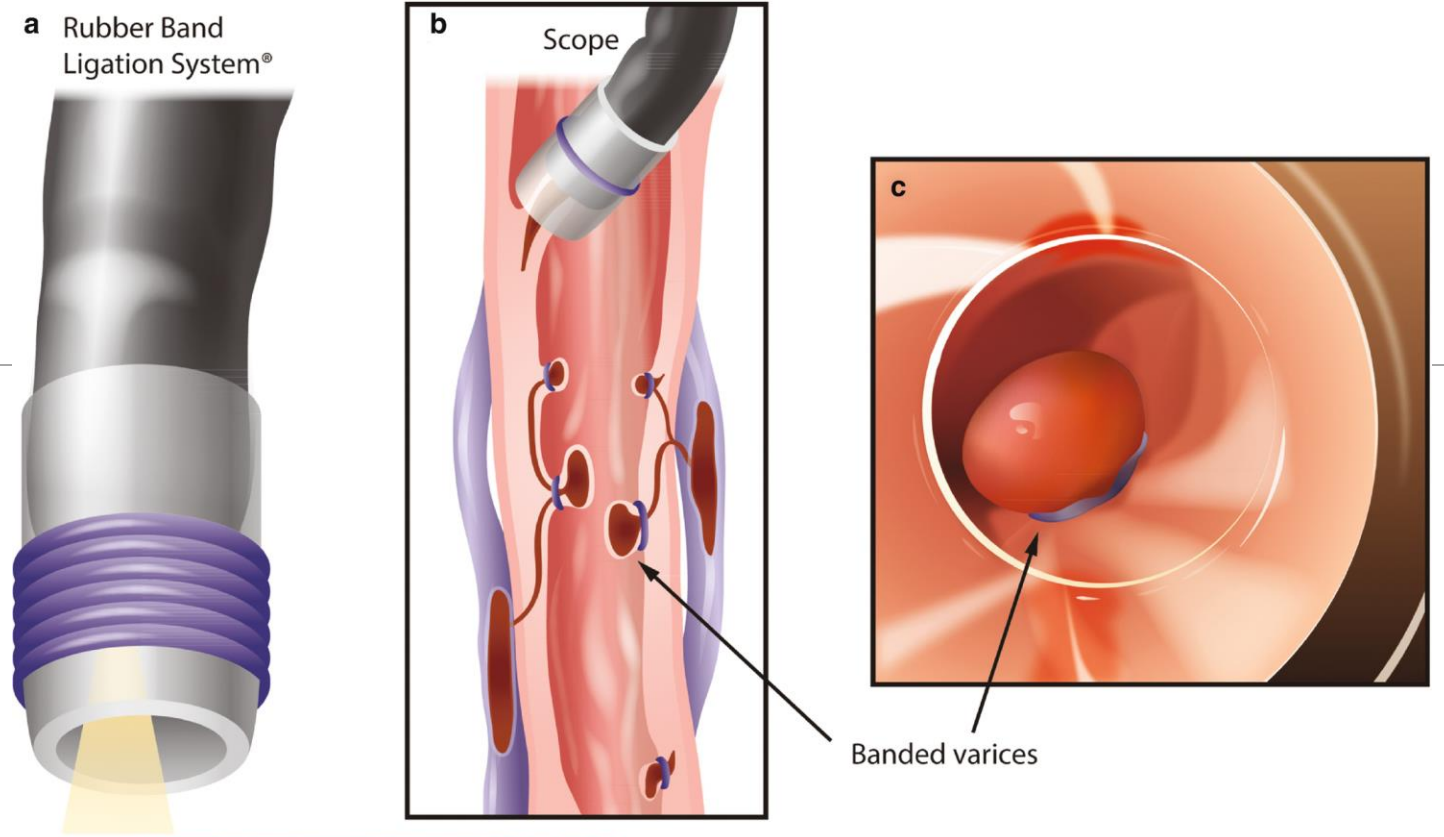
Figure 74-1. The four types of gastric ulcers and their association with either high acid (*A*) or low acid (*B*). (*From Sabiston DC Jr. Textbook of surgery: The biologic basis of modern surgical practice. Philadelphia: WB Saunders; 1997.*)

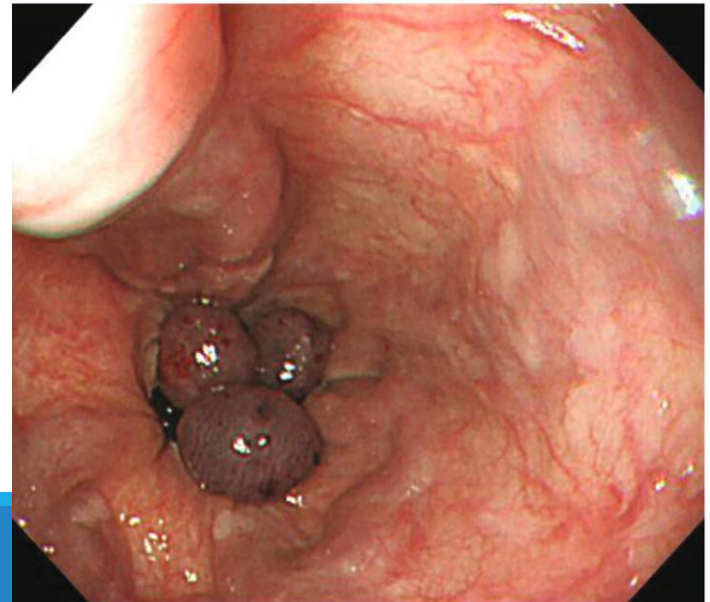


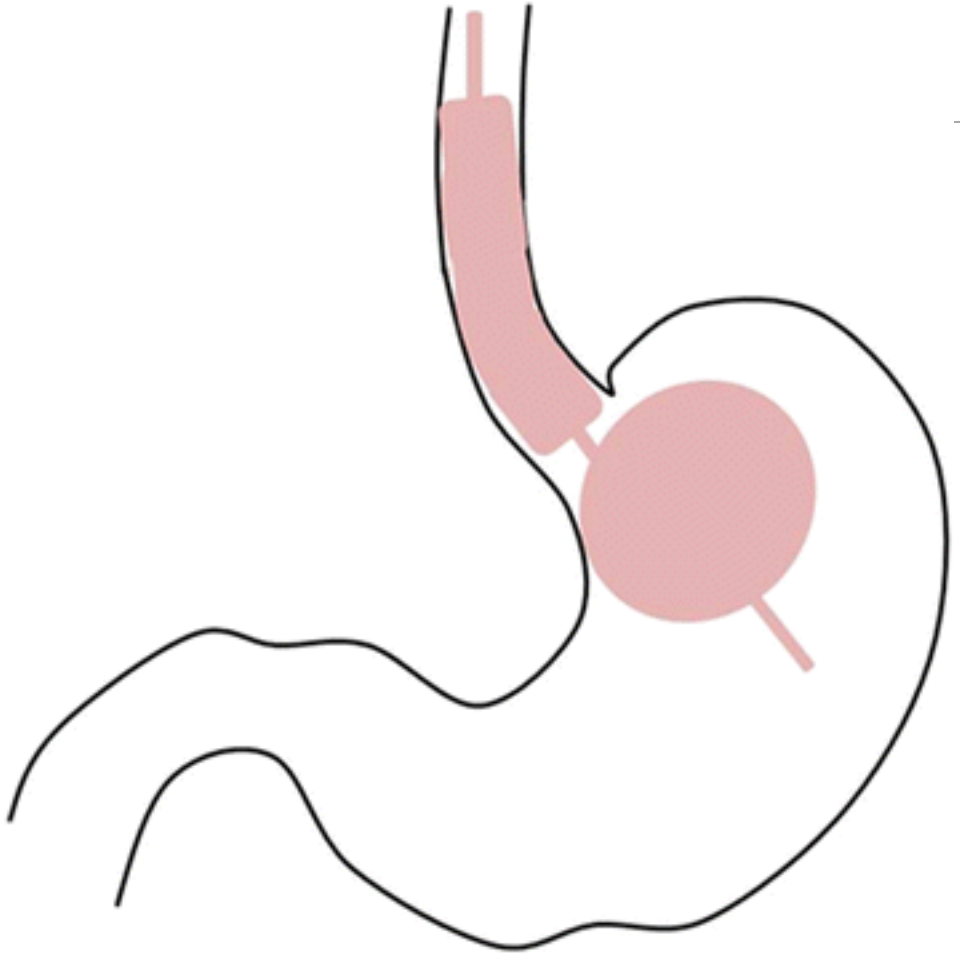
Esophageal varices

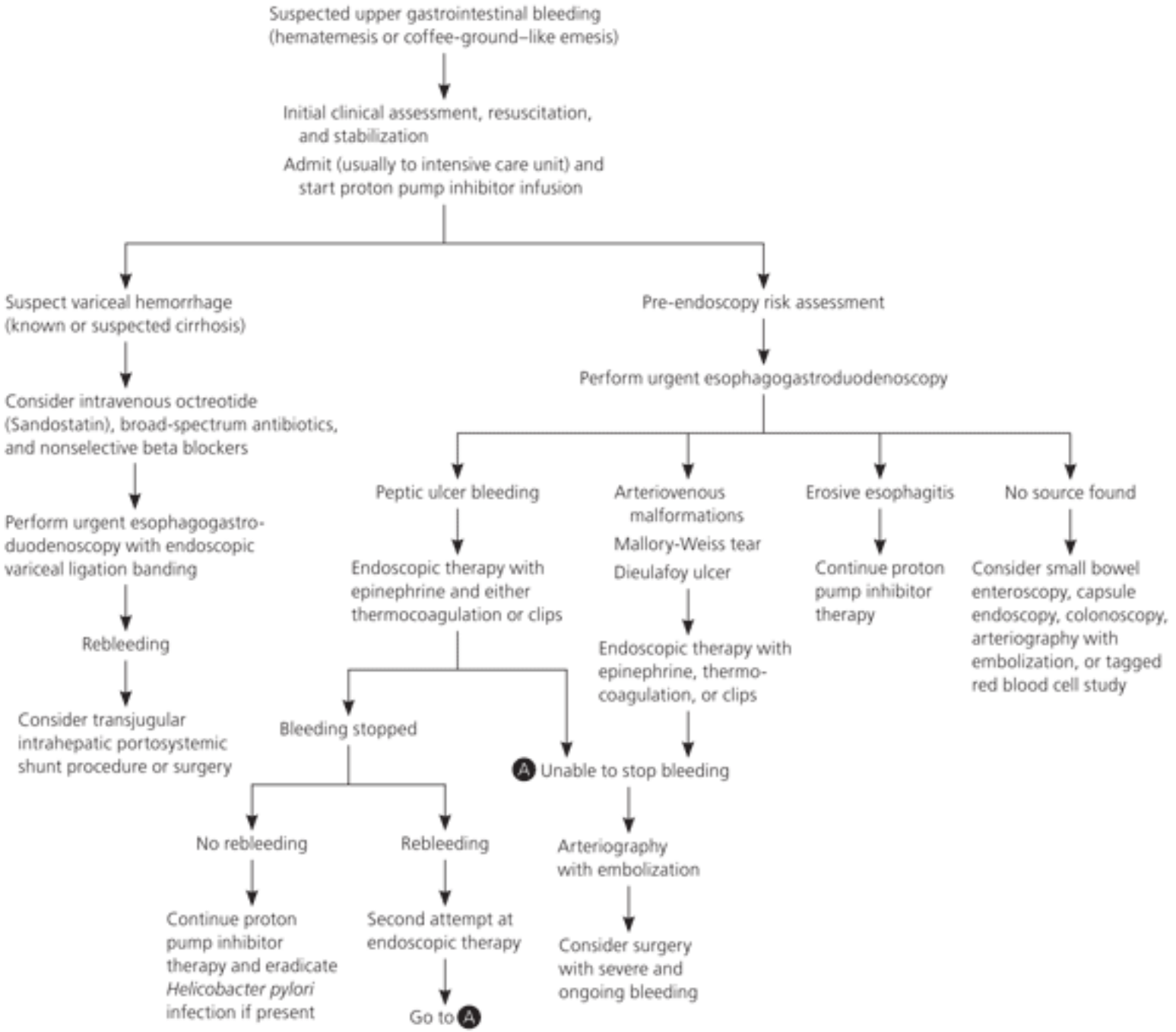
- Variceal hemorrhage occurs from portal hypertension and the most common cause of portal hypertension is cirrhosis




a
Rubber Band
Ligation System®
b
Scope
c
Banded varices

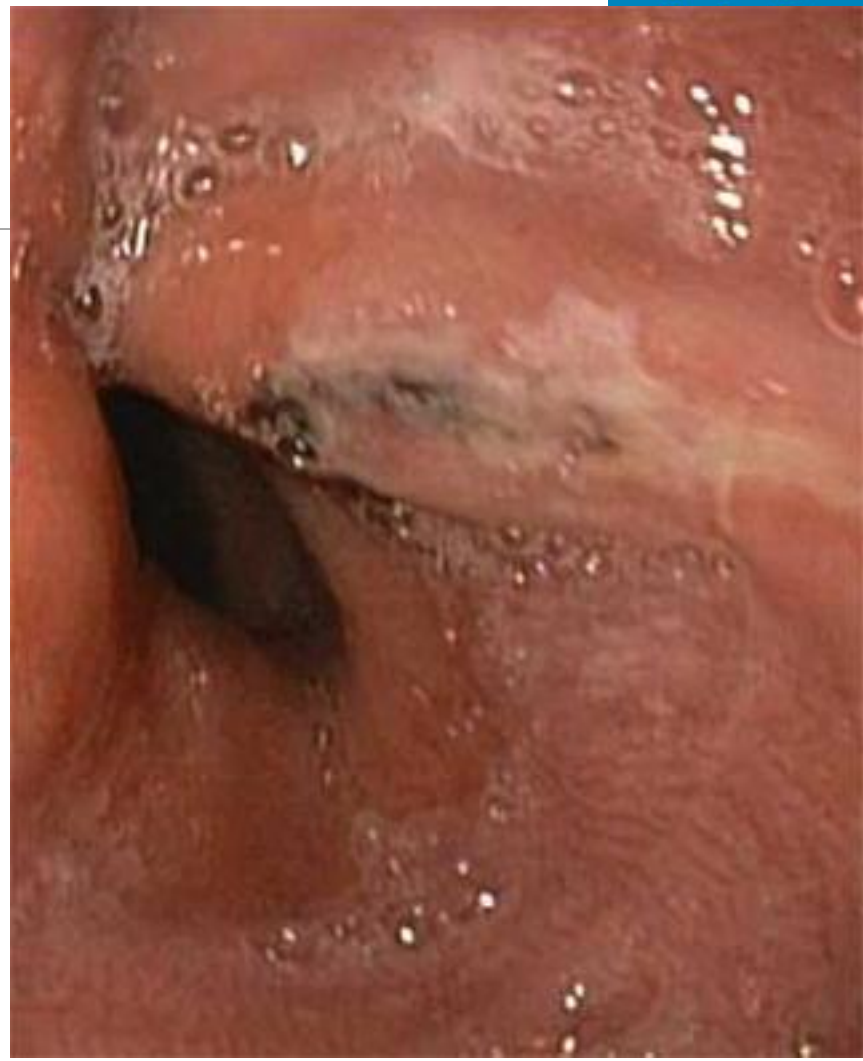


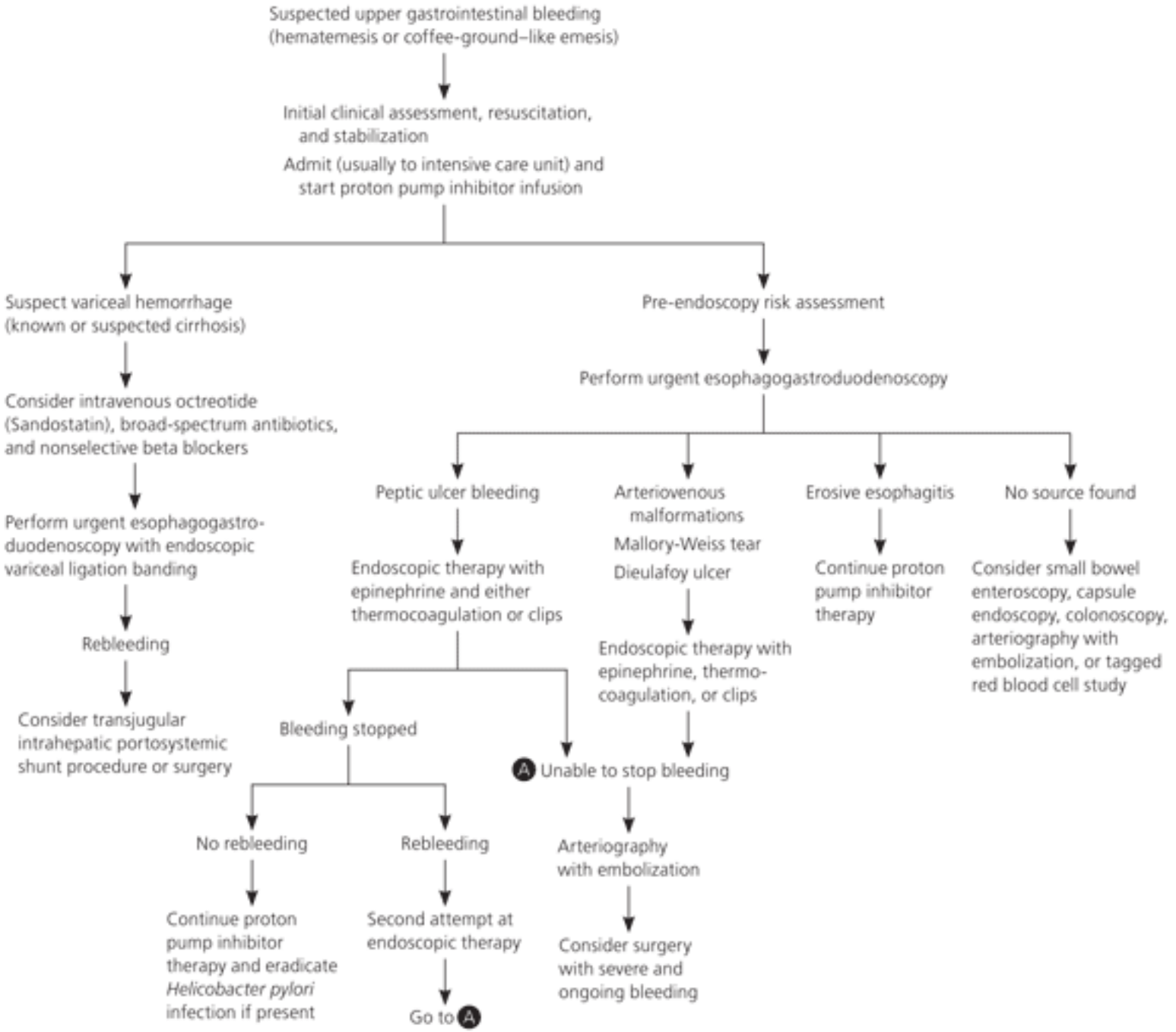




Mallory Weiss tear

- longitudinal tears are classically caused by severe retching

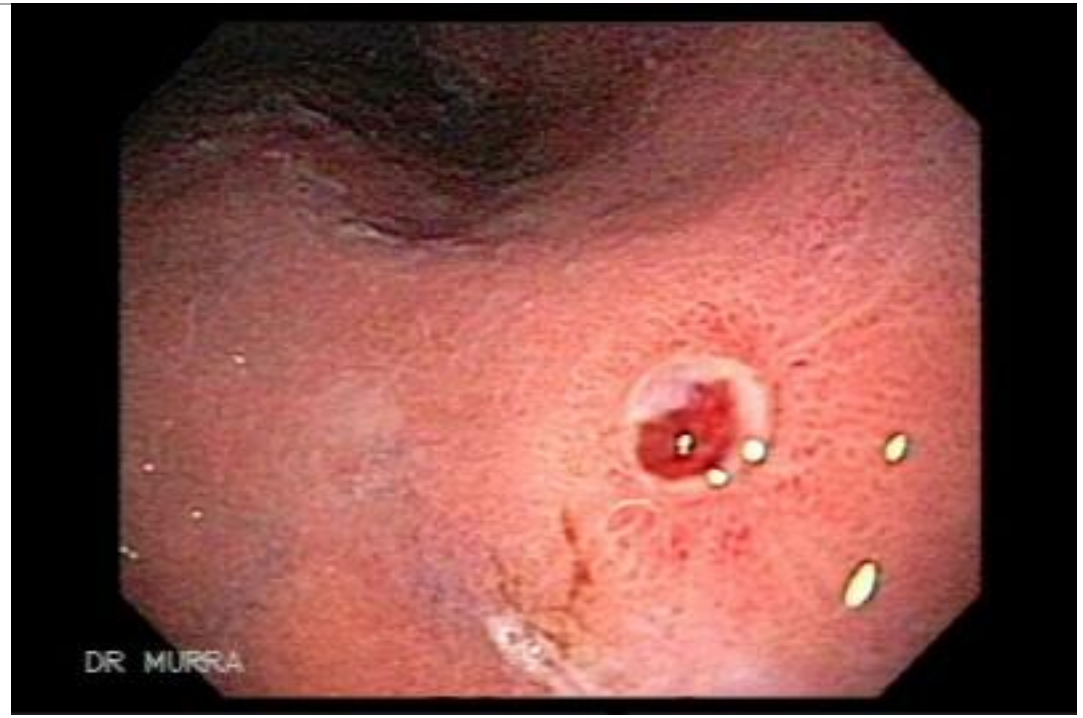


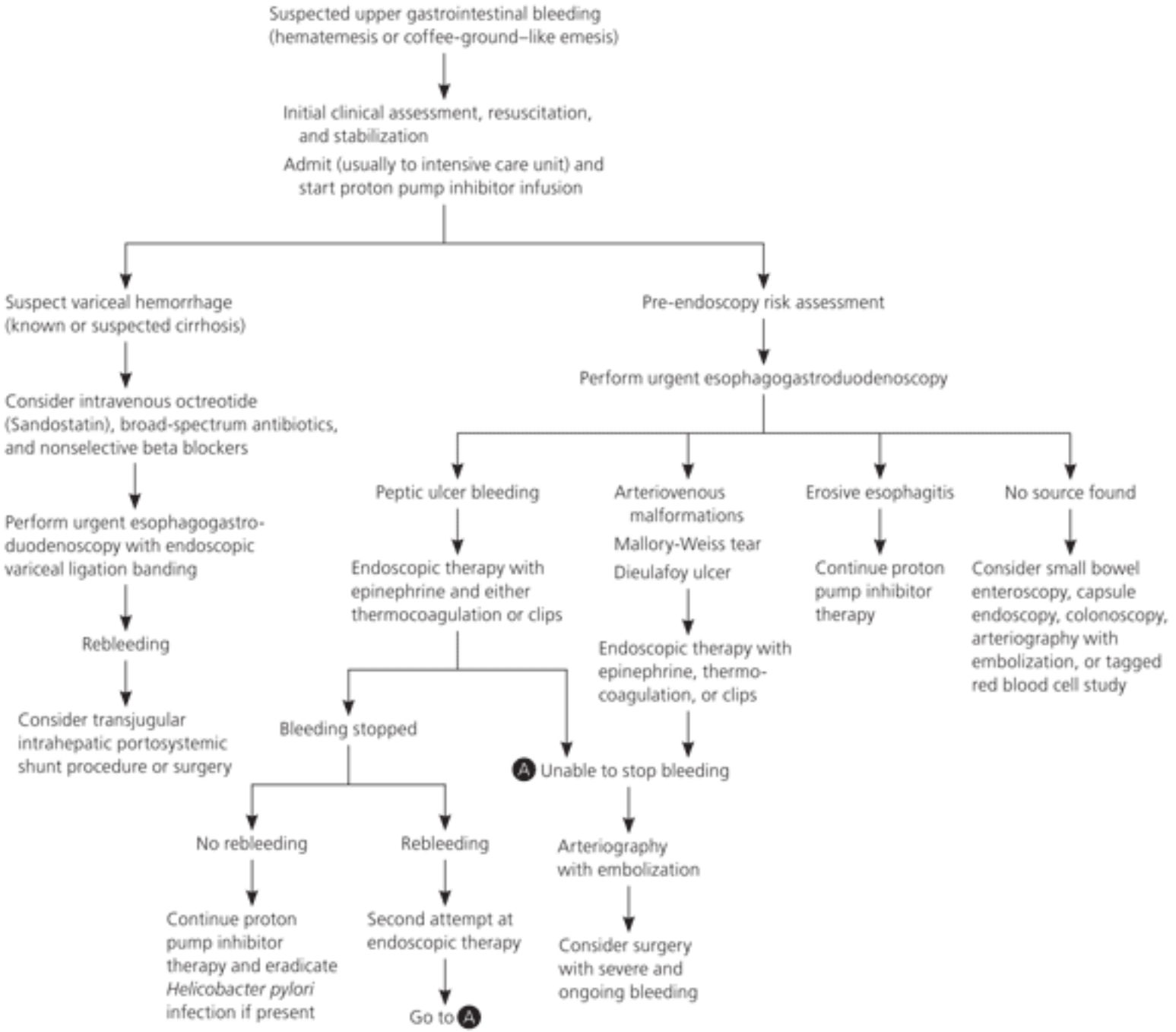


Dieulafoy lesion

- Dieulafoy's lesions are congenital abnormally large diameter submucosal arterioles which do not decrease in size as they approach the mucosa

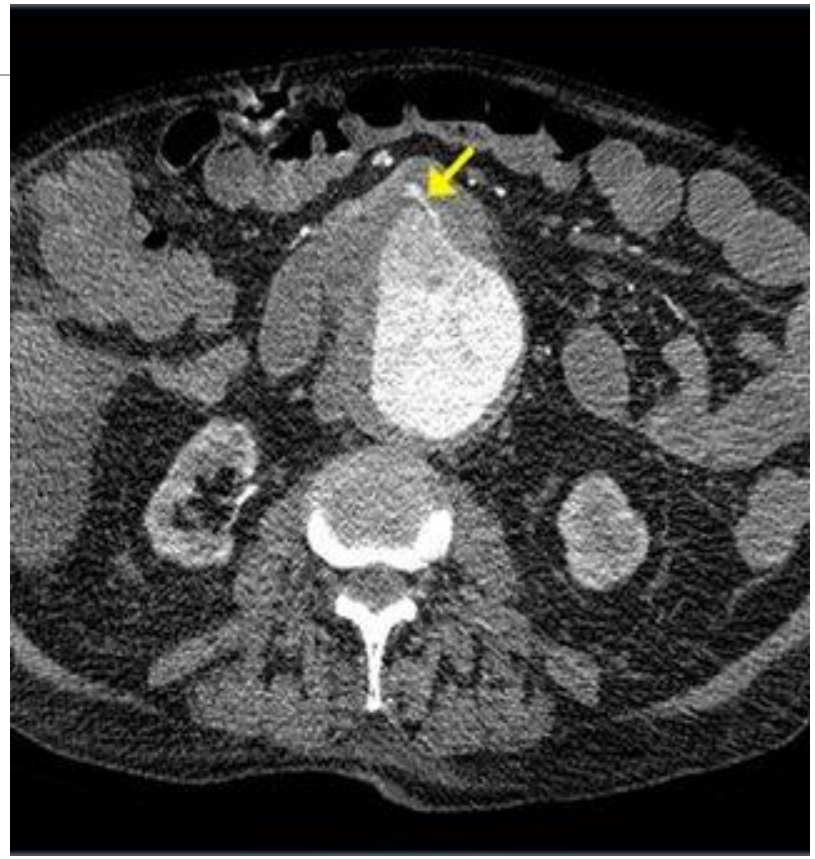
- 75% in stomach but can occur throughout the gastrointestinal tract





Aortoenteric Fistula

- Aortoenteric fistulas are classified as primary
  - erosion of the aneurysm into the adjacent bowel,
  - infection,
  - neoplasm,
  - or radiation therapy
- secondary
  - previous endovascular stent or graft aneurysm repair
- Management endovascular stenting +-/ open surgical repair



Hemobilia

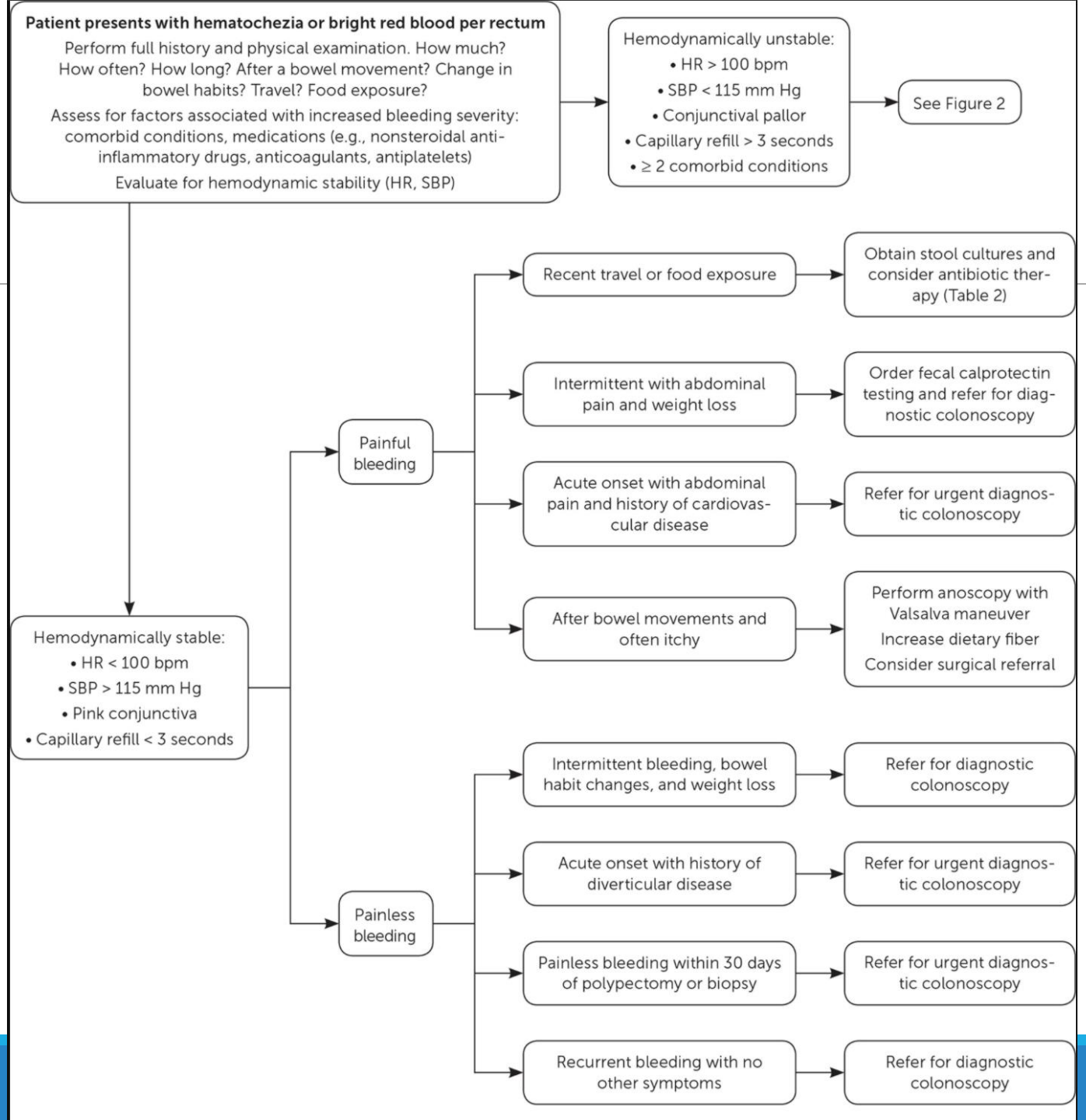
- Jaundice, Right upper quadrant pain and GI bleeding
- causes include
  - liver biopsy ,
  - biliary instrumentation,
  - hepatocellular carcinoma,
  - cholangiocarcinoma,
  - and post-cholecystectomy

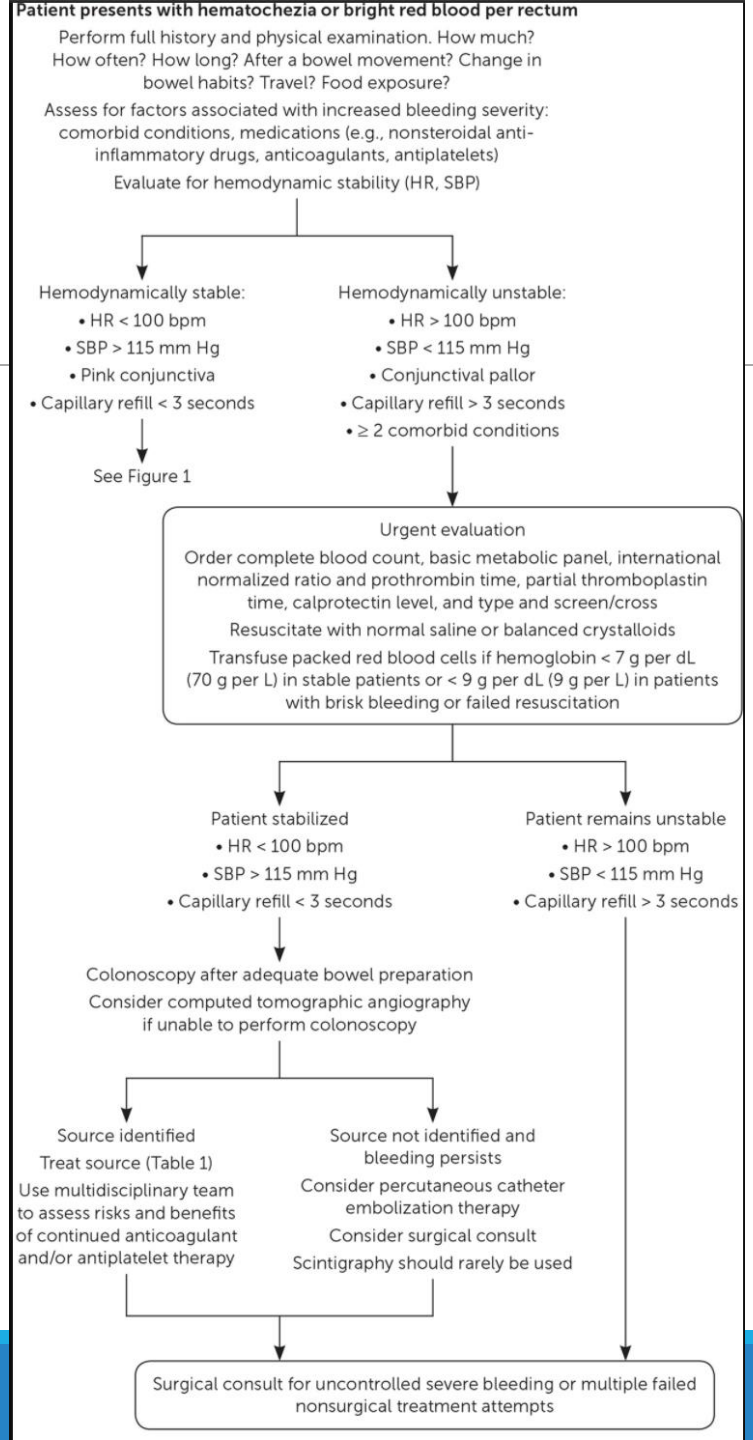
Neoplasm

- Neoplasms such as gastrointestinal stromal tumors (GIST) and adenocarcinomas rarely cause UGIB.
- If significant bleeding does occur from a GIST tumor, resection with negative margins can be considered.
- Adenocarcinoma rarely presents with massive hemorrhage and frequently can be managed with endoscopic therapy.
- Radiation therapy is an alternative.
- Tumors which present with hemorrhage are often late stage. Surgical resection would likely be palliative only and should be carefully considered along with goals of care

Lower GI Bleeding

- DDx
  - Hemorrhoids
  - Angiodysplagia
  - Ischemic
  - Post Intervention
  - Infectious
  - Diverticulosis
  - IBD
  - Neoplastic (poly, carcinoma)


Patient presents with hematochezia or bright red blood per rectum
Perform full history and physical examination. How much? How often? How long? After a bowel movement? Change in bowel habits? Travel? Food exposure?
Assess for factors associated with increased bleeding severity: comorbid conditions, medications (e.g., nonsteroidal anti-inflammatory drugs, anticoagulants, antiplatelets)
Evaluate for hemodynamic stability (HR, SBP)
Hemodynamically unstable:
• HR > 100 bpm
• SBP < 115 mm Hg
• Conjunctival pallor
• Capillary refill > 3 seconds
• ≥ 2 comorbid conditions
See Figure 2
Hemodynamically stable:
• HR < 100 bpm
• SBP > 115 mm Hg
• Pink conjunctiva
• Capillary refill < 3 seconds
Painful bleeding
Recent travel or food exposure
Obtain stool cultures and consider antibiotic therapy (Table 2)
Intermittent with abdominal pain and weight loss
Order fecal calprotectin testing and refer for diagnostic colonoscopy
Acute onset with abdominal pain and history of cardiovascular disease
Refer for urgent diagnostic colonoscopy
After bowel movements and often itchy
Perform anoscopy with Valsalva maneuver
Increase dietary fiber
Consider surgical referral
Painless bleeding
Intermittent bleeding, bowel habit changes, and weight loss
Refer for diagnostic colonoscopy
Acute onset with history of diverticular disease
Refer for urgent diagnostic colonoscopy
Painless bleeding within 30 days of polypectomy or biopsy
Refer for urgent diagnostic colonoscopy
Recurrent bleeding with no other symptoms
Refer for diagnostic colonoscopy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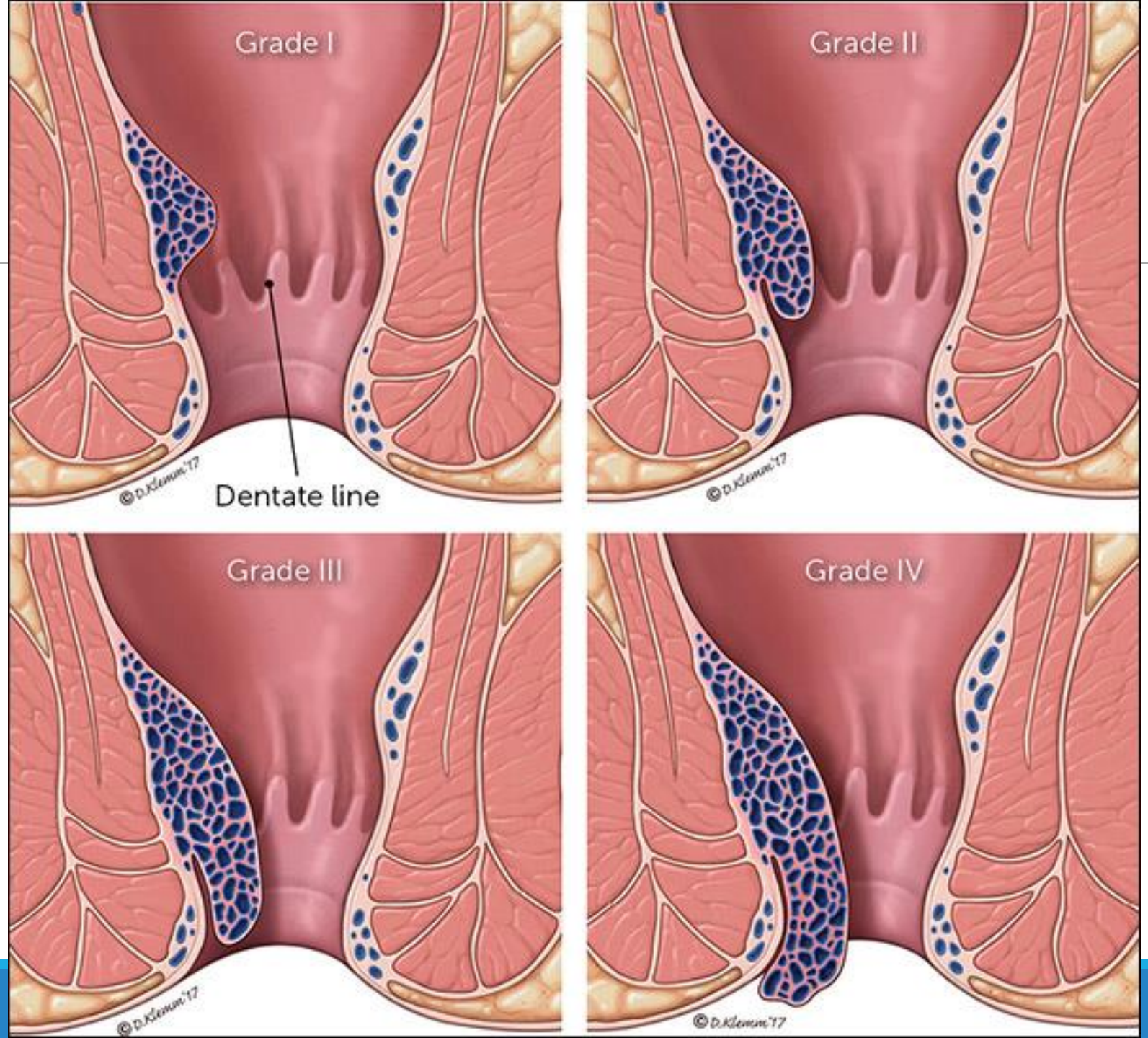
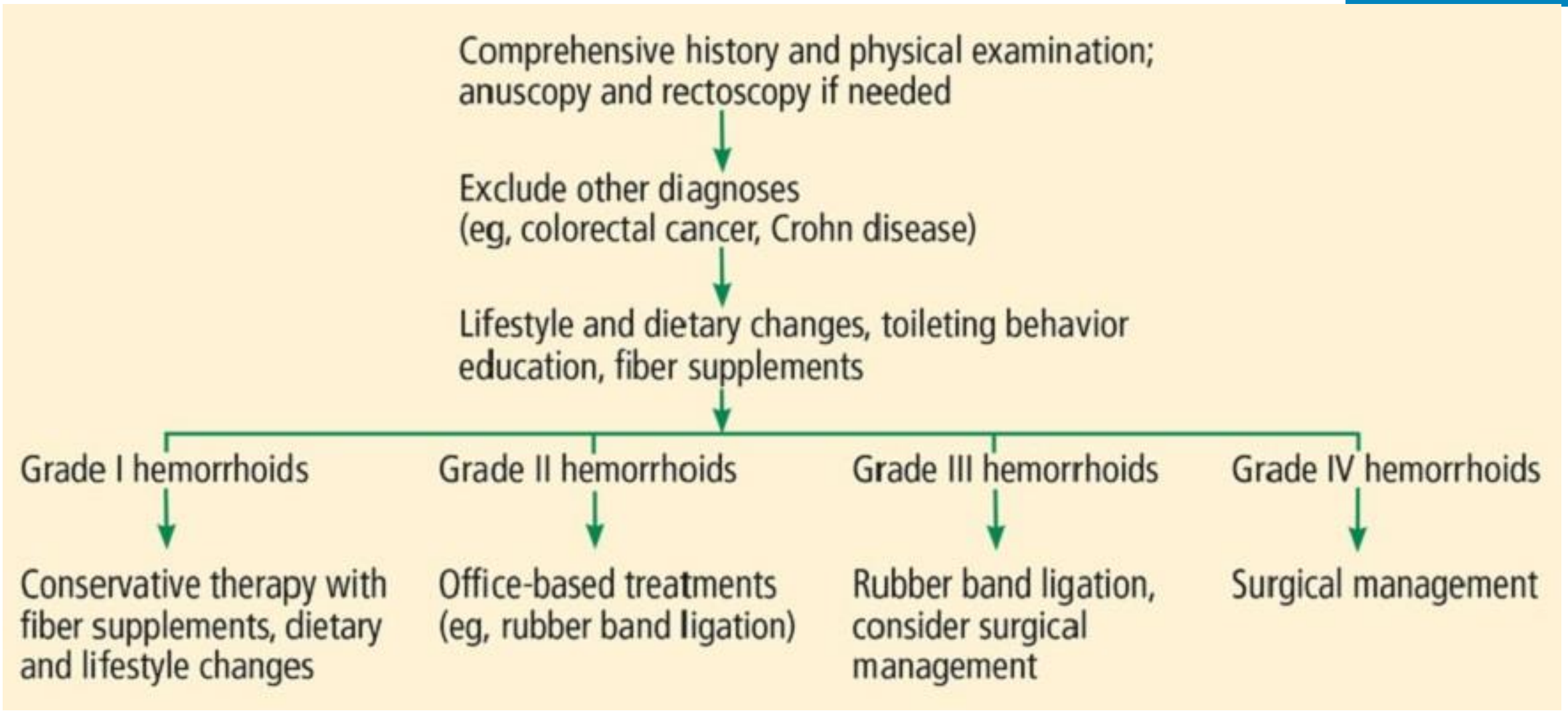
Evaluate for hemodynamic stability (HR, SBP)
Hemodynamically stable:
• HR < 100 bpm
• SBP > 115 mm Hg
• Pink conjunctiva
• Capillary refill < 3 seconds
See Figure 1
Hemodynamically unstable:
• HR > 100 bpm
• SBP < 115 mm Hg
• Conjunctival pallor
• Capillary refill > 3 seconds
• ≥ 2 comorbid conditions
Urgent evaluation
Order complete blood count, basic metabolic panel, international normalized ratio and prothrombin time, partial thromboplastin time, calprotectin level, and type and screen/cross
Resuscitate with normal saline or balanced crystalloids
Transfuse packed red blood cells if hemoglobin < 7 g per dL (70 g per L) in stable patients or < 9 g per dL (9 g per L) in patients with brisk bleeding or failed resuscitation
Patient stabilized
• HR < 100 bpm
• SBP > 115 mm Hg
• Capillary refill < 3 seconds
Patient remains unstable
• HR > 100 bpm
• SBP < 115 mm Hg
• Capillary refill > 3 seconds
Colonoscopy after adequate bowel preparation
Consider computed tomographic angiography if unable to perform colonoscopy
Source identified
Treat source (Table 1)
Use multidisciplinary team to assess risks and benefits of continued anticoagulant and/or antiplatelet therapy
Source not identified and bleeding persists
Consider percutaneous catheter embolization therapy
Consider surgical consult
Scintigraphy should rarely be used
Surgical consult for uncontrolled severe bleeding or multiple failed nonsurgical treatment attempts

Hemorrhoids

- Hemorrhoids are vascular structures in the anal canal

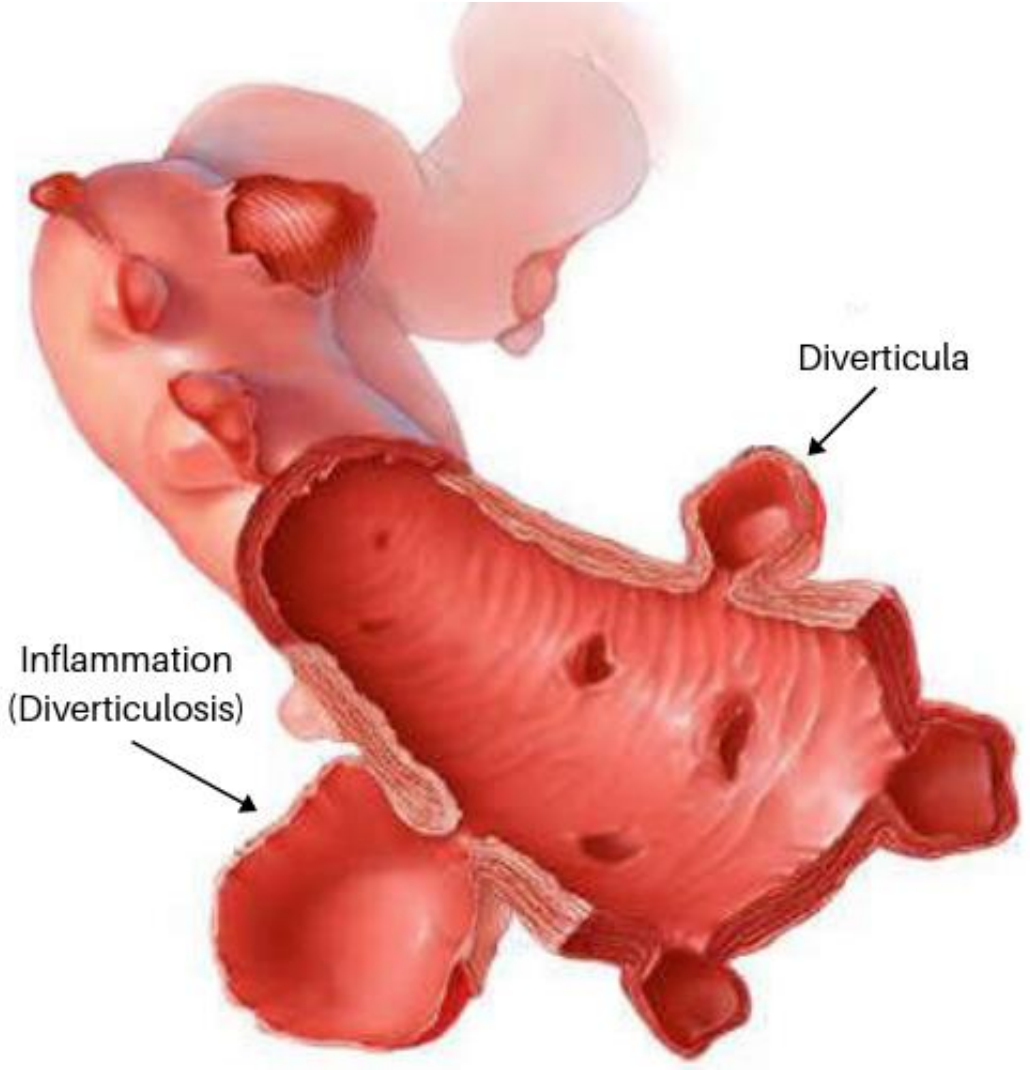
- Risk factors
  - Constipation
  - Obesity
  - Pregnancy
  - Straining during defecation
  - Liver Cirrhosis
  - ….


Grade I
Dentate line
Grade II
Grade III
Grade IV


Comprehensive history and physical examination; anuscopy and rectoscopy if needed
Exclude other diagnoses (eg, colorectal cancer, Crohn disease)
Lifestyle and dietary changes, toileting behavior education, fiber supplements
Grade I hemorrhoids
Grade II hemorrhoids
Grade III hemorrhoids
Grade IV hemorrhoids
Conservative therapy with fiber supplements, dietary and lifestyle changes
Office-based treatments (eg, rubber band ligation)
Rubber band ligation, consider surgical management
Surgical management

Diverticulosis

- most common cause of lower GI bleeding
- Diverticular hemorrhage resolves spontaneously in approximately 80 percent of patients
- recommended initial diagnostic test is colonoscopy

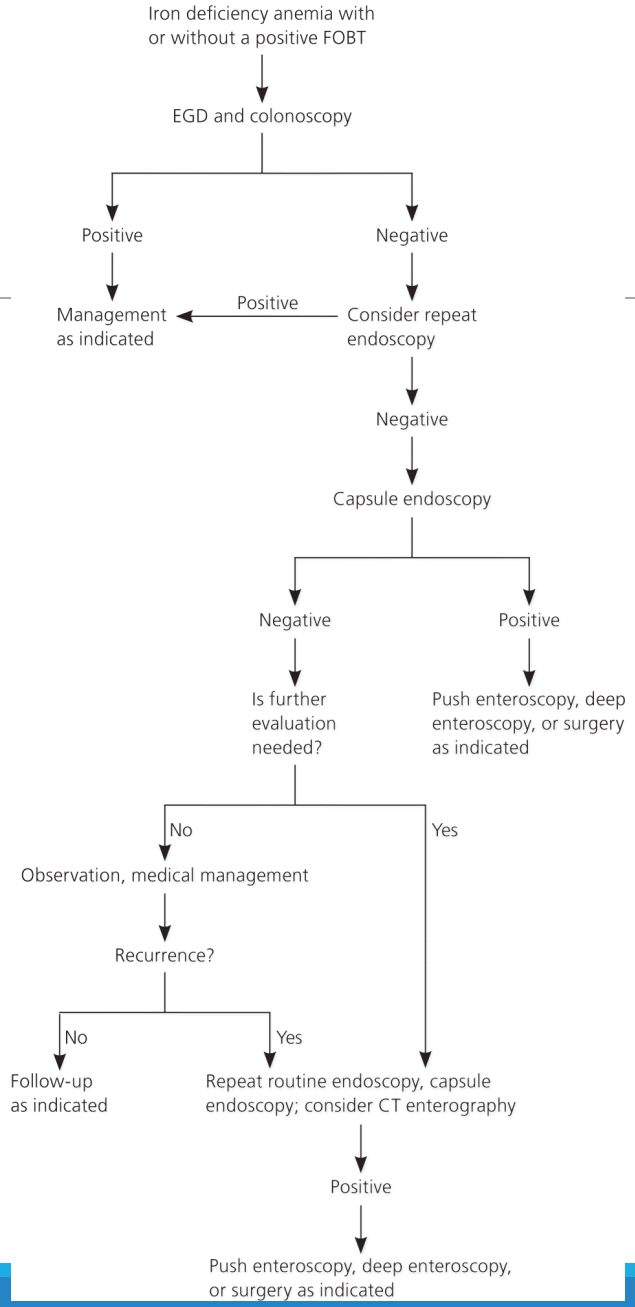


Diverticular Bleed

- If bleeding is massive or cannot be controlled by endoscopy treatment options include angioembolization (risk for perforation and ischemia), and surgery

Occult GI Bleed

- If negative UGI and LGI endoscopy consider push endoscopy or capsule endoscopy



Intra-abdominal Bleeding

- Trauma
- Vascular such as AAA or Splenic Aneurysm
- Ruptured Ectopic Pregnancy
- Perforated ulcer
- Ruptured neoplasm (hepatoblastoma)
- ….

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King Saud University
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Thank you