

LOWER GASTROINTESTINAL BLEEDING

- Definition: hemorrhage into the lumen of the bowel from a source distal to the ligament of Treitz
- Diagnosis
 - History/Physical - nature/duration of bleeding, stool color/frequency, intravascular volume status, abdominal/rectal exam
 - Placement of NGT
 - If positive results, i.e. gross blood or coffee grounds, then EGD
 - Copious amounts of bile suggestive of lower GI source
 - If aspirate clear, cannot r/o duodenal source for bleeding, clinical decision EGD vs. colonoscopy
- Management
 - Initial hemodynamic stabilization
 - Localization of bleeding site
 - Colonoscopy
 - Diagnostic yield 53-97%, complication rate 0.5%
 - Procedure of choice for evaluation, angiography reserved for patients with ongoing bleeding in whom endoscopy is not feasible
 - Radionuclide scanning
 - Highly sensitive, detects rates as low as 0.1 to 0.4 ml/min. but no therapeutic intervention capabilities
 - Technetium-99m sulfur colloid vs RBC
 - ❖ SC requires no preparation time but is rapidly absorbed
 - ❖ RBC requires preparation but can be detected on images 24-48 hours
 - Selective mesenteric angiography
 - Bleeding rate must be 1.0 to 1.5 ml/min
 - Positive test shows extravasation into lumen of bowel
 - Diagnostic yield 27-67%, complication rate 2-4%
 - Reserved for patients who cannot undergo colonoscopy
 - Provocative Angiography
 - Obscure bleeding persists despite negative endoscopy, mesenteric angiography, radionuclide scanning
 - Short acting anticoagulant agents - heparin, tolazoline, TPA, urokinase - to localize bleeding point, then immediately to OR
 - Success unclear
 - Site specific Therapeutic Intervention
 - Endoscopic
 - Thermal contact probes, laser photocoagulation, electrocauterization, injection of vasoconstrictors, application of metallic clips, injection sclerotherapy
 - Diverticular hemorrhage difficult to treat due to high bleeding rate and location of bleeding within diverticula

- Angiodysplasia typically can be treated, right colon risk of perforation (2%), in distal colon angiodysplasias from radiation can treat with thermal contact probes, lasers or non contact devices like argon plasma coagulator
 - Angiography
 - Intra-arterial injection of vasopressin
 - ❖ Arteriolar vasoconstriction and bowel wall contraction, localize bleeding then position catheter
 - ❖ Rate of 0.2 U/min can be increased to 0.4 U/min, angiogram after 20-30 minutes, infuse 6-12 hours, halve rate then continue 6-12 hours, if no recurrence then remove catheter
 - ❖ Systemic side effects — MI, peripheral ischemia, hypertension, dysrhythmias, mesenteric thrombosis, intestinal infarction, death
 - ❖ Success rate 60-100%, complications 10-20%, rebleeding rates as high as 50%
 - Trans catheter embolization
 - ❖ Alternative for patients with CAD, PVD
 - Selective placement in vessel with injection of embolizing agent
 - Small series have found highly successful 90-100% with low rebleeding rates.
 - Surgical
 - No absolute criteria, generally, patients who require more than 4 U of PRBC in 24 hours, bleeding has not stopped for 72 hours, rebleeding within 1 week of initial episode
 - Directed segmental resection - rebleeding rates 0-14%, mortality 0-13%
 - If cannot identify bleeding prior to surgery, intraoperative options for localization - colonoscopy, EGD, enteroscopy
 - If still cannot identify bleeding, subtotal colectomy is procedure of choice, mortality 5-33%
- Common Causes of Lower GI Bleed
 - Diverticular Disease
 - 17-40% of lower GI bleed, prevalence diverticulosis 37-45%, 17% patients with diverticulosis experience bleeding
 - 80-85% diverticular bleeding stops spontaneously, risk of second bleeding episode 25%, 3rd episode 50%
 - surgery offered after second diverticular bleeding episode
 - Arteriovenous Malformation
 - Vascular ectasias, angiomas, angiodysplasias
 - chronic colonic wall muscle contraction, chronic partial obstruction of veins, vessels become dilated, precapillary sphincters become incompetent
 - most common in cecum

- diagnosis during angiography (ectatic, slow emptying veins, vascular tufts, early filling veins) or colonoscopy (red, flat lesions about 2-10 mm in diameter, sometimes accompanied by a feeding vessel)
 - only 2% of acute bleeding, usually slow, chronic. Stops spontaneously in 85-90%, recurs in 25-85% therefore requires definitive surgical or colonoscopic treatment.
- Colitis
 - 9-21% of lower GI bleed
 - includes IBD, infectious colitis, radiation colitis, idiopathic ulcers
 - 6-10% of patients with UC have lower GI bleeding severe enough to need emergency surgical resection
 - 0.6-1.3% of patients with Crohn's
 - 50% of IBD patients with lower GI bleed will spontaneously resolve
 - radiation therapy damages bowel mucosa, forming vascular telangiectasias that are prone to bleeding, 1-5% of cases of acute lower GI bleeding from radiation induced proctocolitis requires hospitalization. Initial treatment endoscopic treatment.
- Neoplasia
 - From colorectal neoplasia 7-33% from erosions on luminal surface
 - Bleeding most common complication after endoscopic polypectomy 0.2-6%, both immediate and delayed
- Benign Anorectal Disease
 - Hemorrhoids, ulcer/fissure disease, fistula-in-ano
 - Patients with hemorrhoids should still undergo endoscopic evaluation to rule out other pathologic conditions
 - Portal hypertension, CHF, splenic vein thrombosis can cause colonic or anorectal varices
- Upper GI source
- Small bowel source

Gita Pillai, MD
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