**Diagnosis of Occult and Obscure Gastrointestinal Bleeding.**

 **Gastrointestinal Bleeding**

**Hematemesis**

**Melena**

**Bleeding per rectum**

**Occult bleeding**

**Obscure GIT bleeding**

 Occult bleeding (i.e., gastrointestinal bleeding that is not visible to the patient or physician) typically is discovered when iron deficiency anemia is detected or the result of a fecal occult blood test (FOBT) is positive.

 Obscure bleeding is gastrointestinal bleeding from an unknown source that persists or recurs after a negative initial evaluation (e.g., colonoscopy, esophagogastroduodenoscopy [EGD]).

 Obscure bleeding may be occult (i.e., not visible) or overt (i.e., continued passage of visible blood).

**Fecal Occult Blood Testing**

It is normal to lose 0.5 to 1.5 mL of blood daily in the gastrointestinal tract and melena usually is identified when more than 150 mL of blood are lost in the upper gastrointestinal tract. FOBTs have sufficient sensitivity to detect bleeding that is not visible in the stool.. If certain substances are in the stool the results may be false positive.

-Patients usually are warned not to eat red meat or certain fruits and vegetables for 72 hours before testing. Use of aspirin or other non steroidal anti-inflammatory drugs (NSAIDs) should be avoided for one week before testing.

- Patients are encouraged to eat foods high in fiber for one week before testing to cause more rapid stool transit.

**Causes of False-Positive Fecal Occult Blood Test Results**

 **Extraintestinal blood loss**

Epistaxis

Gingival bleeding

Tonsillitis/pharyngitis

Hemoptysis

 **Medications**

Aspirin

Nonsteroidal anti-inflammatory drugs

 **Exogenous peroxidase activity**

Red meat consumption (nonhuman hemoglobin)

Fruit consumption (cantaloupe شمام , grapefruit, تين figs)

Uncooked vegetable consumption (radishفجل ,

Cauliflowerقرنبيط , broccoli, turnip لفت , horseradish فجل حار ; less

likely: cucumberخيار, carrotجزر, cabbageكرنب, potato بطاطس,

pumpkinيقطين, parsleyبقدونس, zucchiniكوسه )

**Causes of Occult Gastrointestinal Blood Loss**

**Upper tract source**

Esophagus/stomach

Reflux esophagitis\*

Erosive gastritis/ulceration\*

Varices

Cameron’s erosions within a hiatal hernia

Dieulafoy’s lesion (i.e., dilated aberrant vessel underlying a small mucosal defect)

Gastric antral vascular ectasia (i.e., “watermelonstomach”)

Portal gastropathy

Small intestine

Duodenitis

Celiac sprue

Meckel’s diverticulum

Crohn’s disease (can occur anywhere but commonly involves terminal ileum)

**Lower tract source**

Colon

Diverticula (usually causes overt bleeding)

Ischemic colitis

Ulcerative colitis

Other colitis

Infection (e.g., hookworm, whipworm,Strongyloides, ascariasis, tuberculous enterocolitis, amebiasis, cytomegalovirus)

Rectum

Fissure

Hemorrhoids

**Any gastrointestinal source**

Vascular ectasia/angiodysplasia

Carcinoma (especially colon)\*

Vasculitis

Aortoenteric fistula

Other cancers (e.g., Kaposi’s

sarcoma, lymphoma,

leiomyoma, leiomyosarcoma,

carcinoid tumors, melanoma)

Large polyps

Telangiectasia (i.e., Osler-Weber-Rendu syndrome)

Blue rubber bleb nevus syndrome

Hemangioma

Radiation-induced mucosal injury

**Extraintestinal source**

Hemobilia

Hemosuccus pancreaticus

Hemoptysis

Nasopharyngeal (e.g., epistaxis,

bleeding gums)

**No source found**

Work up of Occult bleeding:

 -*colonoscopy or esophagogastroduodenoscopy.*

*-*investigation of a small bowel bleeding source:

 -Small bowel barium studies .

 -push enteroscopy

 -Capsule endoscopy

 -NUCLEAR MEDICINE SCANS AND ANGIOGRAPHY

***colonoscopy or*** *esophagogastroduodenoscopy.*

Initial evaluation of occult bleeding typically consists of colonoscopy or EGD.

- In patients older than 50 years, colonoscopy usually reveals the source of bleeding; it should be the first test performed.

- Initial evaluation with EGD may be necessary in patients with risk factors such as NSAID or aspirin use or upper gastrointestinalsymptoms.

-Because of a substantial false-negative rate for lesions on initial

endoscopy, repeat upper and lower endoscopy is recommended by some authorities before small bowel imaging.

 Cameron’s erosions (within a hiatal hernia), peptic ulcer disease, and vascular ectasias are the most common upper tract lesions found on repeat endoscopy, and cancer and angiodysplasias are the most commonly overlooked lower tract

abnormalities.

 **Small bowel imaging**

 - If endoscopic evaluation of upper and lower tracts is negative or equivocal, investigation of a small bowel bleeding source may be necessary, especially in patients with persistent

or recurrent bleeding.

-Small bowel barium studies are more readily accessible than enteroscopy. However may not detect mucosal-based lesions such as vascular ectasias, which are a common cause of small bowel bleeding.

**-Enteroscopy**

The distance of the small intestine from the mouth and anus makes small bowel endoscopy difficult. The procedure is limited by intestinal motility and the looping, free-hanging course of the small bowel.

-enteroscopy reaches only the proximal small bowel, missing the ileum. Although enteroscopy is not universally available,

 **Capsule endoscopy**

-Capsule endoscopy is a diagnostic tool that does not allow for intervention.

- Capsule endoscopy can be used in patients who are too

frail to undergo standard endoscopy.

**NUCLEAR MEDICINE SCANS AND ANGIOGRAPHY**

Radionucleotide imaging with tagged red blood cells is most useful in the evaluation of active gastrointestinal bleeding. These scans are more likely to localize a bleeding source

when the rate of blood loss exceeds 0.1 to 0.4 mL per minute (i.e., when the patient has a need for a tranfusion of more than two units of blood per day). Pooling of blood in the intestine may result in false localizations, and red blood cell scans have a substantial false negative rate because intermittent bleeding is

often missed during testing.

**Direct angiography** is more likely to demonstrate an exact location of bleeding if the rate is greater than 0.5 mL per minute, but this technique is more invasive than red blood cell scans. Direct angiography may be useful in identifying non bleeding lesions with a typical vascular pattern, such as that of angiodysplasia or neoplasia. Interventional radiologists

also may administer specific embolization therapy if there is an amenable lesion.

-Neither tagged red blood cell scans nor angiography is

useful in patients with obscure bleeding, because the blood loss often is too low to be detected.

**Summary**

**Occult gastrointestinal bleeding usually is discovered when fecal occult blood test results are**

**positive or iron deficiency anemia is detected. Fecal occult blood testing methods vary, but all**

**have limited sensitivity and specificity. The initial work-up for occult bleeding typically involves**

**colonoscopy or esophagogastroduodenoscopy, or both. In patients without symptoms indicating**

**an upper gastrointestinal tract source or in patients older than 50 years, colonoscopy usually**

**is performed first. About one half of patients with gastrointestinal bleeding do not have an**

**obvious source of the bleeding. In those patients, small bowel imaging or repeat panendoscopy**

**may be performed. Barium studies of the small bowel are widely available but have limited**

**diagnostic utility. Mucosal lesions such as vascular ectasias, a common cause of obscure bleeding,**

**may be missed by small bowel studies. Small bowel endoscopy is difficult to perform but**

**has a higher diagnostic yield. Capsule endoscopy is a newer technique that allows noninvasive**

**small bowel imaging. Radionuclide red blood cell scans or angiography may be useful in**

**patients with active bleeding.**