

# OBSCURE GI BLEEDING

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# Introduction

- Obscure Gastrointestinal Bleeding (OGIB)-
  - Characterized by continuous or recurrent bleeding originating in the gastrointestinal (GI) tract after both upper and lower endoscopies yield no evidence of a source.

# Introduction

- OGIB accounts for around 5% of GIB and represents a diagnostic challenge.
- Approximately 80% arises from the small bowel.
- It accounts for significant hospital cost, patient morbidity and impact on quality of life.

# Introduction

**It may have two distinct forms:**

- **Obscure occult bleeding-** characterized by iron deficiency anemia with positive fecal occult blood.
- **Obscure overt bleeding-** characterized by recurrent episodes of clinically evident bleeding.

# Causes

UGI & LGI Bleeding	MGI Bleeding
<b><u>UGI Lesions</u></b>	<b><u>Below 40 years of age</u></b>
Cameron's erosions	Tumors
Fundic varices	Meckel's diverticulum
Peptic ulcer	Dieulafoy's lesion
Angiodysplasia	Crohn's disease
Dieulafoy's lesion	<b><u>Above 40 years of age</u></b>
Gastric Antral Vascular Ecstasia (GAVE)	Angiodysplasia
Celiac disease	NSAID enteropathy
<b><u>LGI Lesions</u></b>	Uncommon
Angiodysplasia	Hemobilia
Neoplasms	Hemosuccus pancreaticus

# Diagnostic Evaluation

## **Medical history**

- Hematemesis, hematochezia, or melena
- Bleeding diathesis
- Medication use
- Valvular heart disease or
- Vasculitis
- Any pertinent family history or
- History of radiation exposure.

# Diagnostic Evaluation

- **Physical Examination**
  - Haemodynamical condition
  - Degree of anaemia
  - Findings suggestive of etiology
- **Investigations**
  - Endoscopic evaluations
  - Radiological

# Endoscopic Evaluation

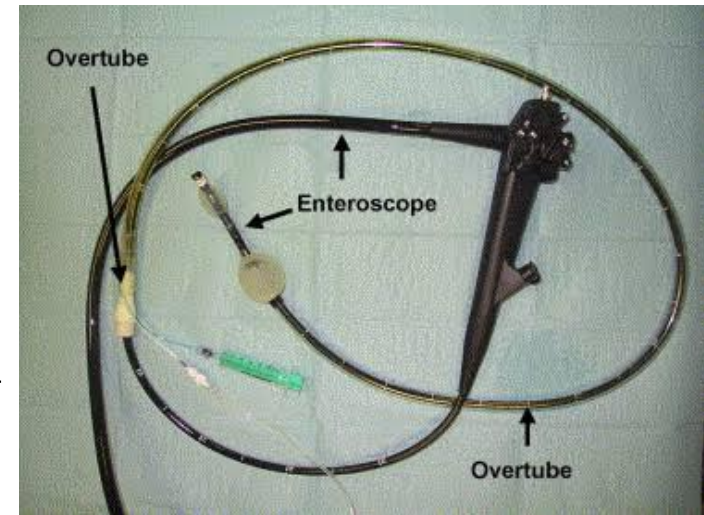
- Complete endoscopic imaging of the small intestine produces great advancement in the diagnosis of OGIB
- Should begin with an upper and lower GI endoscopy.
- If negative, repeating the above procedures is recommended .



# Endoscopic Evaluation

## Push Enteroscopy

- Pediatric colonoscope or dedicated push enteroscope
- Examine upper tract to approximately 50–100 cm distal to the ligament of Trietz.
- The diagnostic yield is 53% (3% and 70%).
- Allows for diagnosis and therapy.



# Endoscopic Evaluation

- Higher yield compared to VCE for lesions in duodenum and proximal jejunum.
- Limitations: Looping and discomfort.
- It can be performed as second-look examination. (Conditional recommendation, moderate level of evidence.)

## Argument for “Second Look” Exams in Patient with OGI

Author, Year	Modality	No. Pts/DY	Yield EGD/Colo
Zaman, 1998	PE	95 (41%)	EGD-25 (64%)
Descamps, 1999	PE	233 (53%)	EGD- 25 (10%)
Lara, 2005	PE	32 (47%)	EGD-13 (40%)
Fry, 2009	DBE	107 (65%)	EGD-13 (12%) Colon-12 (11%)
Van Turenhout, 2010	VCE	592 (49%)	EGD-32 (17%) Colon-8 (4%)
Lorenceanu-Savale, 2010	VCE	35 (0%)	EGD or Colon 8/13 (62%)
Robinson, 2011	VCE	707 (40%)	EGD-22 (3%) Colon-6 (1%)

*Consider Second Look Exams if recurrent bleeding or prior incomplete examination*

# Endoscopic Evaluation

## Video Capsule Endoscopy (VCE)

- Painless and total SB evaluation
- Better diagnostic yield (45-77%) than SB series/PE
- Complete to cecum in 79-90%
- VCE should be considered as a first line procedure for SB evaluation after exclusion of upper and lower GI source (Strong recommendation, high level evidence)





**VCE image of ulcerated, friable stricture with bleeding**

# Endoscopic Evaluation

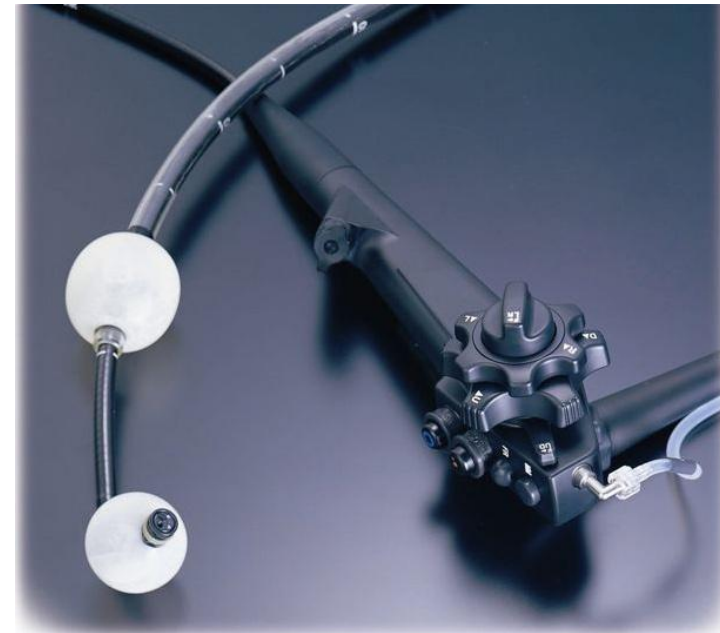
## **Balloon Assisted Enteroscopy**

- This procedure utilizes the principle of push and pull enteroscopy and there are two types
  - Double Balloon Enteroscope (DBE)
  - Single Balloon Enteroscope(SBE)

# Endoscopic Evaluation

## Double Balloon Enteroscopy (DBE)

- It allows for complete visualization of the small intestine.
- DBE is significantly superior to push endoscopy with regards to the length of the small bowel visualized and detection of pathologic lesions.



# Endoscopic Evaluation

- DBE can be performed by either the ante grade approach or the retrograde approach.
- carries a risk of complications, especially during or after therapeutic interventions.
- The complications most frequently reported are pancreatitis, post polypectomy bleeding and intestinal perforation





**The DBE exam demonstrates diffuse ulceration with stricture in the distal jejunum/ileum junction**

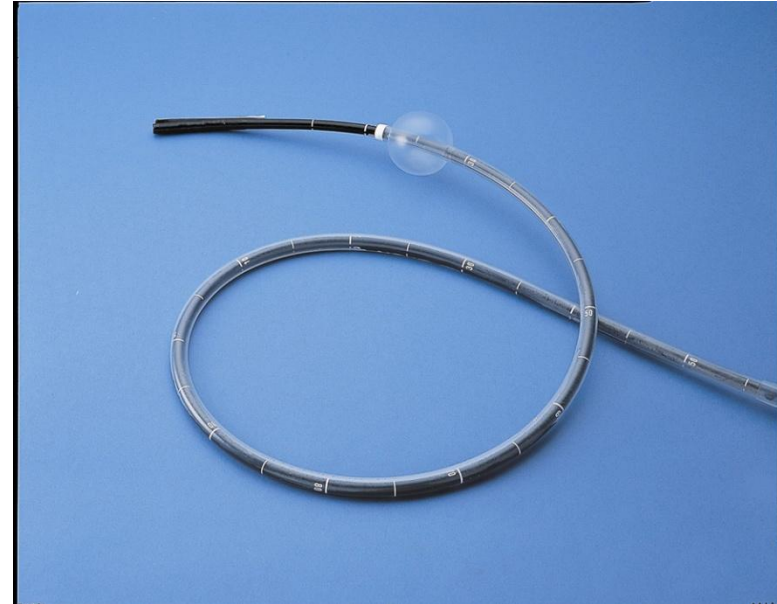


**Dieulafoy lesion in the proximal ileum detected on retrograde double-balloon enteroscopy in a patient with overt obscure gastrointestinal bleeding.**

# Endoscopic Evaluation

## Single Balloon Enteroscopy (SBE)

- The diagnostic yield in patients with OGIB is about 60%.
- SBE has a comparable diagnostic yield to DBE along with similar therapeutic intervention possibilities.
- Advantages of a shorter duration of procedure and fewer complications like pancreatitis.



# Endoscopic Evaluation

## Spiral Enteroscopy

- Spiral enteroscopy is a new technique for visualization of the small bowel.
- The diagnostic yield is around 65%, same as DBE and SBE
- It can be performed in postgastric surgery patients
- Therapeutic procedure is possible via spiral enteroscopy
- Perforation may occur



- **Intraoperative enteroscopy (IOE)**
- It has quite a high diagnostic rate, which is between 60 and 88% for all IOEs performed.
- The role of IOE today is highly selective due to the high morbidity and mortality rates of the procedure compared to other modalities for diagnosing OGIB.

# Small Bowel Findings: Meta Analysis

Type of Lesion	Capsule Endoscopy	Deep Enteroscopy
Overall Findings	61%*	45%
Vascular	24%	24%
Inflammatory	18%	16%
Neoplastic	11%	11%

*\*P < 0.05; Pasha, CGH 2008*

# Radiological Evaluation

## **Technetium 99 m-labeled red blood cell nuclear Scan**

- It has been used as a successful tool in diagnosing rapid GI bleed in actively bleeding patients.
- Its role in OGIB is limited because of low accuracy in localization [Voeller et al. 1991].

# Radiological Evaluation

## **Angiography**

- The main benefit of angiography is the ability to perform therapeutic embolization with use of Gel foam and coils
- The complications of this procedure are psuedo aneurysm, arterial thrombosis, dissection and bowel infarction.



# Radiological Evaluation

## **Computed Tomography Enterography & Computed Tomography Enteroclysis (CTE)**

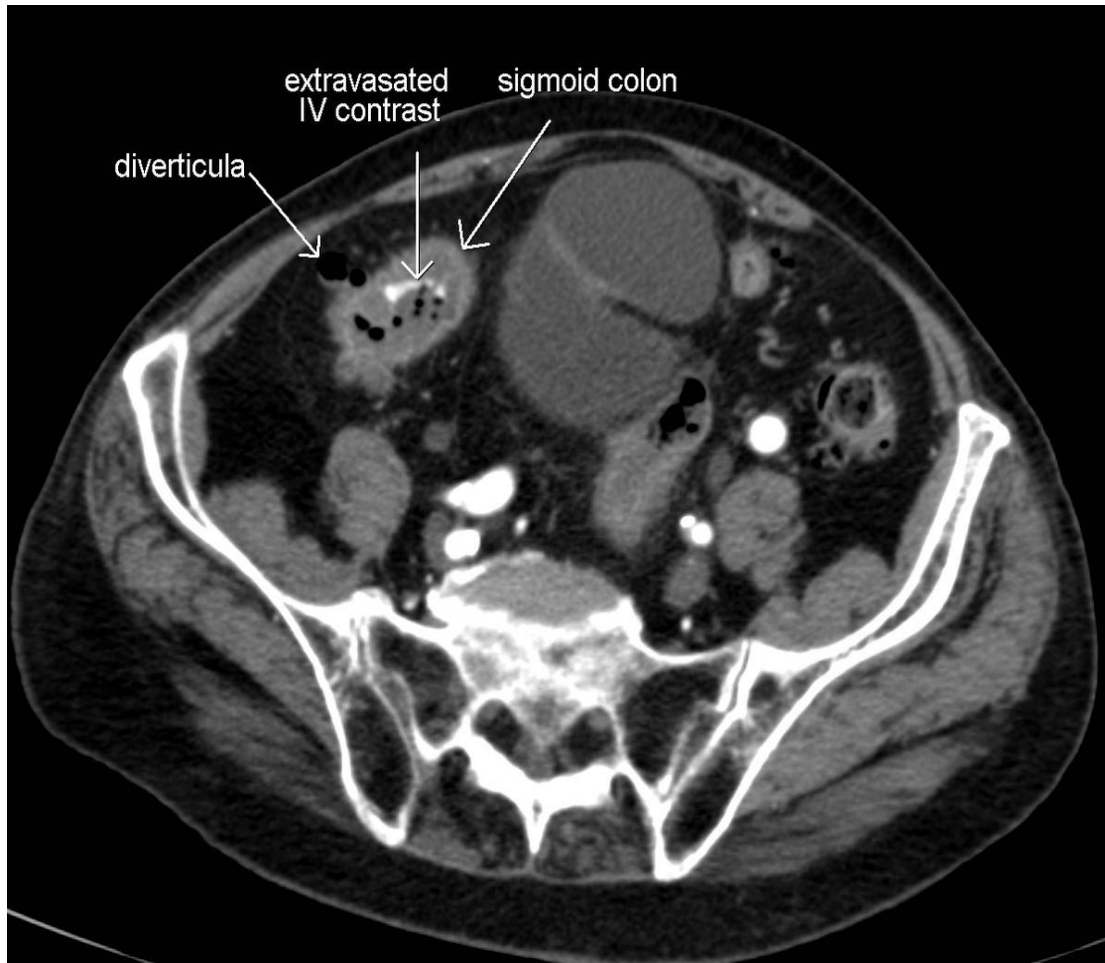
- These can detect both vascular lesions and tumors.
- Diagnostic yield of 45%.
- Contraindications :
  - Bowel obstruction
  - GI dysmotility
  - Kidney insufficiency

- **MR enterography and MR enteroclysis**
- There are limited data on diagnostic yield for obscure GI bleeding, with one study suggesting lower sensitivity than CT techniques.

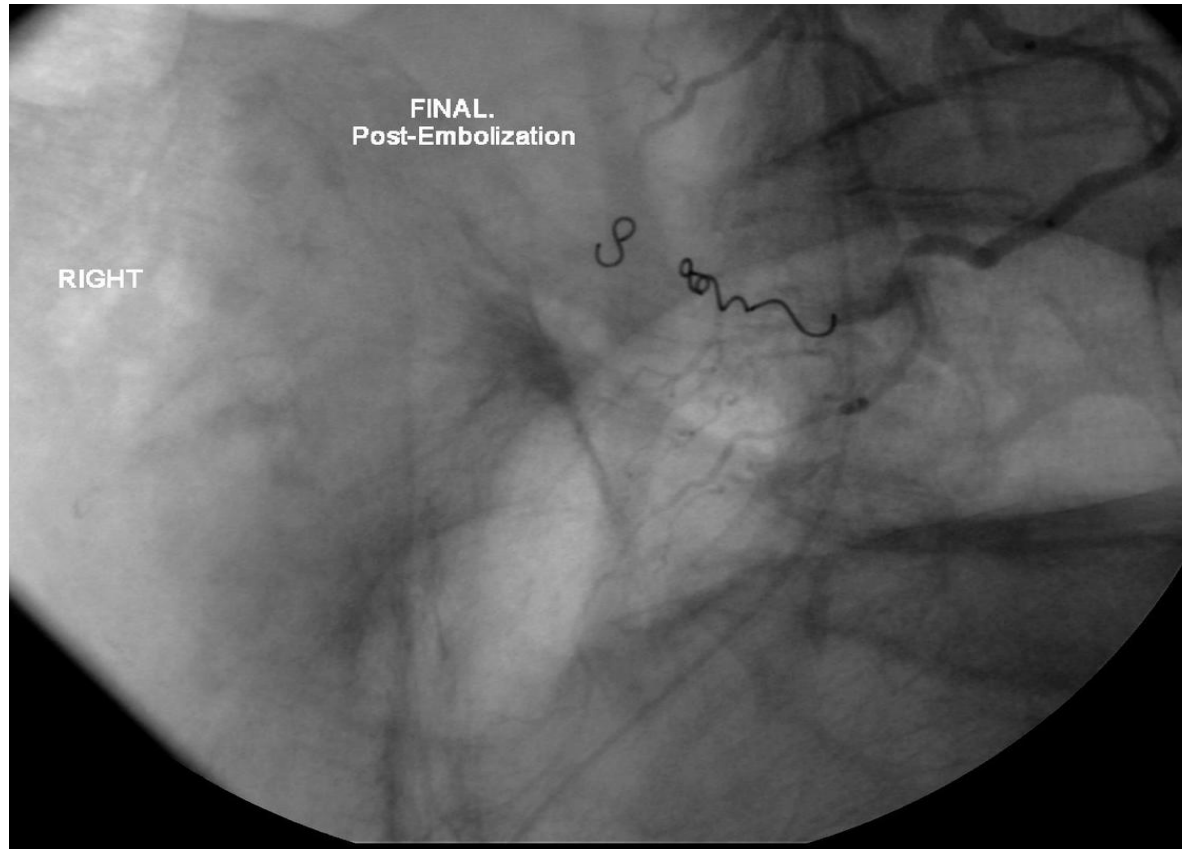
# Radiological Evaluation

## **Computed Tomography Angiography (CTA)**

- It involves catheterization of the abdominal aorta followed by helical CTA before and after intra-arterial injections of contrast medium.
- CTA is preferred over CTE or CT enteroclysis if an emergent examination is required as in cases with massive GI bleeding or when the patient cannot tolerate oral contrast



**Computed Tomography Angiography:  
Extravasated contrast in the lumen of  
the sigmoid colon.**



**Fig. 4: Mesenteric Embolisation: Bleeding has ceased with coils deployed in the bleeding**

# Management

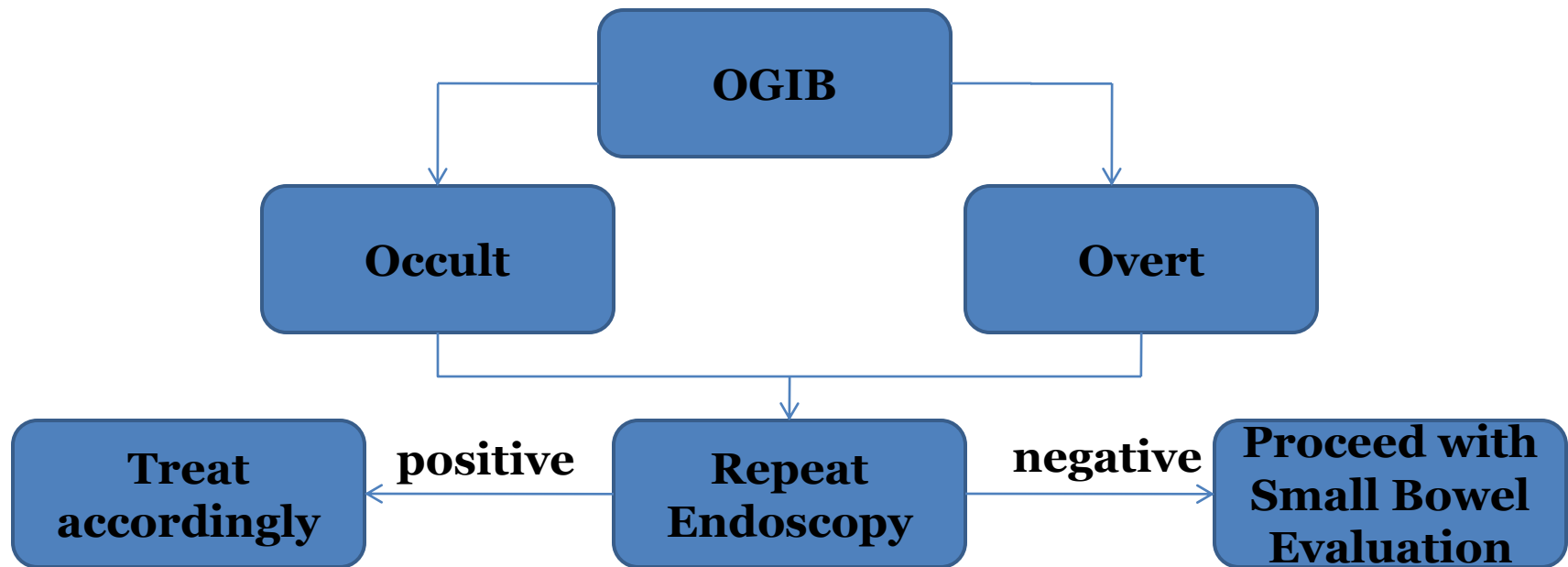
- **Medical management-**
  - Not to be effective in the long-term management.
  - Hormonal therapy (estrogen with or without progesterone)
  - Somatostatin analogues
  - Thalidomide
  - Erythropoietin
  - Von Willebrand factor

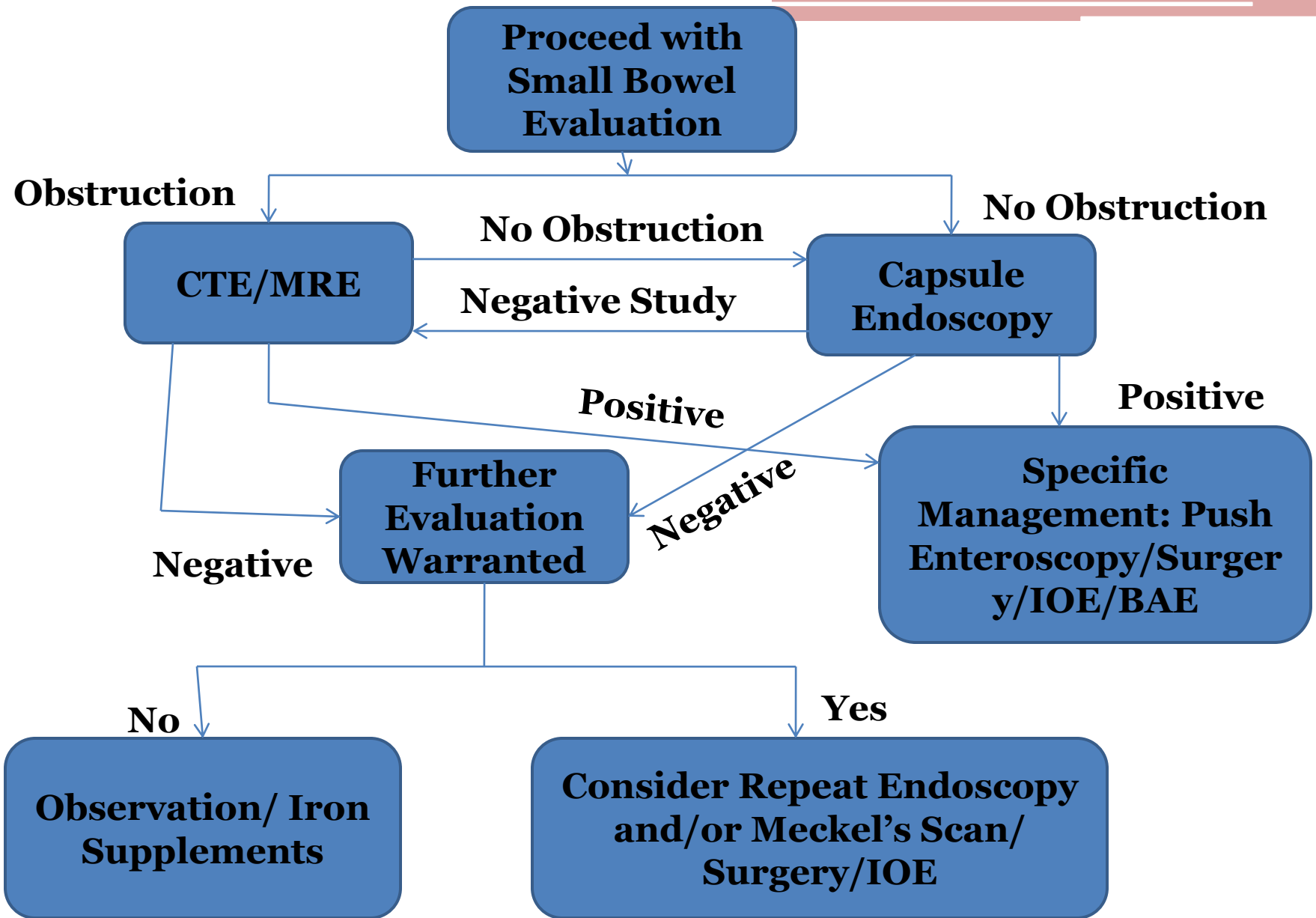
- **Definitive Treatment-** Endoscopic interventions
  - Angiographic embolization
  - Surgical resection

- **Supportive management** with iron therapy and BT
  - Negative diagnostic evaluation
  - Recurrent bleeding (without hemodynamic instability) after undergoing endoscopic/radiologic treatment or surgery
  - Contraindications for endoscopic/radiologic management or surgery.



# Evaluation for OGIB





# Conclusion

- **OGIB** represents one of the most challenging disorders.
- Introduction of new SB imaging and endoscopic modalities overcome these obstacles.
- Rapidly evolving technology improved our ability to diagnose and treat patients with OGIB,

# Conclusion

- Current evidence indicates that CE is the most appropriate investigation in those with obscure occult gastrointestinal bleeding.
- Once the lesion has been found double balloon endoscopy or surgical intervention can provide targeted definitive management.

**THANK YOU**