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#### **Review Article**

## Management of obscure gastrointestinal bleeding in India

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#### ABSTRACT

A patient is diagnosed to have obscure gastrointestinal bleeding (OGIB) when there is no identifiable source of hemorrhage at index upper gastrointestinal endoscopy and colonoscopy. The management of OGIB continues to remain resource intensive and is associated with significant morbidity and even mortality.

The last decade has witnessed development of several localizing investigations such as video capsule endoscopy and enteroscopy that have enhanced our ability to access, visualize and treat OGIB.

The available Western literature suggests the utilization of these modalities for localization and targeted interventions. However these guidelines may not necessarily be applicable to a diverse country like India where population is younger, bleeding aetiology different and advanced medical facilities may not be readily available.

In the following sections the existing literature on the topic is reviewed and management guidelines based on available resources and expertise is presented.

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#### 1. Introduction

A patient is diagnosed to have obscure gastrointestinal bleeding (OGIB) when there is no identifiable source of haemorrhage at index esophagogastroduodenoscopy (EGD) and colonoscopy. While a many of these patients may have the bleeding source located in the small intestine, the lesion may remain undetected by standard endoscopes due to intermittent bleeding (e.g. Dieulafoy lesion of the stomach) or it may be an actually missed lesion.

Obscure gastrointestinal bleeding may be occult (when there is no evidence of gross bleeding) or overt (clinically evident bleeding). The latter may be inactive or active. This simple classification may have an important bearing on decision making. For e.g. a patient with massive OGIB may not be deemed fit to undergo many of the time consuming localizing investigations (vide infra) and may need to be taken up for an exploratory laparotomy with a proviso of Intraoperative enteroscopy.

The last decade has witnessed development of several technical advances such as video capsule endoscopy (VCE) and enteroscopy (single balloon, double balloon and lately spiral) that have enhanced our ability to access, visualize and treat OGIB source in the small intestine.

The current Western literature emphasizes the importance of localization of bleeding source and of targeted interventions. However these guidelines may not necessarily be applicable to a diverse country like India where the

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population is younger, bleeding aetiology different and advanced medical facilities are still beyond the reach of sizeable population.<sup>2</sup>

In the following sections, we present a brief review of the existing literature on the subject.

We also present management guidelines based on the available resources and expertise.

### 2. Aetiology

The aetiology of OGIB is varied depending upon the case mix and whether an Asian or Western population is analysed.

Whereas in a young patient, the most likely source of OGIB is Meckel's diverticulum, small bowel submucosal tumours such as gastrointestinal tumours (GIST), carcinoids, lipoma and lymphoma and adenocarcinoma predominate in a not so young — middle aged population. In the elderly the most common causes include ingestion of NSAIDs, angiodysplasia, diverticulae and malignant tumours.<sup>1</sup>

There are interesting variations when Asian and Western cohorts with OGIB are compared. In our experience as also of the others, the Asian patients with OGIB are younger by almost 2 decades and gastrointestinal tract infections such as tuberculosis, typhoid and amoebic form an important group resulting in OGIB.<sup>2,3</sup> Crohn's disease is increasingly being encountered.<sup>3</sup> Vascular lesions and colonic diverticular bleeds are less frequent. In contrast the patients with OGIB in the Western literature are elderly (>60 years), have more comorbidities and likely to be on NSAIDs &/or anticoagulants. The more frequent causes of bleeding include vascular lesions, diverticulae and tumours.<sup>1</sup> These differences are summarized in Table 1.

These demographic and etiological differences have an important bearing on investigations and treatment planning as discussed in the subsequent sections.

#### 3. Diagnostic modalities

A repeat EGD by an experienced endoscopist should be the initial investigation in a patient presenting with OGIB. The

Table 1 – Obscure gastrointestinal bleeding – differences between Indian & Western cohorts.

No.	Parameter	India	West
1	Age	4–5th decade	6–7th decade
2	Co-morbid illness	Infrequent	Common
3	Use of concomitant drugs such	Infrequent	Common
	as NSAIDS & anticoagulants		
4	Common causes of OGIB		
	- Infective small bowel	+++	Uncommon
	ulcers (including TB)		
	- NSAID induced small	+	+++
	bowel ulcers		
	- Crohn's disease	+	+++
	- Vascular lesions	+	+++
	- Colonic diverticular bleed	_	+++
	- Tumours	+	+

missed lesions at index EGD include Cameron's erosions, peptic ulcerations, Dieulafoy's lesions, angiectasia and gastric fundal varices to name a few. A repeat colonoscopy may be performed in patients with lower gastrointestinal bleeding. Missed lesions attributable to either poor preparation or incomplete examination have been reported in 0–29% patients.<sup>1</sup>

The available diagnostic modalities for OGIB are summarized in Table 2.

A brief discussion pertaining to these modalities is presented in the following sections.

- 1. Conventional radiology: Techniques such as BMFT and enteroclysis that were until recently employed to visualize the small bowel have been reported to have an extremely low yield (0–21%). The main limiting factor is failure to detect small bowel vascular lesions (SBVL). With the availability of CT enterography (vide infra) these modalities currently have only a limited role in evaluation of OGIB.
- 2. CT enterography/CT angiography: This is a rapid, noninvasive imaging technique that permits visualization of the entire small bowel and may reveal morphological abnormalities such as tumours, strictures and diverticulae. The main limitation of CT enterography is in the evaluation of flat mucosal lesions such as ulcers and SBVL.<sup>5</sup> The recent introduction of multiphasic imaging allows for the diagnosis of the latter by the detection of vascular blush.

The availability of multidetector CT angiography provides for a simple, rapid and patient friendly technique for precise localization of source of OGIB and may help in directing further therapeutic interventions such as double balloon enteroscopy and conventional angiography.

3. Video capsule endoscopy: VCE is currently regarded as the initial investigation of choice for the management of OGIB.¹ It is indicated both in the setting of occult and overt bleeding — active or inactive. The main advantages of this technique are that it can be performed on an outpatient basis, permits the examination of the whole of small intestine in a minimally invasive, patient friendly manner. VCE enables diagnosis of mucosal lesions such as SBVL, ulcers and strictures. The current diagnostic yield of VCE ranges from 38 to 83%. The factors that have been reported to enhance the yield include the patient presentation with obscure overt bleeding (when compared to obscure occult bleeding) and an early performance of VCE following OGIB. When performed within 2 weeks of bleeding, the

Table 2 – Diagnostic modalities for OGIB.		
No.	Modality	
1.	Conventional radiology	
	i. Barium meal follow through (BMFT)	
	ii. Enteroclysis	
2.	CT enterography (with angiography)	
3.	VCE	
4.	Enteroscopy	
5.	Nuclear scans	
6.	Conventional angiography (CA)	
7.	Laparotomy and intraoperative enteroscopy (IE)	

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