



CAPSULE ENDOSCOPY IN OBSCURE GI BLEED CASES: EXPERIENCE FROM SINGLE CENTRE

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ABSTRACT

Background: Capsule Endoscopy has a pivotal role in defining small bowel lesions causing overt or obscure GI bleed. The aim of our study was to study the efficacy of capsule endoscopy in diagnosing lesions causing obscure GI bleed and also to define the common causes. **Materials and methods:** 34 serial patients with obscure GI Bleed underwent capsule endoscopy over a period of 18 months following normal upper GI endoscopy, normal ileocolonoscopy and normal CT enterography. **Results:** 30 patients (88.2%) were males and 4 (11.8%) were females. Age of presentation ranged from 14 to 86 years with median age of 43.5 years and mean age of 46.4 years. Comorbidities encountered were Coronary Artery Disease (5 patients, 14.7%), Hypertension (8 patients, 23.5%) and Diabetes Mellitus (2 patients, 5.8%). 5 patients (14.7%) were on Aspirin, 3 patients (8.8%) were on Clopidogrel, 3 patients (8.8%) were on both Aspirin and Clopidogrel and 2 patients (5.8%) were on Oral Anticoagulants (OACs). Presenting complaints were melena in 18 patients (53.1%), haematochezia in 7 patients (21.9%), hematemesis in 3 patients (8.8%), and occult blood loss only was seen in 6 patients (17.6%). Duration of symptoms ranged from 2 days to 14 years with a median of 3 months and mean of 20.4 months. 12 patients (37.5%) presented with a duration of more than 1 year while 10 patients (31.2%) presented with a duration of less than 1 month. Minimum haemoglobin ranged from 3.8 to 13 g/dl with median of 7 g/dl and mean of 7.14g/dl. Capsule endoscopy was positive in 26 patients (76.5%) and negative in 8 patients (23.5%). Telangiectasia were seen in 10 patients (29.4%), ulcers and/or erosions were seen in 5 patients (14.7%), inflammatory bowel disease in 3 patients (8.8%) and worms in 1 patient (2.9%). Active bleed with no identifiable lesion was seen in 4 patients (11.8%). **Conclusion:** WCE has high diagnostic yield, is relatively safe and is an important diagnostic tool for OGIB. Small bowel telangiectasia, Ulcers/erosions, Crohn's disease and tumours continue to be commonly recognized causes of OGIB in developing countries like India.

KEYWORDS : Obscure GI bleed, Overt GI bleed, Occult GI bleed, Upper GI endoscopy, Ileocolonoscopy, CT Enterography, Capsule Endoscopy

INTRODUCTION

Obscure GI bleed is diagnosed when upper GI endoscopy, ileocolonoscopy and small bowel series do not reveal any lesion in a case of GI bleed. Bleeding is called overt when patient presents with overt symptoms like hematemesis, melena or haematochezia. Occult GI bleed is diagnosed when patient presents with symptoms of anaemia with a positive stool occult blood test without any overt symptoms. A wireless capsule endoscopy (WCE) is helpful in such cases to diagnose any small bowel lesion as the cause of GI bleed.

MATERIALS AND METHODS

Study design

A single centre, retrospective observational study, carried out at the tertiary care centre from December 2018 to May 2020 (18 months). The permission was granted from an Institutional Review Board to retrieve and analyse the data. Occult GI bleeding was defined as passage of visible blood in vomitus or stools, or by positive results on stool occult blood tests with normal upper GI endoscopy, normal ileo-colonoscopy and a normal CT Enterography. Data recorded were demographic profile, underlying disease, comorbidity and Capsule Endoscopy findings of patients.

Inclusion criteria

All patients without any contraindications and giving written consent for CE for evaluation of OGIB were selected. These included:

1. Patients with ongoing, obscure overt GI bleeding.
2. Patients with a history of gastrointestinal bleeding with normal

gastro duodenoscopy, ileocolonoscopy and CT Enterography.
3. Anaemic patients with stool occult blood positive.

Exclusion criteria

1. Patients with clinical features suggestive of partial bowel obstruction or showing strictures on cross-sectional imaging.
2. Failure to obtain consent.
3. Hemodynamically unstable patients.

Methodology

34 consecutive patients of obscure GI bleed were evaluated over a period of 18 months at this tertiary care centre. These patients were studied in terms of gender, age of presentation, comorbidities, use of antiplatelet /OACs, symptoms and duration of presentation and minimum haemoglobin at presentation. Initially, all these patients underwent a repeat upper GI endoscopy, ileocolonoscopy and CT enterography at our centre. After confirmation of normal findings in these investigations, they were all registered for capsule endoscopy. All patients underwent capsule endoscopy as inpatients. After bowel preparation followed by 6 hours of fasting, they all underwent capsule endoscopy and were subsequently evaluated for the findings revealed in the study.

RESULTS

Total 34 patients underwent capsule endoscopy for evaluation of obscure GI bleed. Out of these 30 (88.2%) were males and 4 (11.8%) were females. Age of presentation ranged from 14 years to 86 years, median age of presentation was 43.5 years and mean age of presentation was 46.4 years.

Comorbidities (Table 1)

S No	Comorbidities	Number of patients(n=34)	Percentage of total patients
1.	Hypertension	8	23.5%
2.	Coronary artery disease	5	14.7%
3.	Diabetes Mellitus	2	5.8%

Use of antiplatelet/anticoagulant drugs (Table 2)

S No	Drug	No. of patients(n=34)	Percentage of patients
1.	Aspirin	5	14.7%
2.	Clopidogrel	3	8.8%
3.	Both Aspirin and Clopidogrel	3	8.8%
4.	Oral Anticoagulants	2	5.8%

Presenting symptom (Table 3)

S No	Symptoms	No. of Patients(n=34)	Percentage of Total Patients
1.	Melena	18	53.1%
2.	Haematochezia	7	21.9%
3.	Faecal occult blood test positive	6	17.6%
4.	Hematemesis	3	8.8%

Duration of illness ranged from 2 days to 14 years. Median duration was 3 months and mean duration was 20.4 months. 12 patients (37.5%) presented with duration of more than 1 year. 10 patients (29.4%) presented with duration of less than a month. Minimum haemoglobin (Hb) ranged from 3.8 to 13 g/dl. Median Hb was 7 g/dl and Mean Hb was 7.14 g/dl.

Results of capsule endoscopy

Capsule endoscopy was positive in 26 patients (76.5%), normal in 8 patients (23.5%)

Findings of capsule endoscopy (Table 4)

S No	Lesion	No of patients(n=34)	Percentage of patients
1.	Telangiectasia	10	29.4 %
2.	Ulcers and erosions	5	14.7 %
3.	Active bleed with no identifiable lesion	4	11.8 %
4.	Inflammatory bowel disease	3	8.8 %
5.	Tumour	3	8.8 %
6.	Worms	1	2.9 %
7.	Normal study	8	23.5%

DISCUSSION

First video capsule endoscope was introduced in 2001 by Iddan[1] as a new tool for the investigation of the small bowel. WCE has been found to be very useful method of small-bowel imaging and has a pivotal role diagnosis and management of Occult GI bleed(OGIB). Our study has an overall positive diagnostic yield of 76.5%, which is in accordance with published literature as described in a review by Wang et al. where the detection rate of WCE for potential culprit lesion in OGIB ranges from 35% to 77%.[2] with performance dependent on various factors. The diagnostic yield reported in previous Indian studies were variable ranging from 52% to 74%.[3], [4], [5], [6], [7], [8], [11] Etiology for OGIB as detected by CE has varied from study to study. Vascular malformations or angiodysplasia were the most common finding in the present study. Ghoshal et al and Chauhan et al also had vascular malformations as the most common finding in their study.[5], [11] Comparable results were seen in the studies done by Tong et al. and Zhang et al., who in their review had proposed angiodysplasia as the most common cause of OGIB in patients age >65 years.[9], [10]. Worm infestation, particularly Hookworm, detected in WCE in our series in 1 patient, is a unique cause of OGIB in tropical countries as previously highlighted by various case reports, case series and large studies from India.[3], [4], [5], [6], [12], [13] In our study we could find definite lesions as cause of bleed in 22 patients(64.7%). Goenka et al.

in their study reported 58% definite lesions that could unequivocally explain OGIB. Ghoshal et al. confirmed that the CE findings by surgery or response to treatment and calculated true positive findings in 39 patients out of total 64 lesions identified, which transforms the yield of CE as 61% for definitive lesions. Capsule retention is the main potential adverse event of CE, which is defined as a capsule endoscope remaining in the digestive tract for a minimum of 2 weeks or one that has required directed therapy to aid its passage. A systematic review by Rezapour et al. have described the CE retention rates of approximately 2% of patients undergoing evaluation for small-bowel bleeding and is most likely due to small-bowel strictures. These rates are decreased by half in those studies that used either a patency capsule or CT enterography to assess patency before performing CE. In our study, capsule retention was not seen in any patient. This complication was avoided most likely as we did CT Enterography in every patient before WCE. Limitations of our study were its retrospective nature and inability to have conclusive histopathological or tissue diagnosis for most of the patients. Secondly, the study did not offer long-term follow-up of the patients, and hence, made it impossible to draw a strong conclusion on long-term outcomes of patients with recurrence of OGIB in the absence of definitive treatment. Larger prospective studies in future may be more yielding.

CONCLUSION

In cases of OGIB, capsule endoscopy revealed positive findings in 76.5%. Capsule endoscopy was diagnostic in 64.7%. Lesions identified were telangiectasia in 29.4%, ulcers and erosions in 14.7%, inflammatory bowel disease in 8.8%, tumour in 8.8%, worms in 2.9%, active bleed with no identifiable lesion in 11.8% and normal study in 23.5%. Capsule endoscopy is an excellent tool in evaluation of obscure gastrointestinal bleeding and has high diagnostic yield which helps in guiding therapeutic management.

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Conflicts of interest

There are no conflicts of interest.

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