Background: Obscure gastrointestinal bleeding (OGIB) is a common indication for capsule endoscopy (CE). Reports on diagnostic yield of CE in this situation show a wide variation. We evaluated the diagnostic yield and clinical impact of CE in patients with OGIB.

Methods: We reviewed the medical records of patients with OGIB who underwent CE at our institution between June 2002 and October 2005. Results: 154 patients (mean age 47 [SD 17] years; 117 men), including 74 with overt OGIB and 80 with occult OGIB, underwent CE. CE yielded positive findings in 57 of 74 patients (77%) with overt OGIB and 22 of 80 (27%) of those with occult OGIB (p<0.0001); the overall positive diagnostic yield was 52%. NSAID-induced lesions (15%), angiodysplasias (14%) and aphthous ulcers (12%) were the most frequent findings. CE helped in planning further management in 79% of patients with overt OGIB and 26% of those with occult OGIB. Conclusion: CE is a useful diagnostic technique in patients with OGIB, especially those with overt OGIB. [Indian J Gastroenterol 2006;25:188-190]
Results

During the study period, 154 patients (mean age 47 [SD 17] years; 117 men) with OGIB, including 74 with overt OGIB and 80 with occult OGIB, had undergone CE. Some of these patients have been included in our previous publications on experience with CE in Crohn’s disease, intestinal tuberculosis and intestinal lymphangectasia.\(^{14,15,16}\) All patients swallowed the capsule easily and none reported any discomfort during the procedure. The capsule was excreted naturally in all patients except in one patient with Meckel’s diverticulum who required surgery for bleeding ileal ulcer.

CE findings were positive in 79 patients (52%), suspicious in 15 (9%) and negative in 60 patients (39%) (Table). Positive CE findings were more frequent in patients with overt OGIB (57/74 [77%]) than in those with occult OGIB (22/80 [27%]); \(p<0.0001\). Two patients (2.5%) with overt OGIB and 13 (16%) with occult OGIB had suspicious lesions.

The commonest lesions encountered were NSAID-induced lesions (including multiple erosions, ulcers, web-like lesions and strictures) in 20 (13%) patients; other common lesions were angiodysplasias, multiple aphthous ulcers, and small bowel tumors (Table). The 10 patients with miscellaneous positive CE findings had ascariasis, flattened mucosal folds and mosaicism suggestive of celiac disease, portal hypertensive enteropathy, and intestinal lymphangectasia in two patients each, hookworm infestation in one patient and Meckel’s diverticulum in one patient. The diagnosis of celiac disease was confirmed by serological tests in both patients.

Further management

Push enteroscopy did not identify any lesion that was missed by CE. In addition, CE detected lesions in small bowel segment beyond the reach of the push enteroscope.

Based on CE findings, 94 patients with ongoing overt OGIB, aphthous ulcers and angiodysplasia and those with lesions within reach of the enteroscope underwent push enteroscopy. Biopsies were taken to confirm the diagnosis and treat the lesion, if required. Three patients underwent laparoscopy-assisted enteroscopy. Eleven patients with overt OGIB, including 8 with small bowel tumors and 3 with actively bleeding ulcers, underwent curative surgery. Push enteroscopy with argon plasma coagulation was done in 5 patients.

CE helped in diagnosis and medical management of 48 of 74 patients (59%) with overt OGIB. In occult OGIB, 33 patients (41%) were treated non-surgically based on the CE findings. Another two patients (2.5%) with occult OGIB and small bowel tumor underwent surgery.

Discussion

In our series, the overall diagnostic yield of CE in OGIB was comparable to that reported by Pennazio \textit{et al.}\(^{17}\) Jensen \textit{et al} \(^{18}\) studied 21 patients and found the diagnostic yield of CE to be only 38%. However, other studies have reported a positive yield of 80%-90%\(^{11,12,13,17,19}\). The American Society for Gastrointestinal Endoscopy reported a diagnostic yield of 67% with CE in OGIB\(^{20}\). This variation in diagnostic yield is possibly related to differences in patient groups and in interpretation of CE images.

The diagnostic yield of CE varies according to the type of bleeding. The positive yield in occult OGIB was only 27% in our series, and 44% in a previous study\(^{17}\). Other studies have reported a higher diagnostic yield of CE in occult OGIB\(^{11,12,13,17,19}\). The low yield in our study may be partly because we used CE without prior bowel preparation during the earlier part of the study.

All proximal small bowel lesions detected on CE were confirmed by push enteroscopy. Push enteroscopy did not identify any lesion that was missed by CE.

CE helped in planning further management in 79% of patients with overt OGIB and 26% with occult OGIB. Pennazio \textit{et al} \(^{17}\) reported positive impact of CE in overt OGIB and occult OGIB as 86.9% and 41.4%, respectively.

NSAID-induced lesions, angiodysplasias and aphthous ulcers were the most common positive findings in our series. This is similar to the data from a previous study from India that did not include CE and showed small bowel and colonic angiodysplasia.

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Table: Capsule endoscopy findings in obscure GI bleeding

<table>
<thead>
<tr>
<th>Positive findings</th>
<th>Overt (n=74)</th>
<th>Occult (n=80)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAID-induced lesions</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Angiodysplasias</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>Multiple aphthous ulcers</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Small bowel tumors</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Suspicious findings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolated erosions</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Flattened folds</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Small polyps</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Negative findings</td>
<td>15</td>
<td>45</td>
</tr>
</tbody>
</table>

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Studies have found intestinal lymphangiectasia in two patients with OGIB. The exact significance of these lesions is not clear. However, they have been found as cause of OGIB in an earlier study. Some lesions seen on CE in our study, e.g., flattened folds, isolated erosions, tiny polyp, do not clearly explain the cause of OGIB and hence are described as suspicious lesions.

The major limitations of CE are its high cost and inability to provide tissue samples. Further, image quality may be compromised by residue in the small bowel or inability to insufflate the lumen; proper bowel preparation and improvement in CE technology are likely to improve the yield in future.

In conclusion, we found CE to be a useful diagnostic technique in patients with OGIB, especially those with overt OGIB.

References


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