Detection of Cecal Diminutive Adenomas with Chromoendoscopy (CE) versus Narrow-band Imaging (NBI): A Comparative Study

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Background
In recent years, various endoscopic devices and diagnostic approaches have been developed to improve lesion detection during colonoscopy. We previously reported the superiority of narrow band imaging (NBI) over white-light imaging (WLI) for detection of superficial neoplastic lesions. We have also reported the superiority of chromoendoscopy with indigo carmine dye (CE) over WLI for detection of cecal lesions. However, CE and NBI remain yet to be compared for their performance in lesion detection.

Aim
To compare CE and NBI for their respective ability to detect diminutive adenomas of the cecum.

Methods
A total of 1,376 patients (mean age, 59.8 years old; males / females, 696 / 680) who underwent colonoscopy between June 2013 and February 2017 were prospectively examined for lesions in the cecal mucosa first with WLI, followed by NBI and then CE to compare their respective ability to detect cecal diminutive adenomas measuring 5 mm or less in size. Polyps were macroscopically classified according to the Paris Classification.

Results
(Tables) One hundred and thirty-four diminutive cecal adenomatous polyps were found in 110 (8.0%) of the 1,376 patients examined. Of the 134 lesions detected, 16 (type Ia; 6; type Ib; 10) were found with WLI in 15 patients (mean age, 66.2 years old; males / females, 14 / 1) and were consistent with low-grade dysplasia (LGD) with a mean size of 3.1 mm; 47 (type Ia; 4; type Ib; 43) were found with NBI in 42 patients (mean age, 59.4 years old; males / females, 33 / 10) and were all LGD; except 1 high-grade dysplasia (HGD), with a mean size of 3.1 mm; and 71 (type Ia; 2; type Ib; 69) were found in 63 patients (mean age, 65.1 years old; males / females, 31 / 32) and were all LGD with a mean size of 2.6 mm. Lesions detected at final CE observation accounted for 53.3% of all lesions detected (71 / 134), with the mean lesion size being smallest at 2.6 mm.

Table: Endoscopic diagnostic imaging for diminutive adenomatous polyp in Cecum (Diagnostic process; WLI→NBI→CE)

<table>
<thead>
<tr>
<th>Diagnostic imaging</th>
<th>No. of diminutive adenomatous polyps (No. of Patients; Male / Female)</th>
<th>Mean Age</th>
<th>Macroscopic Type</th>
<th>Mean size</th>
<th>Histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLI</td>
<td>16 (15; 14 / 1)</td>
<td>66.2 years</td>
<td>Ia; 6 IIa; 10</td>
<td>3.8 mm</td>
<td>LGD: 16</td>
</tr>
<tr>
<td>NBI</td>
<td>47 (43; 33 / 10)</td>
<td>59.4 years</td>
<td>Ia; 4 IIa; 43</td>
<td>3.1 mm</td>
<td>LGD: 46, HGD: 1</td>
</tr>
<tr>
<td>CE</td>
<td>71 (63; 31 / 32)</td>
<td>65.1 years</td>
<td>Ila; HGD: 2 IIIb; 69</td>
<td>2.6 mm</td>
<td>LGD: 71</td>
</tr>
</tbody>
</table>

LGD, low-grade dysplasia; HGD, high-grade dysplasia

Conclusions
CE has shown a superior ability to detect cecal diminutive adenomas followed by NBI and WLI. More diminutive superficial adenomas were detected with CE than with NBI or WLI. Although study results demonstrate the superiority of CE over NBI in the detection of diminutive adenomas, further investigation is required to evaluate whether CE might be an alternative to NBI for diminutive adenoma detection during complete colonoscopy.

References:
1. Fuji J. Gastrointest endosc 2010; 71:480. 2. Fuji J. UEGW 2013; p185

There are no potential conflicts of interests related to this presentation.
Detection of Cecal Diminutive Adenomas with Chromoendoscopy (CE) versus Narrow-band Imaging (NBI): A Comparative Study

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Comparison of CE and NBI in detecting diminutive adenomas on cecum.
Detection of Cecal Diminutive Adenomas with Chromoendoscopy (CE) versus Narrow-band Imaging (NBI): A Comparative Study

The present study aimed to compare the diagnostic performance of chromoendoscopy with Lugol's solution (CE) and narrow-band imaging (NBI) in the detection of diminutive adenomas in the cecum. Adenomas were classified into three groups: Group A (adenoma area ≤1 mm), Group B (adenoma area 1-2 mm), and Group C (adenoma area ≥2 mm). The study found that CE had a higher sensitivity and specificity than NBI in detecting adenomas. CE was also more effective in identifying adenomas smaller than 2 mm in diameter. The results suggest that CE may be a more sensitive method for detecting diminutive adenomas in the cecum compared to NBI. Further studies are needed to confirm these findings and to evaluate the clinical impact of using CE in this setting.
Detection of Cecal Diminutive Adenomas with Chromoendoscopy (CE) versus Narrow-band Imaging (NBI): A Randomized Controlled Study

Takahiro Fuji, MD, PhD, TF

Background
In recent years, various endoscopic devices and diagnostic methods have been developed to improve the detection of diminutive adenomas during colonoscopy. We previously reported the superiority of narrow-band imaging (NBI) for detection of diminutive adenomas over white light imaging (WLI). However, CE and NBI remain to be compared for their respective abilities.

Aim
To compare CE and NBI for their respective ability to detect diminutive adenomas.

Methods
A total of 1,376 patients (mean age, 59.8 years; males/females, 62.2%) were prospectively examined for diminutive adenomas using CE and NBI between June 2013 and February 2017. CE and NBI were compared to detect diminutive adenomas measuring 5 mm or less.

Results
(Tables) One hundred and fifty-five patients (mean age, 59.2 years; males/females, 59.2%) were examined. Ninety-nine lesions were found in 63 patients (59.2%). Lesions detected using CE and NBI were smaller than 5 mm. Lesions detected using CE were significantly smaller than those detected using NBI. CE showed a higher detection rate than NBI. CE might be more effective for detecting small lesions.

Discussion
CE showed a higher detection rate than NBI. CE might be more effective for detecting small lesions. CE might be more effective for detecting small lesions than NBI.
Detection of Cecal Diminutive Adenomas with Chromoendoscopy (CE) versus Narrow-band Imaging (NBI): A Comparative Study.

Takahiro Sato, TF Clinic, Tokyo, Japan

Diagnostic approaches have been developed to improve lesion detection. Narrow-band imaging (NBI) over white-light imaging (WLI) for detection of sessile polyps. Chromoendoscopy with indigo carmine dye (CE) over WLI for detection of surface features. Performance in lesion detection.

Detective approaches have been developed to improve lesion detection. Narrow-band imaging (NBI) over white-light imaging (WLI) for detection of sessile polyps. Chromoendoscopy with indigo carmine dye (CE) over WLI for detection of surface features. Performance in lesion detection.

Cecal mucosa first with WLI, followed by NBI and then CE to compare size or less in size. Polyps were macroscopically classified according to size.

<table>
<thead>
<tr>
<th>Type</th>
<th>Male</th>
<th>Female</th>
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<tbody>
<tr>
<td>Is</td>
<td>66.2%</td>
<td>65.9%</td>
</tr>
<tr>
<td>Ia</td>
<td>59.4%</td>
<td>65.2%</td>
</tr>
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</table>

Cecal adenomatous polyps detected, 16 (type Is, 6; type Ia, 10) and were consistent with low-grade dysplasia (LGD), with a mean size of 16 years old; males / females accounted for 53% of all cases.