How do we handle the detection of an increasing number of tiny adenomas?

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**Management of Diminutive Colorectal Adenomas**

1. “Removal-of-all” followed by pathological evaluation

2. “Resect-and-discard”

3. “Diagnose-and-do-not-resect” followed by deferred polypectomy performed when adenomas increase in size

- Increased detection of diminutive adenomas
- Work burden and cost for polypectomy/pathological evaluation
- Risk of adverse events of polypectomy
- Low malignant potential of diminutive polyps
Management of Diminutive Colorectal Adenomas

**Approach of “Diagnose-and-do-not-resect”**

➢ In Japan, the “diagnose-and-do-not-resect” strategy has been allowed for diminutive colorectal adenomas sized ≤5 mm without findings of advanced histology. 


➢ However, evidence to support the “diagnose-and-do-not-resect” strategy has been insufficient.
Incidence of Advanced Colorectal Neoplasia in Individuals With Untreated Diminutive Colorectal Adenomas Diagnosed by Magnifying Image-Enhanced Endoscopy

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Aims

This study aimed to evaluate the cumulative incidence of advanced colorectal neoplasia (ACN) in individuals with untreated diminutive adenomas, and also to compare the incidence with that in individuals with no adenomas at baseline.
Methods

**Study setting and design**

➢ The database of individuals undergoing screening colonoscopy at the Cancer Screening Center of the National Cancer Center (NCC), between February 2004 and March 2013, was used.

➢ All colorectal lesions were evaluated during screening colonoscopy using magnifying image-enhanced endoscopy.
Management policy after screening CS at the NCC Screening Center

Results of screening CS

- No adenomas
- Only diminutive non-advanced adenomas (sized <5 mm)

Follow-up policy

- ACN
- Adenoma sized ≥5 mm

Follow-up CS within 5 years after the CS without treatment

Referral to a hospital for treatment
**Study participants**

**Inclusion criteria for the study participants**

i. Asymptomatic individuals who underwent first-time screening CS at the NCC Screening Center between Feb 2004 and Mar 2013

ii. No adenoma or only diminutive non-advanced adenomas (<5 mm) detected at their first screening CS

iii. At least one follow-up CS performed after the initial CS without any treatment for colorectal polyps
Study participants

- Group A: Individuals with untreated diminutive adenomas
- Group B: Individuals with no adenomas
Assessments

**Primary outcome: Incidence of ACN**

Examining and adjusting for factors associated with ACN incidence among the following baseline characteristics.

- Age, sex, family history of CRC, body mass index (BMI), smoking,
- use of nonsteroidal anti-inflammatory drugs (NSAIDs),
- presence and numbers of untreated diminutive adenomas
Flowchart for selection of study participants

5,738 asymptomatic individuals who underwent first-time screening CS at the NCC Screening Center between Feb 2004 and Mar 2013

Exclusion
- Unavailability of information of a self-administered questionnaire on lifestyle, demographic characteristics, and medical history (n=457)
- Incomplete colonoscopy (n=63)

5,218 asymptomatic individuals who underwent first-time screening CS

Meeting Inclusion Criteria i), ii), and iii)

Exclusion
- Refusal of participation in the study (n=0)

1,378 individuals were included as study participants for this study
Study participants

$n = 1,378$

Group A
$n = 361$
Individuals with untreated diminutive adenomas

Group B
$n = 1,017$
Individuals with no adenomas
#### Incidence of ACN during the follow-up period

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Group A (untreated diminutive colorectal adenomas)</th>
<th>Group B (no adenomas)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n=1,378</td>
<td>n=361</td>
<td>n=1,017</td>
<td></td>
</tr>
<tr>
<td>Follow-up period, months, median (IQR)</td>
<td>60.9 (40.8–64.2)</td>
<td>60.7 (36.8–63.7)</td>
<td>60.9 (42.9–64.5)</td>
<td>0.15</td>
</tr>
<tr>
<td>Number of surveillance CS, median (IQR)</td>
<td>1 (1–2)</td>
<td>1 (1–2)</td>
<td>1 (1–2)</td>
<td>0.93</td>
</tr>
</tbody>
</table>

- A total of 21 ACNs were detected. All were newly developed in a different location where untreated diminutive adenomas were found.
Cumulative incidence of ACN in Groups A and B

- Group A: untreated diminutive adenomas 1.4% (0.5 – 3.4)
- Group B: no adenomas 0.8% (0.3 – 1.7)

5-year cumulative incidence of ACN

P = 0.23
Factors examined for their relationships with ACN incidence

Age, sex, family history of CRC, body mass index (BMI), smoking, use of nonsteroidal anti-inflammatory drugs (NSAIDs), presence and numbers of untreated diminutive adenomas
Association between participants’ baseline characteristics and incidence of ACN

Factors examined for their relationships with ACN incidence

Age, sex, family history of CRC, body mass index (BMI), smoking, use of nonsteroidal anti-inflammatory drugs (NSAIDs), presence and numbers of untreated diminutive adenomas

<table>
<thead>
<tr>
<th>Clinical factors</th>
<th>Number of individuals</th>
<th>5-year incidence of ACN</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking</td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Current smoker</td>
<td>179</td>
<td>3.0%</td>
<td>0.9%–7.0%</td>
<td></td>
</tr>
<tr>
<td>Previous smoker</td>
<td>446</td>
<td>0.2%</td>
<td>0.0%–1.3%</td>
<td></td>
</tr>
<tr>
<td>Nonsmoker</td>
<td>753</td>
<td>0.9%</td>
<td>0.3%–2.0%</td>
<td></td>
</tr>
</tbody>
</table>
Incidences of ACN in Groups A and B after adjusting for smoking status

<table>
<thead>
<tr>
<th>Model</th>
<th>5-year incidence of ACN in Group A (untreated diminutive adenomas)</th>
<th>5-year incidence of ACN in Group B (No adenomas)</th>
<th>Hazard ratio for ACN in Group A versus Group B</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unadjusted</td>
<td>1.4% (0.5–3.4)</td>
<td>0.8% (0.3–1.7)</td>
<td>1.77 (0.69–4.54)</td>
<td>0.24</td>
</tr>
<tr>
<td>Adjusted for smoking status</td>
<td>1.1% (0.0–2.2)</td>
<td>0.7% (0.1–1.3)</td>
<td>1.43 (0.52–3.90)</td>
<td>0.48</td>
</tr>
</tbody>
</table>

(Data are shown with 95% CI)
### Characteristics of detected advanced colorectal neoplasia (n=21)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size, mm, median (IQR)</td>
<td>12 (10–13)</td>
</tr>
<tr>
<td>Location, n (%)</td>
<td></td>
</tr>
<tr>
<td>Proximal (cecum, ascending and transverse colon)</td>
<td>13 (61.9)</td>
</tr>
<tr>
<td>Distal (descending and sigmoid colon, rectum)</td>
<td>8 (38.1)</td>
</tr>
<tr>
<td>Histological type, n (%)</td>
<td></td>
</tr>
<tr>
<td>Tubular adenoma</td>
<td>12 (57.1)</td>
</tr>
<tr>
<td>Tubular adenoma</td>
<td>2 (9.5)</td>
</tr>
<tr>
<td>Tubular adenoma</td>
<td>6 (28.6)</td>
</tr>
<tr>
<td>Tubular adenoma</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>Depth of the deepest invasion</td>
<td></td>
</tr>
<tr>
<td>Submucosal</td>
<td>20 (95.2)</td>
</tr>
<tr>
<td>Transmural</td>
<td>1 (4.8)</td>
</tr>
<tr>
<td>Macroscopic type, n (%)</td>
<td></td>
</tr>
<tr>
<td>0–Ia</td>
<td>10 (47.6)</td>
</tr>
<tr>
<td>0–IIa</td>
<td>7 (33.3)</td>
</tr>
<tr>
<td>Others</td>
<td>4 (19.1)</td>
</tr>
</tbody>
</table>

All 21 ACNs were cured endoscopically
Conclusions

The 5-year cumulative incidence of ACN in individuals with untreated diminutive adenomas diagnosed by magnifying IEE was sufficiently low, suggesting that the “diagnose-and-do-not-resect” approach may be an acceptable option for diminutive adenomas without excessively intensive surveillance.
Management of Diminutive Colorectal Adenomas

Approach of “Diagnose-and-do-not-resect”

➢ Low incidence of ACN in individuals with untreated diminutive adenomas diagnosed by magnifying image-enhanced endoscopy has also been reported in other studies in Japan.
Management of Diminutive Colorectal Adenomas

1. “Removal-of-all” followed by pathological evaluation  *Ideal*

2. “Resect-and-discard”

   followed by deferred polypectomy performed if diagnosed by high-quality endoscopy
   when adenomas increase in size
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