Serrated Lesion Detection Rate - an Emerging Marker of Quality that Varies with Definition

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Background:
- WHO classification of serrated polyps include:
  - sessile serrated polyp (SSP)
  - hyperplastic polyp (HP)
  - traditional serrated adenoma (TSA)
- Various terms are used to describe serrated lesion detection rate based on location and pathology:
  - Proximal Serrated Polyp Detection Rate (PSP-DR)
  - Serrated Detection Rate (SDR)
- Clinically Significant Serrated Polyp Detection Rate (CSSP-DR)
- The variation in the definition of serrated lesions has led to inconsistent reporting of detection rates between centers.

Aims:
- To evaluate the impact of varying serrated lesion definitions on calculation of detection rates.

Methods:
- We used previous definitions of detection rates as the following:
  1. PSP-DR = HP + SSP + TSA proximal to the splenic flexure
  2. SDR = HP + SSP + TSA in the entire colon
  3. SSPDR = SSP in the entire colon
  4. CSSPDR = SSP in the entire colon + HP proximal to the sigmoid
- Serrated lesion detection rates were calculated for each endoscopist according to the above definitions.
- p-values were obtained using a two-sample Wilcoxon rank-sum test for a total of six comparisons between the four detection rates list above.

Results:
- 8,205 screening colonoscopies with adequate bowel prep and cecal intubation by 23 Gastroenterologists were included in our analysis.
- A total of 5,536 polyps were detected. (Table 1)

<table>
<thead>
<tr>
<th>Type of Polyp</th>
<th>Number</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenomas</td>
<td>4,002</td>
<td>76.3</td>
</tr>
<tr>
<td>Sessile Serrated Polyps</td>
<td>819</td>
<td>15.6</td>
</tr>
<tr>
<td>Traditional Serrated Adenomas</td>
<td>7</td>
<td>0.1</td>
</tr>
<tr>
<td>Hyperplastic Polyps Proximal to the Sessile Polyps</td>
<td>417</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Table 1: Polyp Characteristics

Each variation of definition was statistically different from each other as shown in Table 2.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Overall ± SD% (range)</th>
<th>SDR</th>
<th>PSP-DR</th>
<th>CSSP-DR</th>
<th>SSP-DR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>8.4 ± 4.2</td>
<td>10.1 ± 5.4</td>
<td>12.5 ± 6.6</td>
<td>24.4 ± 12.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0 - 15.4)</td>
<td>(1.2 - 19.5)</td>
<td>(1.8 - 24.9)</td>
<td>(7.9 - 50.1)</td>
<td></td>
</tr>
<tr>
<td>CSPS-DR</td>
<td>x</td>
<td>0.0005</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>SSP-DR</td>
<td>x</td>
<td>0.0005</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>CSSP-DR</td>
<td>x</td>
<td>0.0005</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>SDR</td>
<td>x</td>
<td>0.0005</td>
<td>&lt;0.0001</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
</tbody>
</table>

Table 2: Comparison of Detection Rates means and corresponding p-values

Conclusions:
- The applications of variable definitions of serrated lesion detection rates result in significantly different absolute values.
- Comparisons across studies can be misleading if using varying definitions of serrated lesion detection rate.
- As serrated lesion detection evolves as an important quality indicator for colonoscopy, future research and quality improvement efforts should implement a standardized definition across centers.

References: