Utility of Routine Colonic Biopsies in Pediatric Colonoscopic Polypectomy for Benign Juvenile Inflammatory Polyps

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Disclosures
• None

Background
• Pediatric Polyps
  - Common
  - Rectal bleeding
  - Untreated can lead to iron deficiency
  - Location and number variable
  - Requires histologic evaluation for diagnosis

• Are routine colonic biopsies in this setting warranted?

Aims
• Determine the utility of performing routine colonic biopsies during pediatric polypectomy for benign juvenile polyps
• Investigate practice variations
• Calculate the added cost of these biopsies to our healthcare system

Methods
• Retrospective chart review
  - Inclusion criteria:
    • Aged 1-18 years
    • Underwent complete colonoscopy with polypectomy
  - Exclusion criteria:
    • Known history or family history of polyposis syndrome
    • Findings suggestive of IBD
    • > 5 polyps seen at time of procedure
    • Incomplete documentation

Methods
• Study design continued...
  - Recorded:
    • Indication
    • Age at procedure
    • Number of polyps found
    • Gross and histologic findings, and management changes based on findings
    • Diagnosis of juvenile inflammatory polyp based on histologic examination
Results

Total Patients Screened 141

Included Patients 72 (51%)

Male 89 (63%)

Mean Age in Years 6.5 (Range 1-17)

Indication for Endoscopy
Hematochezia 71 (98.6%)
Abdominal Pain 1 (1.4%)

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Survey

- What about other centers?
### Biopsy Sites

<table>
<thead>
<tr>
<th>Site</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>TI Only</td>
<td>10</td>
</tr>
<tr>
<td>TI and Colon</td>
<td>50</td>
</tr>
<tr>
<td>Colon Only</td>
<td>10</td>
</tr>
<tr>
<td>No Biopsies</td>
<td>30</td>
</tr>
</tbody>
</table>

### Level of Practice

<table>
<thead>
<tr>
<th>Level</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending</td>
<td>50</td>
</tr>
<tr>
<td>Fellow</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>30</td>
</tr>
</tbody>
</table>

### Practice Setting

<table>
<thead>
<tr>
<th>Setting</th>
<th>% Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Center</td>
<td>50</td>
</tr>
<tr>
<td>Community Hospital/Group Practice</td>
<td>20</td>
</tr>
<tr>
<td>Solo Practice</td>
<td>30</td>
</tr>
</tbody>
</table>
Cost Analysis

- How much is the pathologic examination of routine colonic biopsies in this clinical setting costing us?

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td># of children aged 1-18 years in the United States in 2013 (US Census Data)</td>
<td>90,801,861</td>
</tr>
<tr>
<td># of children diagnosed with benign juvenile inflammatory polyp (0.9%)</td>
<td>817,217</td>
</tr>
<tr>
<td># of these children having had routine colonic biopsies at the time of polypectomy (76%)</td>
<td>621,085</td>
</tr>
<tr>
<td>Charge for pathologic examination of additional 4 specimens for the above patients per our center</td>
<td>$471 per specimen; $1,884 per patient; Total: $1,170,124,140</td>
</tr>
<tr>
<td>Reimbursement for pathologic examination of additional 4 specimens (Medicaid)</td>
<td>$66.09 per specimen; $264.36 per patient; Total: $164,190,031</td>
</tr>
<tr>
<td>Difference</td>
<td>$1,005,934,109</td>
</tr>
</tbody>
</table>

Limitations

- Retrospective
- Small size
- Documentation
  - Unclear when polyp found during procedure
- Estimations used in cost analysis
  - Charges
  - Population size
  - Reimbursement based on Medicaid
Conclusions

- Colonic biopsies had no effect on clinical outcomes or management in our study
- 44% of respondents perform routine biopsies in the absence of gross findings
- Overuse of pathology services, increased procedure time and risk, and added healthcare costs can be avoided
- Future investigations needed to confirm these conclusions

Thank You