Rescheduling Pediatric Endoscopy Procedures After COVID-19 Pandemic

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• Goals:
  • To share a single-institution strategy to triage new and COVID-19 Pandemic cancelled non-urgent Pediatric Gastrointestinal Endoscopy Procedures
  • To support development of a rationally devised procedure prioritizing framework

• Disclosures: no relevant disclosures
March 14 / 2020

• Surgeon General advises hospitals to cancel elective surgeries

• CDC: Reschedule elective surgeries as necessary

Procedures

Prior scheduled procedures

Urgent + non-elective procedures

Elective procedures

• The more stringent the criteria for defining non-elective procedures, the greater the number of cases to be rescheduled

• The greater the number of cases to be rescheduled the more heterogenous the indications and level of acuity of the cases

→ a spectrum of patients awaiting procedures; spanning those procedures likely to influence management in the short term to those that can be safely rescheduled for months later
How to prioritize non-urgent procedures

• Depending on procedure backlog, section attributes physician review and consensus likely difficult, inefficient, non-objective

• Objective parameters that can be applied by nursing screening can be devised to prioritize the group.

(GI proc. nurse contact – phone call as part of follow up on patients with rescheduled procedures)
Therapeutic vs Diagnostic procedures

• Therapeutic procedures that if delayed can result in medical or surgical emergencies
  • EGD +/- variceal banding
  • EGD with planned esophageal dilation
  • RSB in patients with concerning BE

• Diagnostic procedures by impact of anticipated findings on outcome and QOL
  • Background: limited script nurse – patient phone call
Defining a prioritizing process for diagnostic pediatric GI endoscopy

• **Goals:**
  • Prioritize highest patients with greatest impact of reasonably anticipated findings from endoscopy
  • Prioritize lowest patients with alternative diagnostic options or least theoretical risk of disease or distress from delay

• **Multidisciplinary team:**
  • Pediatric gastroenterologists
  • Pediatric Psychologist
  • Pediatric GI nursing
Rescheduling template based on symptom / investigation abnormality
Symptom Classification – Severity

**Severe Symptoms:**
- vomiting blood (hematemesis)
- rectal bleeding (hematochezia) +/- diarrhea
- black tarry stool (melena)

**Non-severe symptoms**
- reflux / heartburn
- bloating
- Non bloody diarrhea
- nausea
- Vomiting
- Weight loss / poor weight gain
- Food refusal

**Symptom severity based on Scoring**
- difficulty swallowing (dysphagia)
- pain on swallowing (odynophagia)
- abdominal pain
Abdominal pain / QOL / Use of CALI-9 Parent Report

• Child Activity Limitations Interview: • youth with chronic pain • brief 9 item • proxy-report by parents • pain-related activity limitations

Holley AL, Zhou C, Wilson AC, Hainsworth K, Palermo TM. Pain. 2018

• Highest population tertile defined as severe subgroup
  • Subjective definition / compensates for Pandemic – restrictions effect on scoring

• Not a surrogate for symptoms tracked in egs. IBD activity scores / focus on functional impairment from disease

• Final determination only at completion of phone-calls / interval determinations possible
## Symptom Severity – Abdominal Pain Scoring

### CALI – 9: Parent Report

Think about your child’s activities over the last four weeks. Please rate how difficult or bothersome doing these activities was for your child because of pain.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not very difficult</th>
<th>A little difficult</th>
<th>Somewhat difficult</th>
<th>Very difficult</th>
<th>Extremely difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Doing things with friends</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Sleep</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Eating regular meals</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Schoolwork</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Running</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Riding in the school bus or car</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Walking 1-2 blocks</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Being up all day (without a nap or rest)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
# Symptom Severity – Dysphagia

<table>
<thead>
<tr>
<th></th>
<th>Abnormal</th>
<th>Markedly Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain or trouble swallowing</td>
<td>Present anytime</td>
<td>Daily / every other day</td>
</tr>
</tbody>
</table>
# Laboratory and Radiology Abnormality Scoring

<table>
<thead>
<tr>
<th></th>
<th>Abnormal</th>
<th>Markedly abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calprotectin</td>
<td>Outside ref. range</td>
<td>≥250 ug/gm</td>
</tr>
<tr>
<td>Lactoferrin</td>
<td></td>
<td>≥500 ug/mL</td>
</tr>
<tr>
<td>Albumin</td>
<td></td>
<td>≤3 gm/dL</td>
</tr>
<tr>
<td>ESR</td>
<td></td>
<td>≥35 mm/dL</td>
</tr>
<tr>
<td>CRP</td>
<td></td>
<td>≥2 mg/dL</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td>≤10 gm/dL</td>
</tr>
<tr>
<td>Hct.</td>
<td></td>
<td>≤30%</td>
</tr>
<tr>
<td>tTG IgA</td>
<td></td>
<td>≥10 x ULN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Abnormal</th>
<th>Markedly abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT abdomen / CT enterography</td>
<td>Isolated inflammatory changes</td>
<td>Stricture / dilation / fistula / perineal abscess</td>
</tr>
<tr>
<td>MRE / MRI abdomen</td>
<td>Mass</td>
<td></td>
</tr>
</tbody>
</table>
Laboratory
Abnormality Scoring: References


<table>
<thead>
<tr>
<th></th>
<th>Symptom severity and Investigation Abnormality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Severe symptoms AND markedly abnormal investigations <strong>OR</strong> Severe symptoms and non-markedly abnormal investigations <strong>OR</strong> non-severe symptoms AND markedly abnormal investigations</td>
</tr>
<tr>
<td>2</td>
<td>Non-severe Symptoms AND non-markedly abnormal investigations <strong>OR</strong> severe symptoms ALONE <strong>OR</strong> markedly abnormal investigations ALONE</td>
</tr>
<tr>
<td>3</td>
<td>Non-severe symptoms <strong>OR</strong> non-markedly abnormal investigations</td>
</tr>
<tr>
<td>4</td>
<td>Asymptomatic AND No abnormal investigations</td>
</tr>
</tbody>
</table>
Considerations

• Focused on a single section’s unique circumstances

• Multiple factors (geographic, COVID related, resources, PPE availability, staff) factor in speed of revamp of service

• Practice decisions on role of endoscopy re. need of bx to confirm CD Dx, urgency of confirmatory endoscopy in IBD, alternative approaches for surveillance in IBD
Limitations – not a validated tool

• A-priori definition of therapeutic endoscopy as higher priority

• Functional impairment from abdominal pain is not a substitute for symptom scoring in IBD

• Subjective cut-off for severity definition based on population performance (CALI) or extrapolated (Labs)

• Atypical / extra-intestinal symptoms

• No consideration of impact of adherence on disease activity / severity
Practical Limitations

• Time consuming 15 – 20 mins per record

• High proportion of failure to contact (33-40%) → incomplete scoring

• Difficult to find labs / radiologic findings (outside records)
Acknowledgements

• Panamdeep Kaur
• Fernando Zapata
• Jennifer V Schurman
  Children's Mercy Kansas City, Kansas City MO/UMKC School of Medicine
• Douglas S Fishman
  Texas Children’s Hospital, Houston TX
• Mike Thomson
  Sheffield Children's NHS Foundation Trust, Sheffield UK

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Slides & RedCAP:

  www.childrensmercy.org/GIConnect
Thank You