Managing Upper GI Tract Disease

Michael Herzlinger, MD
Pediatric Gastroenterology
7/2018
HAPPENS

HAPPENS
Puke Happens Too
Managing Upper GI Tract Disease

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Objectives

- Common causes
- Worrisome causes
- Diagnosis
- Management
Disclosures

• None
Case

• 15 year old girl with intermittent epigastric abdominal pain, vomiting, dysphagia.
• Functioning intact
• Growth: reassuring
• Exam: well appearing
• Vitals: normal
Differential Diagnosis

- Non-acute
- Non-worrisome
- Upper GI tract process
Next step?

A. Labs
B. H. pylori
C. Imaging
D. Acid suppression
E. GI referral
Screening labs

- CBC
- LFTs
- ESR/CRP
- TTG, IgA
- BMP
- UA
- Upreg
- Lipase
Celiac disease
Celiac disease

- 1<sup>st</sup> degree relatives
- Autoimmune diseases
- Iron deficiency anemia

Rubio-Tapia et al.  AJG. 2012.
## Celiac screening

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTG IgA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>≥ 90</td>
<td>≥ 90</td>
</tr>
<tr>
<td>Endomysial IgA&lt;sup&gt;1&lt;/sup&gt;</td>
<td>≥ 90</td>
<td>98</td>
</tr>
<tr>
<td>Gliadin IgA&lt;sup&gt;2,3,4&lt;/sup&gt;</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>Gliadin IgG&lt;sup&gt;2,3,4&lt;/sup&gt;</td>
<td>80</td>
<td>50</td>
</tr>
</tbody>
</table>

1) Turner. DDS. 2018.  
Next step?

A. Labs
B. H. pylori
H. Pylori
H. Pylori
H. Pylori
H. pylori

- Doesn’t cause symptoms
- Low rate of cancer
- Miss other diseases
- Distract from functional disease
- High reinfection rate
H. pylori

Atherton + Blaser 2009
## H. Pylori Non-invasive testing

<table>
<thead>
<tr>
<th>Method</th>
<th>Sensitivity (%)</th>
<th>Specificity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum IgG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breath*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stool*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Unreliable in setting of acid suppression

1) De Oliveira et al. JPGN 1999.
2) Koletzko et al. NASPGHAN 2011.
Next step?

A. Labs

B. H. pylori
Next step?

A. Labs

B. H. pylori

C. Imaging
UGI series
Esophageal disorders

Case courtesy of Dr Hani Salam, Radiopaedia.org, rID: 9585

Case courtesy of A.Prof Frank Gaillard, Radiopaedia.org, rID: 14538
Malrotation

Case courtesy of Dr Bruno Di Muzio, Radiopaedia.org, rID: 12548
Corkscrew sign
Constipation + fecal impaction
Next step?

A. Labs
B. H. pylori
C. Imaging (UGI)
D. Acid suppression
Acid peptic disease

- Stomach ulcer
- Duodenal ulcer
- Gastritis
- GERD
Acid peptic disease

- PPI 1 – 2 mg/kg
- 2 - 4 weeks
- 2 months
- Stop
- Tums and ranitidine PRN
Acid peptic disease

- Stomach ulcer
- Duodenal ulcer
- Gastritis
- GERD
- Eosinophilic esophagitis
Allergic + Immune Diseases

Graph showing the incidence of immune disorders from 1950 to 2000, with lines for Crohn's disease, multiple sclerosis, type 1 diabetes, and asthma. The incidence has increased significantly over time in all categories.

Bach et al. NEJM. 2002.
Bach et al. NEJM. 2002. Hruz et al. 2011
EoE

• Clinicopathologic syndrome
• Chronic
• Immune/antigen-mediated
• Esophageal dysfunction
Predisposition

- M > F
- 10% 1st degree family
- 75% Atopy
- Connective tissue diseases
- Genes

Pathogenesis

Antigen Exposure

Eosinophilic infiltration and degranulation
Definition

• “The eczema of the esophagus”
• “Like esophageal reflux but caused by an allergy, not acid.”
Diagnosis

• Exclude other causes of eosinophilia
• GERD
  – PPI x 8 weeks
  – Impedance / pH monitoring
Acid and EOE Relationship

- Predisposition
  - Vomiting
  - GERD

Antigen exposure

Dysmotility

Inflammation
Permeability

Acid

Inflammation

Dysmotility

Antigen exposure
Next step?

A. Labs

B. *H. pylori*

C. Imaging

D. Acid suppression
Next step?

A. Labs
B. H. pylori
C. Imaging
D. Acid suppression
E. GI referral
15 year old girl with intermittent epigastric abdominal pain, vomiting, dysphagia

- Cyclic vomiting
- Circadian rhythm
Circadian rhythm / Sleep deprivation

D. J. Levinthal; K. Bielefeldt. Experimental Brain Research 2014
15 year old girl with intermittent epigastric abdominal pain, vomiting, dysphagia

- Cyclic vomiting
- Circadian rhythm
- Functional GI disease
- Marijuana induced hyperemesis
- Increased intracranial pressure
- Hepatobiliary disease
- Renal disease
- Pregnancy
In sum

A. Labs
B. *H. pylori*
C. Imaging
D. Acid suppression
E. GI referral
In sum

A. Labs

B. H. pylori

C. Imaging
   - UGI series
   - Abd US
   - Brain MRI
In sum

A. Labs

B. *H. pylori*

C. Imaging = UGI series, Abd US, Brain MRI

D. Acid suppression
   - PPI x 1 - 2 months
In sum

A. Labs

B. H. pylori

C. Imaging = UGI series, Abd US, Brain MRI

D. Acid suppression = PPI x 1 - 2 months

E. GI referral
   - Upper Endoscopy
Thanks