SHOULD I TREAT EOSINOPHILIC ESOPHAGITIS AS A CHRONIC DISEASE?
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Aurora, CO

Is EoE a chronic disease?

• If you stop treatment, do your patients develop symptoms again?

• Do your patients develop complications?
  – Food impaction
  – Growth disturbance
  – Esophageal stricture

Pediatric patients with eosinophilic esophagitis: An 8-year follow-up

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• 89 children, 1-16 years

• Average follow up 7.9 years

• 30 / 38 (79%) in remission, relapsed when medications stopped
14 Years of Eosinophilic Esophagitis: Clinical Features and Prognosis

• 562 children, 1-18 years
• Average follow up 3.2 years
• All patients on TCS alone, had recurrence when TCS stopped
• 24 lost to follow up for 6 years, developed clinicopathological features of EoE

The natural history of eosinophilic oesophagitis in the transition from childhood to adulthood

• 53 pediatric patients followed up
• 24 (45%) had abnormal dysphagia scores / difficulty swallowing
• 40 (76%) were on diet restriction

The 2011–2014 prevalence of eosinophilic oesophagitis in the elderly amongst 10 million patients in the United States

![Bar chart showing prevalence of EoE in pediatric, adults, and elderly patients.](chart.png)
Yes!!

- Patients continue to experience disease activity, if untreated.
- Patients with EoE experience diminished QoL.
- Without treatment, fibrosis can occur.

Yes!!

- Treatment in adult EoE patients reduces food impactions.
- Inflammation can lead to remodeling without overt symptoms / warning.
- Disimpaction can lead to complications.

No

- Treatments are worse than the disease
  - Quality of life
  - Side effects
- Expensive
- Doesn’t matter whether you treat or not
Treatments are worse than the disease

Caregiver Report of Food-Related Stress

Adrenal insufficiency?

<table>
<thead>
<tr>
<th>Study-year</th>
<th>How measured</th>
<th>Number of subjects</th>
<th>cofactors</th>
<th>TCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harel 2015</td>
<td>ACTH stim</td>
<td>6/14 (43%)</td>
<td>none</td>
<td>OVB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-5 additional</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>subjects not</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>measured</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philla 2015</td>
<td>cortisol</td>
<td>0/14</td>
<td>none</td>
<td>FP, OVB</td>
</tr>
<tr>
<td>Gupta 2014</td>
<td>cortisol</td>
<td>1/71 (1.4 %)</td>
<td>none</td>
<td>OVB</td>
</tr>
<tr>
<td>Butz 2014</td>
<td>cortisol</td>
<td>8 of 42 (19%)</td>
<td>high dose TCS</td>
<td>FP</td>
</tr>
<tr>
<td>Dellon 2012</td>
<td>cortisol</td>
<td>0/22</td>
<td>none</td>
<td>OVB and nebulized</td>
</tr>
</tbody>
</table>

15/163 (9%?)

Adrenal insufficiency is uncommon in TCS treated EoE patients

—Prospective assessment of 106 children

—TCS for >4 months

—28 had cortisol less <5 mcg/dl

—3 had abnormal ACTH stimulation test (3%)

—All were on other topical steroid modalities
Treatments are worse than the disease

Expensive

- Overall cost of care-$3,304 / yr (no diet costs)
  - Diet-$540 / year more expensive than regular diet
    - Wolf et al DDW 2015
  - Drugs- $600-$900
    - Prior approvals
    - Increasingly denied

Jensen et al Am J Gastroenterol 2015

Treatments are worse than the disease

Doesn’t matter whether you treat or not

Sherill et al Gastroenterol Clin NA 2014

Should treat!
Adults develop fibrosis if untreated.

![Graph showing the probability of developing fibrosis over age.]

Dellon et al. GI Endosc 2014

Adults develop stricture if untreated.

![Graph showing the prevalence of strictures with length of diagnostic delay.]


**CLINICAL ALIMENTARY TRACT**

 Delay in Diagnosis of Eosinophilic Esophagitis Increases Risk for Stricture Formation in a Time-Dependent Manner

- 200 adults with EoE
- 153 men
- 39 yo +/- 15 yrs
Adults develop fibrosis if untreated.

![Graph showing the prevalence of fibrosis in adults with esophageal disease](image)

Adults develop strictures if untreated.

<table>
<thead>
<tr>
<th>Diagnostic delay, y</th>
<th>Patients, n</th>
<th>Patients with strictures at the time of EoE diagnosis, n</th>
<th>Stricture prevalence, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–2</td>
<td>58</td>
<td>10</td>
<td>17.2</td>
</tr>
<tr>
<td>&gt;2–5</td>
<td>39</td>
<td>12</td>
<td>30.8</td>
</tr>
<tr>
<td>&gt;5–8</td>
<td>18</td>
<td>7</td>
<td>38.9</td>
</tr>
<tr>
<td>&gt;8–11</td>
<td>29</td>
<td>11</td>
<td>37.9</td>
</tr>
<tr>
<td>&gt;11–14</td>
<td>12</td>
<td>5</td>
<td>41.7</td>
</tr>
<tr>
<td>&gt;14–17</td>
<td>14</td>
<td>9</td>
<td>64.3</td>
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<tr>
<td>&gt;17–20</td>
<td>6</td>
<td>4</td>
<td>68.7</td>
</tr>
<tr>
<td>&gt;20</td>
<td>24</td>
<td>17</td>
<td>70.8</td>
</tr>
</tbody>
</table>

Patients experience diminished QoL*

<table>
<thead>
<tr>
<th>Study-Year</th>
<th>Finding</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van Rhijn-2014</td>
<td>Decreased mental component</td>
<td>adult</td>
</tr>
<tr>
<td>Klinnert-2014</td>
<td>HRQoL Improved following treatment</td>
<td>pediatric</td>
</tr>
<tr>
<td>Harris-2013</td>
<td>Depression /school-69%</td>
<td>pediatric</td>
</tr>
<tr>
<td>Cortina-2010</td>
<td>Decreased HRQoL</td>
<td>pediatric</td>
</tr>
<tr>
<td>Klinnert-2009</td>
<td>Impact siblings</td>
<td>pediatric</td>
</tr>
<tr>
<td>Flood-2008 / Straumann-2012</td>
<td>25-20% Sleep disturbance</td>
<td>pediatric and adult</td>
</tr>
</tbody>
</table>

*tertiary care studies
Swallowed topical corticosteroids reduce the risk for long-lasting bolus impactions in eosinophilic esophagitis

- 206 subjects
- 5 year follow up
- 33 patients with FI (42 impactions)
- Univariate logistic regression modeling to assess for contributing factors

Treatment reduces food impactions.

- Treatment reduces food impactions.
- P = 0.007
- P = 0.005 (trend test)

Long-term assessment of esophageal remodeling in patients with pediatric eosinophilic esophagitis treated with topical corticosteroids

- 32 children from a 10 year span
- Treated with TCS for 4.5 years
- 738 biopsies from 246 procedures
- Identified responders (R) and non-responders (NR)
Endoscopic evidence of remodeling

Histologic evidence of remodeling

Remodeling is worse when inflammation persists.
Esophageal dysmotility increases with disease duration.

Van Rijn et al. Neurogastroenterol Motil 2015

Esophagrams may be better than endoscopy to detect narrowing in EoE

Gentile et al. APT 2015
Menard-Katcher et al. JPGN 2015

Philosophy of “monitoring” disease activity

- Growth and development
- Balance of treatment risks and benefits with QOL and symptom control
- Bring tissue to “remission”