Eosinophilic Esophagitis
An Update

7th Esophageal Conference

Russell Hopp, D.O.  FAAP, FAAAAI
Professor of Pediatrics and Medicine
Creighton University
Objectives

• Update Eosinophilic Esophagitis
  ➢ Epidemiology
  ➢ Diagnosis
  ➢ Prognosis
  ➢ Treatment
Disclaimer

- PI on a study with Ception Pharmaceuticals
- Glaxo-Smith-Kline and Astra-Zeneca Bureaus

However, no conflict of interest exists for this conference.
Historical Perspective

- Originally described in 1977
- Early on overlapped with GERD in eosinophilia quantification
- Firmly established as separate entity in 1985 (Lee)
- Further defined in adults with dysphagia at CUMC physicians–early 1990’s (Smyrk and DeMeester)
- Pediatric EE centers for 14 years
1977 2009

Pediatric Recognition and Probably Incidence

Adult Recognition and Possibly Incidence

5:10,000?
Allergic Diseases

• Allergic Rhinitis
• Asthma
• Atopic Dermatitis
• Hives/Angioedema
• Food Allergy – GI, skin, respiratory symptoms but without anaphylaxis
• Anaphylaxis
• Eosinophilic Esophagitis
• Eosinophilic Enteritis
IL-4, IL-5, IL-13
Eotaxin
IL-10

TH1 cell
IFNγ
Activates
Macrophage

TH2 cell
Activates
Mast cell
B cell
Eosinophil

IgE Antibodies

Chronic Inflammation and Remodeling
Natural History
Symptom Progression in EE

- Feeding Disorder: 13%
- Vomiting: 50%
- Abdominal Pain: 50%
- Dysphagia: 30% (Pediatric), 97% (Adults)
- Food Impaction: 13% (Pediatric), 51% (Adult)
- Esophageal Stricture: 10% (Pediatric), 37% (Adult)

Age
Adult Summary

- Male
- Allergic
- Caucasian
- Dysphagia
- Heartburn
- Food Impaction
- Abdominal pain/dyspepsia
Children

- Male, allergic, Caucasian
- Food aversion
- Abdominal pain
- Reflux
- Chest pain
- Dysphagia
- Food impaction/foreign body impaction
- Status post TE fistula repair
Familial EE

Autosomal Dominant
Biopsy Considerations

• Proximal or Distal?
• Abnormal visualization?
• On a PPI?
• Incidental or Symptomatic?
• GERD or EE?
• Pathologist’s Familiarity with EE?
Optimal Mucosal Biopsies

- Am J Gastroenterol 2009
- Multiple biopsies regardless of appearance
  - Proximal
  - Intervening
  - Distal
- Duodenal and stomach
GERD

- Atopy neutral
- Slight male increase
- Uncommon impaction
- Abnormal pH probe
- No proximal
- No clusters of eosinophils
- Some epithelial hyperplasia

EE

- Atopy high
- Higher male
- Impaction common
- Normal pH probe
- Proximal involved
- Clusters of eosinophils
- Marked hyperplasia
1-7 Reflux

8-24 EE

> 24 EE
By protocol

+ PPI
Natural History of EE

- Minimal information
- Children to older children (JACI 2007)
- Children to children/adolescents (JPGN 2008)
- Adults to adults (Gastroenterology 2003)
EE in Pediatrics: Follow-up

- 330 > 1 year follow-up (up to 14 years)
- Mean follow-up time 3.2 years
- 68% < 6 years old at diagnosis
- Incidence increased yearly
- Of 562 children only 11 had complete remission: off medications, eating all foods, with negative biopsy
Follow-up of EE in Adults

- Gastroenterology 2003
- 30 patients, 22 males
- First manifestation: 28.8 (6-52 years)
- At diagnosis: 33.4 years (6-52)
- At follow-up: 40.6 years (16-71)
- 60% allergic
Follow-up of EE in Adults

- Dysphagia
  - 23.3% increasing
  - 36.7% stable
  - 36.7% decreasing
  - 3.4% gone
- No difference in allergic or non-allergic patients
- Increased peripheral eosinophilia marked a more progressive course
- None had disabling dysphagia
- 11 had dilatation/4 repeats
- No HEE syndrome developed, no malignancies

Barrett’s and EE have been reported
Treatment of EE in Children

- Co-management with allergist
- Dietary therapy
- Corticosteroids
  - Oral (bridge)
  - Topical (Fluticasone or Budesonide)
- Leukotriene Receptor Antagonist (Montelukast)
- Acid Suppression (PPI)
- Anti-IL-5 (In trials)
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- Acid Suppression (PPI)
- Dietary Therapy (Selective vs empirical)
- Dilatation
- Anti-IL-5 (In trials)

Diagnosis Early and Treat Chronically
Questions that Remain

- Long-term prognosis, medication titration, and food re-introduction?
- How low to “keep” the eosinophils?
- Incidental EE? – Treat? How?
- How to monitor patients – chronic disease?
- Alternative to endoscopy?
- Treatment for therapy resistant patients?
- Are PPI’s and anti-acids promoting EE development?