Minimally Invasive and Novel Therapeutics (M.I.N.T.) in Foregut Disease
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Eosinophilic Esophagitis
Case Based Approach to Workup and Management

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Case #1

- 25-year-old male patient with a PMH of asthma and atopic dermatitis presents to the office with a chief complaint of trouble swallowing for 2 years. Symptoms progressively worsened over several weeks with food sticking in his chest daily requiring a liquid chaser.
- What other questions to ask?

EoE Workup

- PMH:
    - Atopic dermatitis, asthma, allergic rhinitis, seasonal or food allergies
    - 24-hour diet recall
- Symptoms:
    - Dysphagia (solids, liquids, both)
    - Heartburn
    - Chest pain
    - Regurgitation
    - Abdominal pain (pediatrics)
    - Weight loss
- Current treatments tried?
    - PPI use -> could affect biopsy results
    - Special diets?-> dairy free, gluten free, vegan, etc.

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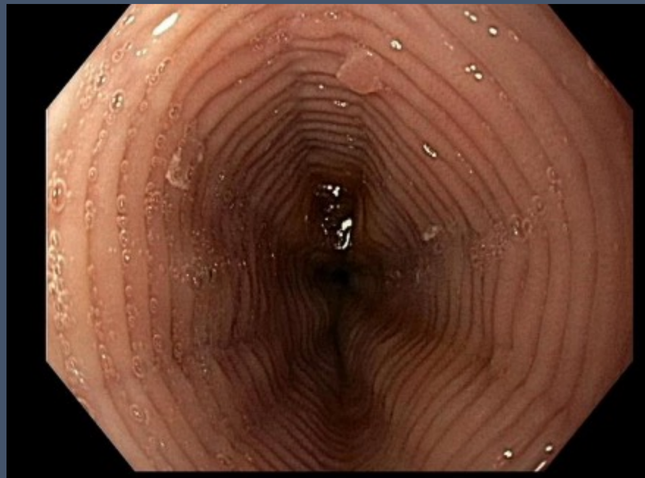
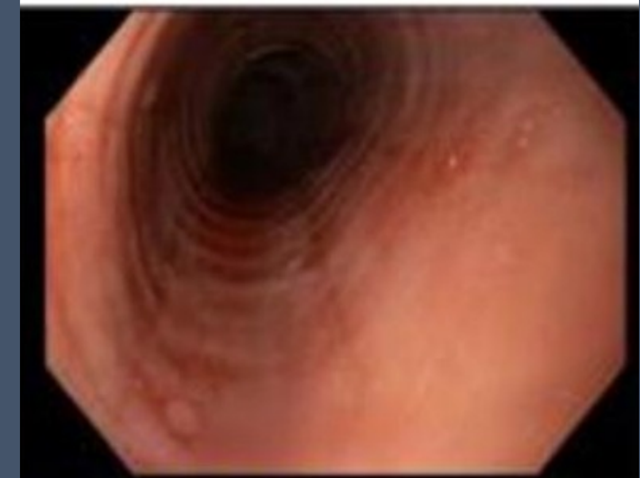
Case #1 cont.

- You order an EGD which shows his esophagus with mild edema and linear furrows without evidence of stricture.
- Biopsies were obtained from the proximal and distal esophagus which suggested up to 30 and 55 eosinophils per HPF, respectively.

EoE Diagnosis

- EoE is a chronic inflammatory condition in the esophagus where the esophagus responds to an allergen(s) by recruiting eosinophils causing local inflammation
- Symptoms include dysphagia, heartburn, regurgitation, chest pain, abdominal pain (pediatrics)
- Histology reveals presence of ≥ 15 EOs per HPF on esophageal biopsies (full evaluation including proximal, mid and distal biopsies)
- Other causes of eosinophilia should be ruled out
  - Hypereosinophilic syndrome, GERD, IBD, connective tissue/autoimmune disorders, malignancy, etc.
- Endoscopic findings – EREFS
  - Exudates (0-2)
  - Rings (0-3)
  - Edema (0-1)
  - Furrows (0-2)
  - Stricture (0-1)





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Dellon et al. (2018).
Dellon et al. (2016).

Treatment Options

- dupilumab (Dupixent) 300 mg once weekly SQ injection (only FDA approved medication for EoE)
- High dose PPI
- Six (or 4- or 2-) food elimination diet
- Swallowed corticosteroids (budesonide or fluticasone)

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Hirano, et al. (2020).

Back to Case #1

- Upon further discussion, patient travels for work and a diet option is not amenable to his lifestyle. He opts for PPI therapy.
- You initiate omeprazole 40 mg twice daily and recommend repeat EGD in 8-12 weeks
- On repeat endoscopy, his pathology report reads as following:

1. Proximal esophagus, biopsy: Normal squamous epithelium 2. Mid esophagus, biopsy: Squamous epithelium with up to 5 intraepithelial eosinophils per high-power field. 3. Distal esophagus, biopsy: Squamous epithelium with focal superficial parakeratosis and up to 8 intraepithelial eosinophils per high-power field

- Next steps?
  - Remission?
  - Lower PPI dose?
  - Repeat EGD?
  - Follow up?

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Case # 2

- 45-year-old male patient with a history of food allergies including anaphylaxis to seafood and nuts who presents to follow up for a recent diagnosis of EoE after initiating PPI therapy by another GI provider. He was prescribed esomeprazole 40 mg BID x 8 weeks and had a repeat endoscopy that showed a persistent 8 mm stricture requiring dilation and biopsies revealing persistent disease with up to 80 EOs in the mid esophageal biopsies.
- Since this endoscopy he also had one day where he felt a piece of chicken stuck in his chest that wouldn't go down for hours prompting an ED visit. GI was consulted for a food impaction and an endoscopy was performed where they were able to successfully push the food bolus into the stomach. No biopsies were taken.
- Treatment options?

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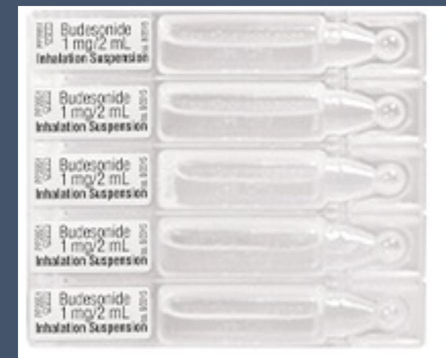
Case # 2 cont.

- Swallowed steroids:
  - budesonide slurry 0.25-1 mg BID
  - fluticasone 220-880 mcg BID
- dupilumab (Dupixent) 300 mg once weekly SQ injection

- Budesonide instructions:
  Open the individual medicine container (respule) by twisting off the the tab. Pour the prescribed amount (usually 2 mL) into a small cup. Mix the medication with 1-2 tablespoons of honey or agave syrup to achieve a slushy consistency. Swallow the medication then rinse your mouth with water and spit. Do not eat or drink anything for ***30 minutes.***
- Essential to adhere to instructions to minimize risk of oral candida infection



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Case # 2 cont.

- Patient chooses dupilumab (Dupixent) 300 mg once weekly SQ injection
  - Common side effects: site reactions, URIs, conjunctivitis, cold sores
- A repeat endoscopy was planned 4 weeks after starting the medication due to his recent food impaction and known stricture
- Serial dilations were performed over 3 endoscopies until his esophagus was dilated to 14 mm
- The biopsies from his last endoscopy revealed histologic remission and he was tolerating the medication well

Clinical Pearls

- Treatment is lifelong
- Repeat EGD to evaluate for histologic remission 8-12 weeks after starting treatment (6 weeks for diet option)
- Serial dilations may be required for severe stricturing disease
- In severe disease, initiate swallowed steroids or dupilumab first
- Monotherapy is ideal, however some cases may require dual therapy (PPI + steroids, etc.)
- Taper to lowest effective dose where histologic remission is maintained
- Symptoms don’t always correlate with histology
- Refer to allergy if patient has other atopic conditions

References

1. Dellon, et al. (2018). Updated international consensus diagnostic criteria for eosinophilic esophagitis: Proceedings of the AGREE conference. *Gastroenterology.* doi: 10.1053/j.gastro.2018.07.009
2. Dellon ES, Cotton CC, Gebhart JH, et al. (2016). Accuracy of the Eosinophilic Esophagitis Endoscopic Reference Score in Diagnosis and Determining Response to Treatment. *Clinical Gastroenterology and Hepatology.* Vol 14, Issue 1, p31-39.
3. Hirano, et al. (2020). AGA Institute and the Joint Task Force on Allergy-Immunology Practice Parameters Clinical Guidelines for the Management of Eosinophilic Esophagitis. *Gastroenterology, Vol. 158, pp 1776-1786.*

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