Eosinophilic Esophagitis (EoE)

- Chronic antigen/immune driven inflammatory disease of the esophagus
- Affects all age groups, more common in males, predominant in western countries
- Endoscopic features: linear furrowing, white exudates, circular rings, strictures
- Histology: >20 eosinophils per high powered field
- Nutrition concerns: N/V/D, decreased appetite, dysphagia, inadequate intake, food aversions, malnutrition, FITT

Assessment

- 19mo M with neurodevelopmental delays and low muscle tone
- Amit diagnosis: Failure to Thrive (FTT), poor weight gain, increased N/V
- Food and Nutrition History: General diet + Oral Pediasure (30 Kcal/oz)
  - Typical foods: blenderized meat, cream of wheat, whole milk, peanut butter, apple sauce, fruit juice, crackers, pasta, cheese, rice and vegetables

Fig 1: EoE - Modes of therapy

Fig 2: Growth charts demonstrating Failure To Thrive (FTT)
  A. Weight for age
  B. Length for age
  C. Weight for length

Fig 3: Endoscopy results: "The distal esophagus had furrowing and changes consistent with chronic eosinophilic and/or eosinophilic esophagitis".
  A. Linear furrowing of esophagus in endoscopy
  B. Histological image showing eosinophil infiltration of esophageal epithila

Nutrition Therapy for EoE

<table>
<thead>
<tr>
<th>Nutrition Therapy</th>
<th>Description</th>
<th>Challenges/Barriers</th>
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<tbody>
<tr>
<td>Six food elimination diet</td>
<td>Eliminates the 6 most common food allergens – soy, milk, eggs, wheat (gluten), nuts/seeds and fish/shellfish</td>
<td>May remove unnecessary foods, Increases risk of nutritional deficiencies, Potential growth problems, Symptoms may persist, Diet compliance, QOL, cost</td>
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<tr>
<td>Elemental diet</td>
<td>Amino based formula that completely removes all food allergens from diet</td>
<td>Diet compliance, QOL, cost, Psychosocial developmental, NG or PEG are often needed</td>
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<td>Targeted elimination diet</td>
<td>Removes food based on a history of food triggers and results of specific allergy tests</td>
<td>Increased risk of nutritional deficiencies, Potential growth problems, Lack of reliable allergen tests, Extensive allergy testing done on patient, Diet compliance, QOL, Cost</td>
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Diagnosis

- Evident protein-energy malnutrition related to EoE and inadequate PO intake as evidenced by history of weight loss and weight for length z-score of -3.08.
- Altered GI function related to EoE as evidenced by finding of furrowing in endoscopy and need for a hypoallergenic diet.

Intervention

- Enteral Nutrition via NG: Supplemental nocturnal TF – Elecare Jr
- Diet: Six food elimination diet
- Nutrition Education – EoE, Elimination diet, Formula recipe, preparation and storage

Monitoring and Evaluation

- Diet: adequate and appropriate intake
- Weight and growth: no further weight loss
  - Long term goal: weight >2nd percentile, weight/length > 10th percentile
- GI: Tolerance of diet and formula; Minimize GI symptoms
- Remission: Re-introduce foods gradually with careful observation
- Foods that trigger EoE symptoms are eliminated indefinitely

References: