

Timing the Onset of Eosinophilic Esophagitis: A Case Report

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Abstract

The onset of pediatric eosinophilic esophagitis (EoE) in any particular individual is difficult to assess. Symptoms often start indolently and not until recurrent vomiting, persisting dysphagia or an episode of food being stuck is the clinical condition evident. ¹The actual onset of a particular person's EoE is therefore speculative. Children with EoE can present in early childhood, so EoE can have a relatively short natural history. In addition, the symptoms often requires different medication trials and an Esophagogastroduodenoscopy (EGD) with biopsies for clinicopathological confirmation, so the invasiveness of the procedure often precludes a prompt diagnosis. We report here a 9 year old developmentally challenged male who had serial negative esophagogastroduodenoscopies, who eventually developed EoE 2 years after non-elemental food was added via a g-button.

CASE REPORT

A 9 year old male with 6q deletion and multiple congenital and acquired medical conditions was followed in a multidiscipline Aerodigestive Clinic from birth. Due to pulmonary, esophageal and airway concerns, he underwent 4 esophagogastroduodenoscopies (with colonoscopies) with pulmonary bronchoscopy and lavage and upper airway visualization subsequent to permanent tracheostomy tube placement.

A g-button was placed at age 3 months, and he was fed an elemental formula as he was known to be milk allergic and he was eventually switched to Peptamen Jr., which was not tolerated, and elemental formula was re-started through his g-button. His allergy testing at age 4 was negative except milk, and still negative to all tested environmental allergens, and still positive to the avoided milk at age 6. A pulmonary lavage at age 7 demonstrated 5% eosinophils, compatible with his wheezing. A repeat allergy test at age 9 revealed tree, grass, cat and weed positive allergens. His complete blood count had revealed persistent eosinophilia (> 250 Absolute count) from age 5.

Routine EGD with or without colonoscopies were performed, and the Results presented in Table 1. Esophagogastroduodenoscopies (with colonoscopies) were performed at ages 6 months to 5 years on an elemental formula. He was started on Complete Pediatric at age 7, with egg protein. He had minimal wheat addition till age 8, when crackers with wheat were added. No milk had been added to the diet at age 9 years.

His 4th EGD was at age 9 years. He had persisted with slow development of feeding skills and "behavioral" issues with eating. At the time of the 4th scope he persisted with minimal oral feedings (wheat crackers), and his developmental delay precluded personal information. The gross visualization the esophagus on its upper, middle and lower portions was normal with exception of the distal esophagus which had furrowing in 2/4 quadrants as well as nodularity. Microscopic examination revealed eosinophilia in the proximal and distal esophagus. He was started on swallowed budesonide slurry and cessation of wheat oral snacks.

Table 1

Age	Procedure	Esophageal histology
0.5	EGD with colonoscopy	Normal
2	EGD with Recto-sigmoid	Normal
5	EGD	Normal
9	EGD	100 eosinophils proximally and 40 eosinophils distally

DISCUSSION

An increasing recognized allergic disease, eosinophilic esophagitis (EoE) has been recently reviewed.¹ The long-term concern for EOE management is its extreme unlikelihood of permanent resolution.^{2,3}

In children, the presentation of vomiting, regurgitation, and chronic abdominal, most often in Caucasian boys who are also allergic, leads to an EGD with EoE endoscopic features and histological confirmation. Since the disease can present in children even less than 12 months, the development time can be relatively short.^{4,5} The actual initiation of EoE any particular child, although interesting, often is not the subject of much attention, but rather the focus is on the generalized symptoms and beginnings of therapy.¹

The child in this report had gradual development of many allergic processes, including: an early milk allergy (clinically symptomatic with a positive milk allergy skin test); early peripheral eosinophilia, pulmonary eosinophilia, and an eventual EoE diagnosis and positive environmental skin allergy tests. In his case the EoE developed after a liquefied diet (Real Food Blends®) was introduced via G-button, and the introduction of oral wheat. Although the lack of a EGD between 5 and 9 years didn't allow for exact timing, it was evident that non-elemental food, predominately through the g-button, allowed for EoE development.

The importance between EoE initiation and actual diagnosis is hypothetical; the critical factor is if prolonged and non-diagnosed EoE may have enhanced clinical therapeutic implications.⁶ A recent report of endotype classification of EoE divides EoE into three endotypes; and different genotypes for each endotype.⁶ Whether an earlier diagnosis of EoE results in a milder form of the disease is unknown.

The serendipitous discovery of EoE in this child follows the findings of Hill et al that EoE is a late manifestation of allergic march.⁷ Whether the presence of a milk-free diet with elemental formula feeding delayed the onset of EoE is a potential observation, while the pre-

existence of peripheral eosinophilia and pulmonary lavage eosinophilia pre-dated the development of EoE.⁷ Despite a largely indoor life-style due to his disability, his allergic skin test showed positivity to outdoor allergens at age 9, reinforcing the concept that the progression of allergic disease can be enhanced based on exposure.

A prompt diagnosis of EoE has potential therapeutic advantages.⁶ Vague or more overt esophageal symptoms in a Caucasian male, especially with a concomitant allergic and/or eosinophilic phenotype, should recommend a prompt gastrointestinal evaluation and Esophagogastroduodenoscopy.⁸ In some cases the index of suspicion, even with a normal endoscopy and biopsies, may warrant a subsequent re-evaluation.

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