

CASE REPORT

Successful Management of Eosinophilic Esophagitis Using Traditional Chinese Medicine: A Case Report

Gary Soffer^a, Kelsey Kaman^{a,*}, and Xiu-Min Li^b^aDepartment of Allergy and Immunology, Yale University, New Haven, CT; ^bDepartment of Microbiology and Immunology and Department of Otolaryngology, New York Medical Center, Valhalla, NY

Eosinophilic Esophagitis (EoE) is a relatively recently described condition, with rapidly increasing prevalence over the past several years. There is unfortunately no cure for EoE, and treatment involves food elimination and off-label use of topical steroids. These treatments can have significant impacts on quality of life for patients. Traditional Chinese Medicine (TCM) has been shown to decrease Th2 cytokines which are implicated in the pathophysiology of EoE. We present an 11-year-old male with severe EoE who was treated with TCM and able to achieve complete remission. Further modalities of treatment for EoE should continue to be pursued.

INTRODUCTION

Eosinophilic Esophagitis (EoE) is a chronic allergic, inflammatory condition that was first described approximately 20 years ago and is rapidly increasing in incidence [1]. The etiology of EoE includes genetic susceptibility, as supported by an 80-fold increase in risk among siblings, as well as environmental exposures, food allergies, and antibiotic exposure [2]. The pathogenesis is an IgE and non-IgE mediated process in response to food proteins, resulting in a Th2 inflammatory response. IgE sensitization to food and inhalant allergen in patients with EoE have been reported up to 91%, yet targeted food elimination and IgE blocking mechanisms have failed to show complete resolution of disease [3]. EoE

typically presents with symptoms of esophageal dysmotility such as GERD-like symptoms, emesis, abdominal pain, dysphagia, and most severely, food impaction. It is characterized histologically as greater than 14 eosinophils on an esophageal biopsy (without eosinophils in the stomach or duodenum) and diagnosis is made based on both symptomatology and pathology. Further studies are currently investigating the utility of scoring systems to include endoscopic findings such as exudates, rings, edema, furrows, and strictures in diagnosis. The most successful treatment of EoE involves food elimination, although identifying offending foods has proven both difficult and cumbersome to patients. Off-label therapy for EoE includes swallowed steroids which can be effective, but with discontinuation often results in relapse. Immu-

*To whom all correspondence should be addressed: Kelsey Kaman, MD, Allergy and Immunology Fellow, Yale University, New Haven, CT; Tel: 860-918-5912; Email: kelseykaman@gmail.com.

Abbreviations: EoE, eosinophilic esophagitis; TCM, traditional Chinese Medicine.

Keywords: eosinophilic esophagitis, Chinese medicine

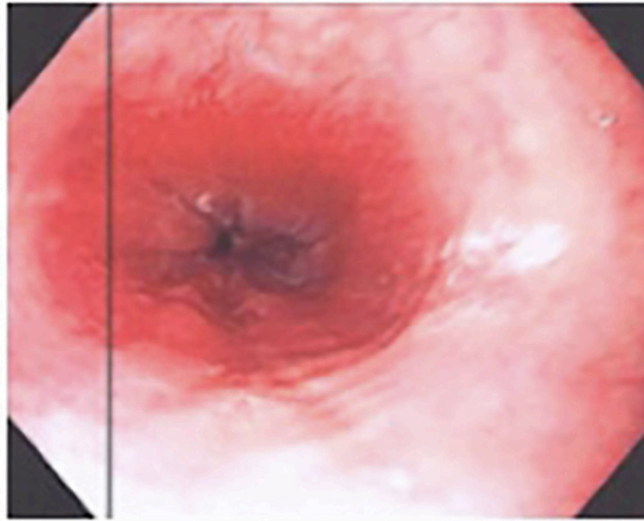


Figure 1. Initial endoscopy demonstrating significant inflammation.

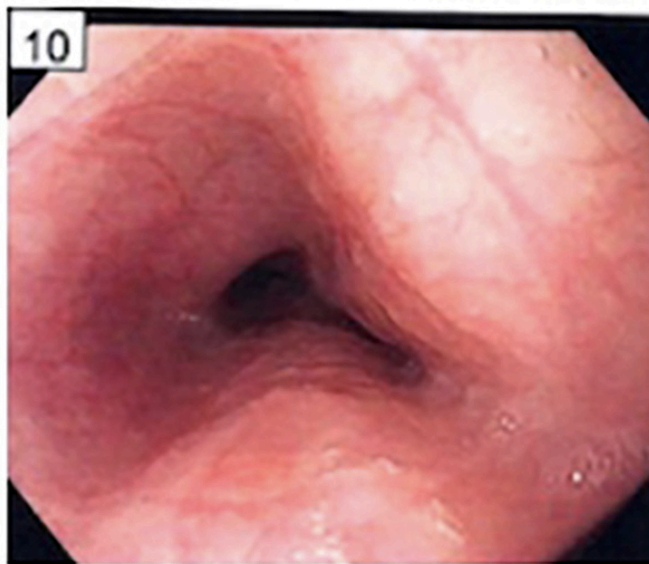


Figure 2. Follow-up endoscopy demonstrating significant improvement.

nomodulatory therapy is currently undergoing further investigation [1].

Traditional Chinese Medicine (TCM) is a medical system utilizing herbs, acupuncture, and acupressure. Laboratory research provides strong evidence that some of the herbal formulas and compounds reduced Th2 cytokines, IgE production, and eotaxin, all of which have been implicated in EoE pathophysiology [4,5]. We describe a patient refractory to food elimination who was successfully treated with TCM.

CASE PRESENTATION

An 11-year-old boy with eczema, allergic rhinitis, reflux, multiple food allergies (initially diagnosed at 9 months), EoE, and subsequent failure to thrive presented to clinic. The patient was diagnosed with EoE at age 10 after a long-standing history of severe emesis and GERD-like symptoms. Esophageal biopsy at that time was significant for >50 eosinophils/hpf (see Figure 1) and endoscopy demonstrated white exudate. He had previously been treated with elimination diets and swallowed corticosteroids without significant improvement.

Given refractory disease, he was initiated on the following therapy: Digestion tea 3 tablets BID (titrated up to 6 tablets BID) and Mei Huang tea III 3 in the AM, once in the PM (titrated up to 5 twice a day) as well as Huo Xiang Zheng Qi Wan for weekends/reactions (7-10 pills x2). He was also treated with topicals; Bath Additives (2 packs daily) and Cream III every AM and Cream IIvB twice a day (see Appendix A). He incorporated acupressure and acupuncture into his treatment.

Following initiation of TCM, patient remained symptom-free for 6 months, which was the longest duration in his lifetime. When rare events eventually did occur, they reduced in intensity and duration. Prior to treatment, symptoms would last 48-72 hours, while on TCM they only lasted 2-3 hours. Given significant improvement, previously eliminated foods were able to be reintroduced over three years including but not limited to baked milk product, baked egg, tree nuts, and legumes, with no reactions. Other benefits during the TCM treatment period included resolution of eczema and a weight gain of 35 lbs. Repeat endoscopy showed complete remission of EoE, with normal visualized tissue, and biopsies showing 0-7 eosinophils/hpf (see Figure 2).

macrophages and peripheral blood mononuclear cells from asthma patients. *Int Immunopharmacol.* 2015 Aug;27(2):224–31.

DISCUSSION

EoE is one of the most rapidly emerging allergic and gastrointestinal diseases. Current treatment options are limited, come with significant adverse reactions, and often impair quality of life. Our patient's disease resolution with TCM suggests that further research should be considered to investigate TCM as a safe and effective modality for the treatment of EoE.

REFERENCES

1. Goyal A, Cheng E. Recent discoveries and emerging therapeutics in eosinophilic esophagitis. *World J Gastrointest Pharmacol Ther.* 2016 Feb;7(1):21–32.
2. Alexander ES, Martin LJ, Collins MH, Kottyan LC, Sucharew H, He H, et al. Twin and family studies reveal strong environmental and weaker genetic cues explaining heritability of eosinophilic esophagitis. *J Allergy Clin Immunol.* 2014 Nov;134(5):1084–1092.e1.
3. Simon D, Cianferoni A, Spergel JM, Aceves S, Holbreich M, Venter C, et al. Eosinophilic esophagitis is characterized by a non-IgE-mediated food hypersensitivity. *Allergy.* 2016 May;71(5):611–20.
4. Lisann L, Song Y, Wang J, Ehrlich P, Maitland A, Li XM. Successful prevention of extremely frequent and severe food anaphylaxis in three children by combined traditional Chinese medicine therapy. *Allergy Asthma Clin Immunol.* 2014 Dec;10(1):66.
5. Liu C, Yang N, Song Y, Wang L, Zi J, Zhang S, et al. Ganoderic acid C1 isolated from the anti-asthma formula, ASHMI™ suppresses TNF- α production by mouse

Appendix A Online Repository

Method: Herbal constituents:

Digestion tea (Remedy A). Fructus Jujubae Formula (Digestion tea, 0.5 g/capsule) is a dried aqueous extract of Fructus Jujubae, Endothelium Corneum Gigeriae Galli, Fructus Amomi, Rhizoma Zingiberis Recens, Radix Pseudostellariae, Rhizoma Cyperi, and Semen Coicis in capsule form (0.5g/capsule, 3 pills, BID). **Mei Huang Tea (Pruni Mume formula, Remedy B,** 0.55g/tablet) is an ethanol purified dried aqueous extract of *Prunus mume*, *Zanthoxylum schinifolium*, *Angelica sinensis*, *Zingiber officinalis*, *Cinnamomum cassia*, *Phellodendron chinensis*, *Panax ginseng*, and *Ganoderma lucidum* in tablet form. **Huo Xiang Zheng Qi Wan (Remedy C),** *Pogostemon cablin*, *Perilla frutescens*, *Angelica dahurica*, *Areca catechu*, *Atractylodes macrocephala*, *Poria cocos*, *Pinellia ternata*, *Magnolia officinalis*, *Platycodon grandiflora*, *Citrus reticulata*, *Ziziphus jujuba*, *Zingiber officinale*, *Glycyrrhiza uralensis*). **Herbal Bath Additive (Remedy D)** (*Phellodendron chinensis* formula Bath Additive) is a dried aqueous extract of *Cortex Phellodendri*, *Radix Rhizoma Rhei*, *Radix Sophorae Flavescens*, *Cortex Dictamni*, *Dayscarpi Radicis*, *Fructus Tribuli Terrestris*, and *Rhizoma Smilacis Glabrae* in granule form (10g/pack). **Herbal Cream III** (*Phellodendron chinensis* topical cream, **Remedy E**) contains 2.8% *Phellodendron chinensis* and 1% *Indigo naturalis* extracts after daily bath. **Cream IIvB (Remedy F)** topical cream contains 2% berberine.

The remedies **A, B** were produced by Brion Herbs Corporation (Irvine, CA) and remedy **C** was from Active Herb Technology Inc. (San Diego, CA). Remedy **D-F** were produced by US Times Technology (Elmsford, NY). The tests for heavy metal, pesticide residual, and microbial content met required standards.