

SHOULD I TREAT EOSINOPHILIC ESOPHAGITIS AS A CHRONIC DISEASE?

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Hepatology and Nutrition
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Is EoE a chronic disease?

- If you stop treatment, do your patients develop symptoms again?
- Do your patients develop complications?
 - Food impaction
 - Growth disturbance
 - Esophageal stricture

Pediatric patients with eosinophilic esophagitis: An 8-year follow-up

J ALLERGY CLIN IMMUNOL
MARCH 2007

Amal H. Assaad, MD,* Philip E. Putnam, MD,* Margaret H. Collins, MD,* Rachel M. Akers, MPH,[†] Sean C. Jameson,* Cassie L. Kirby,* Bridget K. Buckmeier,* Jennifer Z. Bullock, MD,* Ann R. Collier, MD,* Michael R. Konikoff, MD,* Richard J. Noel, MD, PhD,* Jesus R. Guejardo, MD, MHPE,[‡] and Marc E. Rothenberg, MD, PhD* Cincinnati, Ohio, Milwaukee, Wis, and Columbia, Mo

- 89 children, 1-16 years
- Average follow up 7.9 years
- 30 / 38 (79%) in remission, relapsed when medications stopped

14 Years of Eosinophilic Esophagitis: Clinical Features and Prognosis

J Pediatr Gastroenterol Nutr, Vol. 48, No. 1, January 2009

*†Jonathan M. Spergel, *†Terri F. Brown-Whitehorn, *†Janet L. Beausoleil, ‡James Franciosi, *Michele Shuker, ††Ritu Verma, and ††Chris A. Liacouras

Divisions of *Allergy and Immunology, ‡Gastroenterology and Nutrition, The Children's Hospital of Philadelphia, and †University of Pennsylvania School of Medicine, Philadelphia

- **562 children, 1-18 years**
- **Average follow up 3.2 years**
- **All patients on TCS alone, had recurrence when TCS stopped**
- **24 lost to follow up for 6 years, developed clinicopathological features of EoE**

AP_{ET} Alimentary Pharmacology and Therapeutics

2013; 37: 114-121

The natural history of eosinophilic oesophagitis in the transition from childhood to adulthood

P. Menard-Katcher*, K. L. Marks¹, C. A. Liacouras², J. M. Spergel^{1,3}, Y.-X. Yang^{4,5} & G. W. Falk*

- **53 pediatric patients followed up**
- **24 (45%) had abnormal dysphagia scores / difficulty swallowing**
- **40 (76%) were on diet restriction**

AP_{ET} Alimentary Pharmacology and Therapeutics

2015; 41: 1016-1022

The 2011–2014 prevalence of eosinophilic oesophagitis in the elderly amongst 10 million patients in the United States

C. Maradey-Romero*, R. Prakash¹, S. Lewis¹, A. Perzynski¹ & R. Fass*

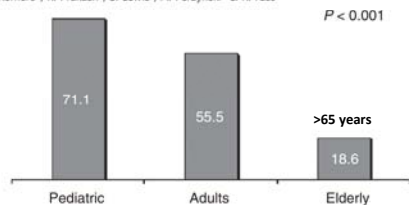


Figure 1 | Comparison of prevalence estimates per 100,000 patients of EoE cases among the different age groups (*P* < 0.001).

Yes!!

- Patients continue to experience disease activity, if untreated.
- Patients with EoE experience diminished QoL.
- Without treatment, fibrosis can occur.

Yes!!

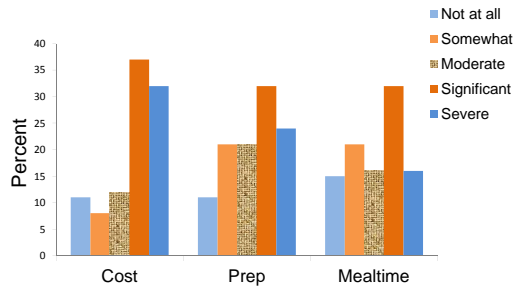
- Treatment in adult EoE patients reduces food impactions.
- Inflammation can lead to remodeling without overt symptoms / warning.
- Disimpaction can lead to complications.

No

- Treatments are worse than the disease
 - Quality of life
 - Side effects
- Expensive
- Doesn't matter whether you treat or not

Treatments are worse than the disease

Caregiver Report of Food-Related Stress



Robinson et al-NASPGHAN 2015

Adrenal insufficiency?

Study-year	How measured	Number of subjects	cofactors	TCS
Harel 2015	ACTH stim	6/14 (43%) -5 additional subjects not measured	none	OVB
Philla 2015	cortisol	0/14	none	FP, OVB
Gupta 2014	cortisol	1/71 (1.4 %)	none	OVB
Butz 2014	cortisol	8 of 42 (19%)	high dose TCS	FP
Dellon 2012	cortisol	0/22	none	OVB and nebulized
		15/163 (9%?)	OVB-oral viscous budesonide	FP-fluticasone propionate

Adrenal insufficiency is uncommon in TCS treated EoE patients

- Prospective assessment of 106 children
- TCS for >4 months
- 28 had cortisol less <5 mcg/dl
- **3 had abnormal ACTH stimulation test (3%)**
- All were on other topical steroid modalities

Haseeb et al-NASPGHAN 2015

Treatments are worse than the disease

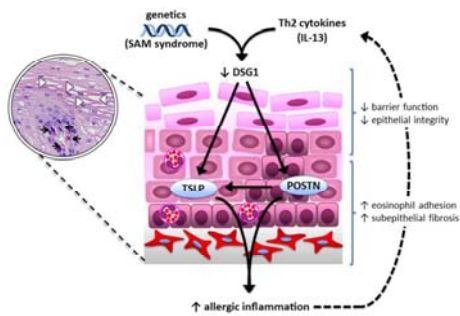
Expensive

- Overall cost of care-\$3,304 / yr (no diet costs)
 - Diet-\$540 / year more expensive than regular diet
 - Wolf et al DDW 2015
 - Drugs- \$600-\$900
 - Prior approvals
 - Increasingly denied

Jensen et al Am J Gastroenterol 2015

Treatments are worse than the disease

Doesn't matter whether you treat or not



Sherill et al Gastroenterol Clin NA 2014

Should treat!

Adults develop fibrosis if untreated.

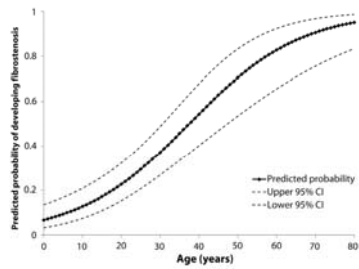


Figure 1. Predicted probability of developing a fibrostenotic phenotype of eosinophilic esophagitis based on age. CI, confidence interval.

Dellon et al GI Endoscop 2014

Adults develop stricture if untreated.

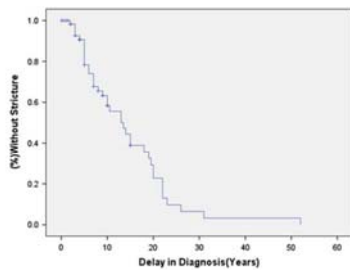


FIGURE 1. Kaplan-Meier curve showing prevalence of strictures with length of diagnostic delay.

Lipka et al J Clin Gastroenterol 2015

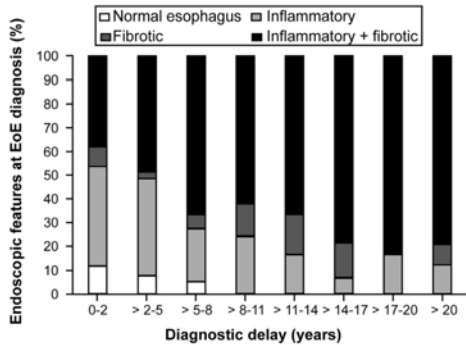
CLINICAL—ALIMENTARY TRACT

Delay in Diagnosis of Eosinophilic Esophagitis Increases Risk for Stricture Formation in a Time-Dependent Manner

ALAIN M. SCHOEPPER,^{1,*} EKATERINA SAFFRONEEVA,^{2,*} CHRISTIAN BUSSMANN,³ TANJA KUCHEN,¹ SUSANNE PORTMANN,¹ HANS-LUWE SIMON,¹ and ALEX STRAUMANN^{2,3}

- 200 adults with EoE
- 153 men
- 39 yo +/- 15 yrs

Adults develop fibrosis if untreated.



Schoepfer et al Gastroenterol 2013

Adults develop strictures if untreated.

Diagnostic delay, y	Patients, n	Patients with strictures at the time of EoE diagnosis, n	Stricture prevalence, %
0-2	58	10	17.2
>2-5	39	12	30.8
>5-8	18	7	38.9
>8-11	29	11	37.9
>11-14	12	5	41.7
>14-17	14	9	64.3
>17-20	6	4	66.7
>20	24	17	70.8

Schoepfer et al Gastroenterol 2013

Patients experience diminished QoL*

Study-Year	Finding	Population
Van Rhijn-2014	Decreased mental component	adult
Klennert-2014	HRQoL Improved following treatment	pediatric
Harris-2013	Depression /school-69%	pediatric
Cortina-2010	Decreased HRQoL	pediatric
Klennert-2009	Impact siblings	pediatric
Flood-2008 / Straumann-2012	25-20% Sleep disturbance	pediatric and adult

*teritary care studies Lynch et al Journal of Pediatric Psychology 2015

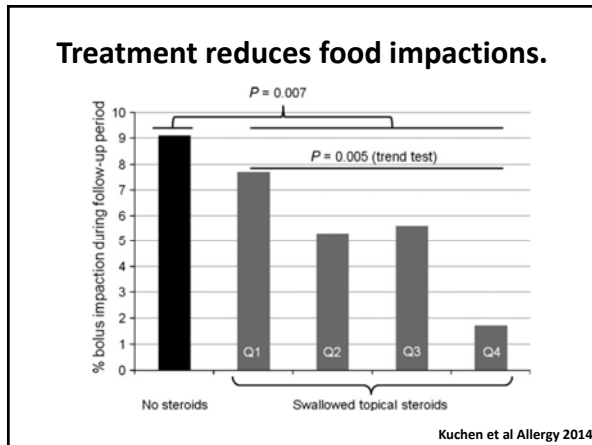
Allergy EUROPEAN JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY EAACI Allergy

ORIGINAL ARTICLE GASTROINTESTINAL DISEASES

Swallowed topical corticosteroids reduce the risk for long-lasting bolus impactions in eosinophilic esophagitis

T. Kuchen^{1,*}, A. Straumann^{2,3,*}, E. Safroneeva⁴, Y. Romero^{5,6}, C. Bussmann⁷, S. Vavricka^{1,8}, P. Netzer⁹, A. Reinhard¹⁰, S. Portmann¹¹ & A. M. Schoepfer¹²

- 206 subjects
- 5 year follow up
- 33 patients with FI (42 impactions)
- Univariate logistic regression modeling to assess for contributing factors



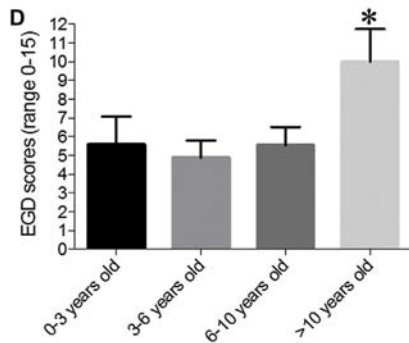
ARTICLE IN PRESS

Long-term assessment of esophageal remodeling in patients with pediatric eosinophilic esophagitis treated with topical corticosteroids

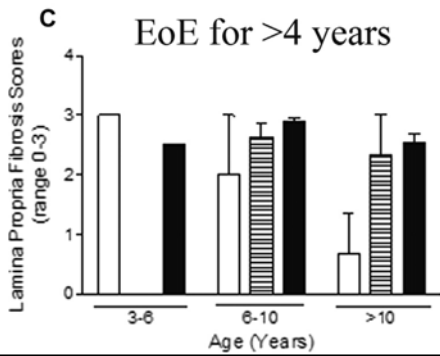
Jessica Rajan, MD,^{1,2,3,4} Robert O. Newbury, MD,^{2,5} Arjun Anilkumar, BS,^{6,7,8,9} Ranjan Dohil, MD,^{1,4} David H. Broide, MB, ChB,^{1,4} and Seema S. Aceves, MD, PhD^{6,8,9,1} La Jolla and San Diego, Calif

- 32 children from a 10 year span
- Treated with TCS for 4.5 years
- 738 biopsies from 246 procedures
- Identified responders (R) and non-responders (NR)

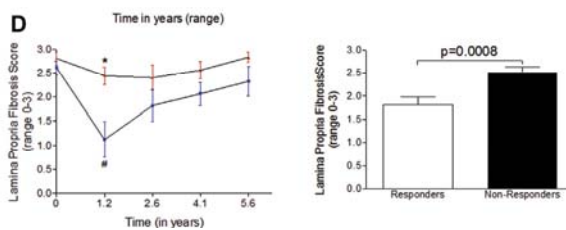
Endoscopic evidence of remodeling



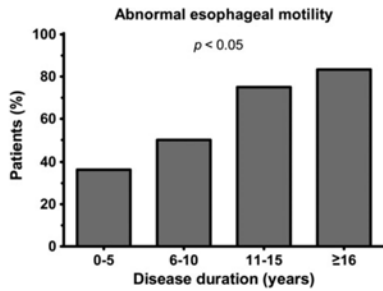
Histologic evidence of remodeling



Remodeling is worse when inflammation persists.

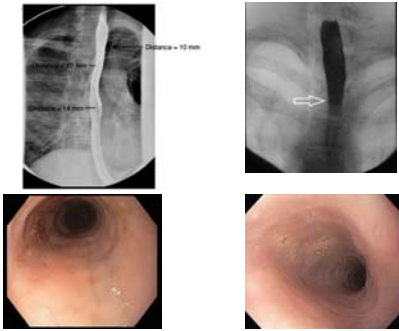


Esophageal dysmotility increases with disease duration.



Van Rhiin et al Neurogastroenterol Motil 2015

Esophagrams may be better than endoscopy to detect narrowing in EoE



Gentile et al APT 2015

Menard-Katcher et al JPGN 2015

Philosophy of "monitoring" disease activity

- Growth and development
- Balance of treatment risks and benefits with QOL and symptom control
- Bring tissue to "remission"



**RARE DISEASES
CLINICAL RESEARCH
NETWORK**

Initiative of the National Center for Advancing
Translational Sciences (NCATS)



CEGiR
Consortium of Eosinophilic
Gastrointestinal Disease Researchers

www.rarediseasesnetwork.org/cms/CEGiR
