
BACKGROUND

Eosinophilic Eosophagitis (EoE) is a non-IgE mediated chronic allergic disorder which appears to be triggered, in many cases, by ingestion of certain food protein(s). First recognised as a disorder in the 1970's, there has been a perceived significant increase in the number of children diagnosed with EoE over the past decade, however the true incidence and natural history of the disorder is unknown. Studies have reported an estimated prevalence of up to 1 in 10,000 children¹. Currently, the diagnosis of EoE relies on demonstration of increased numbers of eosinophils (≥ 15 per high power field) in oesophageal biopsies. However, there is significant clinical and histological overlap between EoE and gastro-oesophageal reflux disease (GORD)². EoE is closely associated with allergic disorders, such as food allergy, eczema and asthma. Infants typically present with food refusal and failure to thrive, whereas older children and adolescents describe dysphagia and reflux symptoms which are unresponsive to proton pump inhibitors³.

Treatment of EoE aims to prevent long-term complications, such as acute food bolus impaction or oesophageal strictures, as well as to treat current symptoms. There is a general paucity of randomised controlled trials and high level evidence for the management of EoE in children and currently no evidence of a consistent approach to the management of childhood EoE in Australia². Thus, present day management of the condition in childhood varies⁴, and can include elemental or elimination diets^{5,6} swallowed corticosteroid aerosols⁷ or other immune-modulating drugs.

The proposed study will seek to capture the current spectrum of clinical practice and use this data to help advocate for high quality Australian based clinical trials and subsequent evidence based approach to management of paediatric EoE.

STUDY OBJECTIVES

1. Estimate the incidence of EoE in Australian children seen by Paediatricians.
2. Describe the following among Australian Children with EoE:
 - a. Demographic features (e.g. age, ethnicity, gender, family rank, urban or rural residence).
 - b. Feeding patterns of affected children (e.g. number breastfeeding, number on formula, age at solid food introduction).
 - c. Common clinical features of EoE at time of diagnosis and establish whether there are significant differences across age groups (infants, primary school, adolescents).
3. Document the following among Australian children with EoE:
 - a. Putative causative food trigger(s) identified by IgE (Immunoglobulin E) sensitisation or Allergen patch test (APT).
 - b. Treatment modalities currently used including dietary recommendations following diagnosis (eg. food elimination diet, elemental diet) and pharmacological therapy, and response to these treatments.
 - c. Common comorbidities in children with EoE
 - d. Complications and use of health services

CASE DEFINITION

Please report any child < 16 years of age newly diagnosed with EoE, whom you have seen within the last month and that you have not previously reported to the APSU, meeting the following case definition criteria:

1. Demonstrated increased numbers of eosinophils (>15 per high power field) in **at least one** oesophageal biopsy (lower, mid or upper).

AND Excluding Gastro-oesophageal Reflux Disease which has responded to a Proton Pump Inhibitor

Please be aware that clinical symptoms may have been present at diagnosis and most commonly include: food refusal, vomiting and failure to thrive in infants; vomiting dysphagia and upper abdominal pain in school aged children; and upper abdominal pain and food bolus obstruction in adolescents.

FOLLOW-UP OF REPORTED CASES

Clinicians who notify a case of EoE will be asked to complete a 2 page questionnaire requesting de-identified details about the patient, medical history, family history, diagnosis and treatment. The questionnaire will be sent to clinicians via email or post, or may be downloaded from the APSU website (www.apsu.org.au)

Please return the completed questionnaire to the APSU by post or fax as instructed on the questionnaire.

INVESTIGATOR CONTACT DETAILS (*Principal Investigator and contact person)

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References

1. Heine RG, Nethercote M, Rosenbaum J, Allen KJ. Emerging management concepts for eosinophilic esophagitis in children. *Journal of gastroenterology and hepatology*. 2011;26(7):1106-13. Epub 2011/05/07.
2. Liacouras CA, Furuta GT, Hirano I, Atkins D, Attwood SE, Bonis PA, et al. Eosinophilic esophagitis: Updated consensus recommendations for children and adults. *Journal of Allergy and Clinical Immunology*. 2011;128(1):3-20.
3. Assa'ad AH, Putnam PE, Collins MH, Akers RM, Jameson SC, Kirby CL, et al. Pediatric patients with eosinophilic esophagitis: an 8-year follow-up. *The Journal of allergy and clinical immunology*. 2007;119(3):731-8. Epub 2007/01/30.
4. Spergel JM, Book WM, Mays E, Song L, Shah SS, Talley NJ, et al. Variation in prevalence, diagnostic criteria, and initial management options for eosinophilic gastrointestinal diseases in the United States. *Journal of pediatric gastroenterology and nutrition*. 2011;52(3):300-6. Epub 2010/11/09.
5. Spergel JM, Andrews T, Brown-Whitehorn TF, Beausoleil JL, Liacouras CA. Treatment of eosinophilic esophagitis with specific food elimination diet directed by a combination of skin prick and patch tests. *Annals of allergy, asthma & immunology : official publication of the American College of Allergy, Asthma, & Immunology*. 2005;95(4):336-43. Epub 2005/11/11.
6. Kagalwalla AF, Sentongo TA, Ritz S, Hess T, Nelson SP, Emerick KM, et al. Effect of six-food elimination diet on clinical and histologic outcomes in eosinophilic esophagitis. *Clinical gastroenterology and hepatology : the official clinical practice journal of the American Gastroenterological Association*. 2006;4(9):1097-102. Epub 2006/07/25.
7. Konikoff MR, Noel RJ, Blanchard C, Kirby C, Jameson SC, Buckmeier BK, et al. A randomized, double-blind, placebo-controlled trial of fluticasone propionate for pediatric eosinophilic esophagitis. *Gastroenterology*. 2006;131(5):1381-91. Epub 2006/11/15.