

Eosinophilic Esophagitis

Incidence and Prevalence

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KEYWORDS

• Eosinophilic esophagitis • Epidemiology • Prevalence • Incidence

KEY POINTS

- Eosinophilic esophagitis (EoE) is an emerging allergy-mediated condition that affects all ages. The clinical presentation of EoE differs between children and adults.
- The epidemiology of EoE has been reported in studies from multiple countries with varying estimates, depending on factors, such as method of data collection and populations studied.
- The incidence of EoE has increased over the years. The current estimated annual incidence is approximately 10/100,000 cases.
- The overall prevalence of EoE ranges from 10 to 57 cases/100,000 persons and is higher among symptomatic patients.

INTRODUCTION

Eosinophilic esophagitis (EoE) is a relatively new condition first described less than 4 decades ago.¹ Since its initial description, there has been an immense interest in EoE in both the research and the clinical setting. EoE is an allergic-mediated condition that triggers an inflammatory response that leads to esophageal dysfunction, namely dysphagia and food impaction in adults, and is characterized by dense eosinophilic infiltration of the esophageal mucosa.^{2,3} Several studies from multiple countries have described the epidemiology of EoE in children and adults during the past 2 decades.⁴ Some of these studies are population based from geographic confined regions, whereas others are institution based using registry data and electronic medical records.

Incidence and prevalence are important aspects in understanding the epidemiology of a disease, particularly a new disease. They are both considered measures of frequency. The incidence of a condition is defined as the number of new cases in which patients who were initially free of a condition developed the condition during a set

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period of time. The prevalence is defined as the total proportion of patients with a condition over time. Therefore, in chronic conditions, such as EoE, the prevalence is typically greater than the incidence because it includes new cases as well as those known over time. Both are typically reported as a fraction of a population at risk (eg, per 100,000 individuals). One important difference between incidence and prevalence is that in incidence, an interval period is followed over time to determine new cases that have developed, whereas prevalence is described at a given point in time. Incidence describes the rate of acquiring a condition, and prevalence refers to how widespread a condition is.

INCIDENCE OF EOSINOPHILIC ESOPHAGITIS

One important question regarding the incidence of EoE is whether an increase in the number of new cases truly exists or if the observed increase in incidence is from a higher awareness of the condition, improved recognition by gastroenterologists, and therefore, more esophageal biopsies being taken. The answer is likely a combination of both, increased awareness and a true increase in number of new cases. In one study, the increasing incidence appeared to be explained by a higher number of esophageal biopsies taken over a 4-year period.⁵ More recent studies, however, suggest an actual increase in the number of cases that cannot simply be explained by an increase in esophageal biopsies.^{6,7} Overall, the incidence of EoE ranges from 0.7/100,000 to 10.7/100,000 depending on the population studied and the method of data collection, that is, by using institutional electronic medical records and databases, International Classification of Diseases (ICD) codes (530.13), or nationwide registries.

In a population-based study in Denmark using a national pathology registry over a 15-year period, the incidence of EoE increased from 0.13/100,000 to 2.6/100,000, representing a nearly 20-fold increase. One important aspect of this study was determining that esophageal biopsies increased only 2-fold over the same time period, suggesting that an increase in awareness and recognition alone could not account for the increase in incidence noted.⁵ The incidence reported in this study was higher than a previous study from Denmark where the incidence was 1.6/100,000.⁸ There are some notable differences between these 2 studies. The study with the lower incidence rate was limited to children and from the southern region of the country over a 3-year period, whereas the more recent study was all inclusive of the entire Danish population.⁸

There have been several additional European population-based studies that have reported the incidence of EoE. In a defined region in Switzerland with a population of 90,000 cared for by 2 gastroenterologists and one pathologist, the incidence of EoE was 2.45/100,000.⁷ The incidence remained stable from 1989 to 2001, but an increase was observed from 2004 to 2009. Although there certainly was an increase in upper endoscopies performed over the years, the number of new EoE cases was higher than the number of endoscopies during that same time period, suggesting an increase in the actual incidence of EoE. In another study from the Western part of Switzerland, in which there are nearly 750,000 inhabitants, the incidence of EoE was calculated based on review of pathology databases to identify any cases of esophageal eosinophilia followed by chart review to ensure an accurate diagnosis of EoE. The incidence increased from 0.16/100,000 cases in 2004 to 6.3/100,000 in 2013.⁹ In another population-based study from the Netherlands in which pathology reports from a nationwide registry were used to identify cases of esophageal eosinophilia over a 15-year period, the incidence of EoE increased

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