Low Prevalence of Eosinophilic Esophagitis in Hispanics and Asians in the United States

Robert M. Genta1,2, Stuart J. Spechler1,3
1Miraca Life Sciences Research Institute, Miraca Life Sciences, Irving, TX, United States; 2VA North Texas Healthcare System of Texas; 3UT Southwestern Medical Center, Dallas, TX

Background

National differences in the prevalence of eosinophilic esophagitis (EoE) have been described, but it is not clear whether these differences are real (due to differences in genetic or environmental factors) or spurious (due to national differences in awareness of the condition among physicians and in their recognition of the endoscopic and histological features of EoE).

Prevalence rates for EoE in reports from Asia have been highly variable (e.g., 0.01% in a study from Japan, 0.34% in a study from China, 6.6% in a study from Korea). To minimize confounding due to national differences in physician factors relating to the diagnosis of EoE, we estimated the prevalence of EoE in patients of different ethnicities who had endoscopy performed in the US with esophageal biopsies evaluated by a single group of gastrointestinal pathologists in the US.

Aims

We designed a study to assess the prevalence of esophageal eosinophilia in patients of different ethnicities who had endoscopy performed in the US with esophageal biopsies evaluated by a group of gastrointestinal pathologists in the US.

Study Design and Methods

From a large national pathology database, which includes demographic, clinical, endoscopic and histopathological data, we extracted unique subjects who had an EGD with esophageal biopsies between 1.2008 and 12.2013. We then stratified patients into the following groups:

- East Asian (including Korean, Chinese, and Vietnamese)
- Japanese
- Indian (including Indian, Pakistani, and Bangladeshi)
- Other Americans (including Caucasians, African-Americans, Hispanics, and any US residents not specifically identified with any of the three East Asian groups)
- Cambodian, Laotian, Burmese, Malay, and Indonesian origin, and others of undetermined ethnicity.

There were rare patients of Cambodian, Laotian, Burmese, Malay, and Indonesian origin, and others of undetermined ethnicity. These were excluded from the analysis.

Histopathologic criteria for the diagnosis of Eosinophilic Esophagitis

In our pathology practice, all esophageal specimens that contain more than 5 eosinophils in the squamous epithelium include the eosinophilic count per High Power Field (HPF). For the purpose of this study we defined EoE on purely histopathologic grounds and included all patients who had at least 15 eosinophils per HPF in their biopsies from the squamous esophagus.

Results

We identified a total of 490,444 unique patients who had esophageal biopsy specimens including:

- 5,132 East Asians (median age 57 years; 46% male)
- 498 Japanese (median age 59 years; 48% male)
- 1,169 Indians (median age 51 years, 55% male)
- 20,400 Hispanics (median age 55 years; 43% male)
- 462,146 Other Americans (median age 57 years; 47% male).

The median age of patients with EoE was between 42 and 46 years in all groups except the Indians, with a difference of 12 to 14 years between the median age of the group and the median age of EoE patients. In contrast, the median age of Indian patients with EoE was 32 years, or 19 years younger than the median age of the group.

Study Highlights

- There appear to be significant differences in the prevalence of EoE among different ethnic groups in the US.
- Hispanics and all Asians have approximately half the prevalence of the ‘other Americans.’ Remarkably, these groups have a much higher prevalence of H. pylori infection.
- These findings suggest that differences in EoE prevalence among ethnic groups are real and not merely the result of differences among physicians in their recognition of the clinical, endoscopic and histological features of EoE.

References