

Benign migratory glossitis and allergy

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Abstract

Over an eighteen month period, 5,466 children from a private pedodontic practice in South Bend, Indiana were examined for benign migratory glossitis and allergies. Diagnosed benign migratory glossitis cases were further analyzed according to sex, race, and age. Two-way tests of independence using chi-square analyses showed a significant relationship between benign migratory glossitis and allergy.

Burket said there is a relationship between benign migratory glossitis and allergy.¹ This study is directed at that hypothesis. Benign migratory glossitis has been studied under a host of synonyms: "wandering rash," lingua geographica, geographic tongue, erythema migrans, exfoliatio areata linguae, superficial migratory glossitis, lingual dystrophy, pityriases linguae, transitory benign plaques of the tongue, marginal exfoliative glossitis, and glossitis areata migrans. The frequency of occurrence, according to several investigators varies from 0.28 to 14.4%.²

Benign migratory glossitis is seen as a tongue lesion characterized by the appearance of red patches, varying in form and extent, surrounded by collar-like hypertrophy of filiform papillae.^{2,7} The margins of the lesion are well developed and slightly raised. The involved areas enlarge and migrate by extension of the desquamation of the papillae at one margin of the lesion and regeneration by a yellow, grey, or whitish membranous margin. The patches may be single or multiple, discrete or confluent.⁴ Less commonly, the lesions are seen on the lateral borders of the tongue and floor of the mouth.⁵ The onset of the lesion is considered rapid, the persistence chronic, often lasting for several months. As rapidly as they appear, they are likely to regress spontaneously, only to appear at a later date.^{5,6,7} While patients seldom experience any symptoms, mild burning, irritation, and discomfort to extremes of hot, cold, or spicy foods have been reported.^{5,6} The condition is self-limiting and is thought

to be a recurring harmless change, rather than a disease.^{1,3,6} To date, therapeutic treatments have been unsuccessful and probably not warranted.

The etiology of geographic tongue remains obscure although a number of factors have been suggested. Some authors consider the lesion a congenital anomaly, and others see it as an acute inflammatory reaction.² The factor under consideration in this study is allergy. Burket has noted that individuals with an allergic background appear to be more likely to manifest this condition.¹ Allergies have been implicated because of a suggested high incidence of migratory glossitis among children with overt allergic manifestations.⁸

Methods and Materials

The children for this study came from a private pedodontic practice in South Bend, Indiana. The practice, composed of rural and urban children, serves all levels of the socioeconomic scale, as well as Negroes, Caucasians, Hispanics and Oriental races.

Over an 18-month period of time 5,466 children were examined in the office. All cases of benign migratory glossitis were confirmed independently by two qualified examiners using good dental lighting. The name, age, sex, race, and presence or absence of reported allergy was recorded. Two way tests of independence using chi-square analysis were performed. The main objective was to determine the relationship between allergy, race, sex and age in patients with benign migratory glossitis in our study population.

Results

Of the 5,466 children examined, 79 cases of benign migratory glossitis were diagnosed. These consisted of 43 males and 36 females. They included 69 Caucasians, 8 Negroes, and 3 Hispanics, ranging in age from 2 to 19: the mean age was 6.8 years. Of those

diagnosed cases, 32 had a reported history of allergies, which were confirmed by the parent and updated health history. Those allergies were further divided into the specific categories of 14 drug, 8 food, 6 pollen, 3 animal, and 2 cosmetic. Of the 79 with lesions, 32 (40.5%) have an allergy.

Using the probabilities of binomial event and linearly interpolating, the probability is about 95% that the interval 28.7% to 53.0% includes the true population percentage of the number of children with geographic tongue who also have an allergy.

Based on the data collected, a two way chi-square test of independence was carried out. Unless a very unlikely event occurred (less than 1 in a 1000) an association does exist between geographic tongue and allergies. A two-way chi-square test of independence was also used to determine that in the population examined: (1) There is *no* relation between presence of an allergy and race, and (2) There is no relation between presence of an allergy and age in the examined population.

Conclusion

For the study population, there is a statistically significant general relationship between benign migratory glossitis and allergy. We can say with about 95% certainty that between 28.7% and 53.0%

of our patients with benign migratory glossitis will have reported an allergy. We found no significant relationship between migratory glossitis and race, sex, or age. The ramifications for continued study in this area are obvious in a pedodontic practice. When benign migratory glossitis is seen, allergenic potentials should be tested for and determined, whether or not they are reported in the past medical history.

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