

Prevalence of other allergies among patients with vernal keratoconjunctivitis

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Abstract

• **AIM:** To determine the prevalence of other allergies in patients with vernal keratoconjunctivitis (VKC) and their first-degree relatives.

• **METHODS:** This prospective study was done on 520 patients with VKC over a 9-year period from April 1999 to March 2008. All information such as age, sex, types of vernal and various types of other accompanying hypersensitivities in patients and/or their relatives were recorded on questionnaires and analyzed statistically.

• **RESULTS:** Among 520 patients, 369 (71.0%) were male and 151 (29.0%) were female. The mean age of patients was 15.3 years (6-30 years). 242 cases (46.5%) had history of vernal or other types of hypersensitivities in themselves or their first-degree relatives. Among these positive history cases, 68 patients (28.1%) had allergic dermatitis, 51 cases (21.1%) vernal conjunctivitis (in their relatives), 46 cases (19.0%) asthma, 29 cases (12.0%) allergic sinusitis, 24 cases (10.0%) drugs hypersensitivity, 14 cases (5.8%) atopic dermatitis, 6 cases (2.5%) allergic rhinitis and 4 cases (1.6%) had hay fever history.

• **CONCLUSION:** Many patients with VKC have other IgE-mediated or other types of hypersensitivity in him/her self and/or their relatives. Asthma, drug induced allergy and other hypersensitivities are common in these patients. The rate of vernal in relatives of patients was high, so it may be due to genetic origin of the disease.

• **KEYWORDS:** vernal keratoconjunctivitis; hypersensitivity; allergy; conjunctivitis

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INTRODUCTION

Vernal keratoconjunctivitis (VKC) is a chronic and recurrent IgE-mediated allergic disease of the eyes that

affect mostly children and young adults, living in warm climates. The diagnosis is generally based on the signs and symptoms of the disease. The most symptoms are itching, photophobia, burning and tearing. The most common signs are conjunctival injection, giant papillae, corneal involvement and limbal infiltrations^[1,2]. Pathogenesis of VKC is probably multifactorial, with the interaction of the immune, nervous and endocrine systems. The disease is more common in male than female until puberty and then it is nearly equal in two genders. VKC has three types: palpebral, limbal and mixed. In about 6% of cases a reduction of visual acuity resulted from corneal complications, and in 2% of patients steroid-induced glaucoma was observed^[1,3]. Patients with VKC frequently have a family or medical history of atopic disease, such as asthma, eczema, allergic rhinitis etc. In some investigations about half of the patients have had other allergies in themselves or their relatives^[1,2].

MATERIALS AND METHODS

This prospective study was performed on 520 patients with VKC over a 9-year period, from April 1999 to March 2008. Diagnostic criteria were defined for clinical signs and symptoms of the disease. Information about each patients such as age, sex, type of vernal and history of any accompanying allergies in patients and/or their first-degree relatives were recorded on questionnaires. All data were analyzed by SPSS.

RESULTS

Among 520 patients with VKC 369 cases (71.0%) were male and 151 (29.0%) were female. The mean age of patients was 15.3 years (6-30 years), but about 74.0% of patients (385 cases) were between 8-15 years old. 218 cases (41.9%) had palpebral type of vernal, 167 cases (32.1%) mixed type and 135 cases (26%) limbal type. 242 cases (46.5%) had history of various types of hypersensitivities in themselves and/or their first-degree relatives. Amongst these positive history cases, 68 patients (28.1%) had allergic dermatitis, 51 cases (21.1%) had vernal conjunctivitis history in their first-degree relatives, 46 cases (19.0%) asthma, 29 cases (12.0%) allergic sinusitis, 24 cases (10.0%) drugs hypersensitivity, 14 cases (5.8%) atopic dermatitis, 6 cases (2.5%) allergic rhinitis and 4 cases (1.6%) had hay fever history in their relatives.

DISCUSSION

VKC is a common ocular allergy which is not solely an IgE-mediated disease and on the basis of challenge studies as well as immunohistochemical and mediator studies, a Th2-driven mechanism with the involvement of mast cells, eosinophils, and lymphocytes has been suggested. Th2 lymphocytes are

responsible for both hyperproduction of IgE (interleukin 4, IL-4) and for differentiation and activation of mast cells (IL-3) and eosinophils (IL-5). VKC is a chronic and recurrent conjunctivitis, and one of the spectrum of allergic eye disease. They consist of seasonal allergic conjunctivitis (SAC), perennial allergic conjunctivitis (PAC), atopic keratoconjunctivitis (AKC), giant papillary conjunctivitis (GPC), and contact allergies involving the conjunctiva^[1-4]. Patients with VKC frequently have other IgE-mediated hypersensitivities as asthma, allergic rhinitis, allergic sinusitis and drug-induced reactions. VKC usually presents in children under 10 years of age and mainly affects boys. Sufferers frequently have a personal or family history of atopy. Based on the other researches, some patients with VKC have this disease in their brothers, sisters or parents in childhood^[5-7]. In an investigation in Thailand, on 445 patients with allergic conjunctivitis, about 95% had associated allergic diseases and 66% of them showed a family history of atopy^[8]. Ajaiyeoba^[9] from Nigeria has reported a rate of 19.8% atopic conditions, among 117 cases of VKC. In our study the prevalence of other allergies is near the other reports (46.5%), but the rate of vernal in first-degree relatives of patients is high (about 21.1%). It may be due to genetic bases of the disease.

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春季角结膜炎患者其他过敏症的患病率

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摘要

目的:测定春季角结膜炎患者和一级亲属中相对其他过敏的患病率。

方法:本前瞻性研究自 1999-04/2008-03 9a 间在 520 名春季角结膜炎的患者中进行。所有的年龄、性别、春季角结膜炎类型、其他伴随患者和/或其亲属的超敏反应的各种类别的信息记录在问卷调查表并用统计学分析。

结果:520 名患者中,男 369 例(71.0%),女 151 例(29.0%)。患者的平均年龄为 15.3 岁(6~30 岁)。242 例(46.5%)曾在自己或其一级亲属中有春季角结膜炎或其他类型超敏反应的历史。在这些阳性病史病例中,68 例(28.1%)有过敏性皮炎,51 例(21.1%)(其亲属)春季角结膜炎,46 例(19.0%)哮喘,29 例(12.0%)过敏性鼻炎,24 例(10.0%)药物过敏,14 例(5.8%)特应性皮炎,6 例(2.5%)过敏性鼻炎,4 例(1.6%)有花粉热的历史。

结论:不少春季角结膜炎患者和/或其亲属有其他由 IgE 介导的过敏或其他类型。哮喘、药物引起的过敏和其他过敏在这些患者中普遍。患者的亲属中春季角结膜炎比率高,因此它可能是由于疾病的遗传起源。

关键词:春季角结膜炎;过敏;过敏症;结膜炎