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Invited review article

Japanese guidelines for allergic conjunctival diseases 2017☆

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ABSTRACT

The definition, classification, pathogenesis, test methods, clinical findings, criteria for diagnosis, and therapies of allergic conjunctival disease are summarized based on the Guidelines for Clinical Management of Allergic Conjunctival Disease (Second Edition) revised in 2010. Allergic conjunctival disease is defined as "a conjunctival inflammatory disease associated with a Type I allergy accompanied by some subjective or objective symptoms." Allergic conjunctival disease is classified into allergic conjunctivitis, atopic keratoconjunctivitis, vernal keratoconjunctivitis, and giant papillary conjunctivitis. Representative subjective symptoms include ocular itching, hyperemia, and lacrimation, whereas objective symptoms include conjunctival hyperemia, swelling, folliculosis, and papillae. Patients with vernal keratoconjunctivitis, which is characterized by conjunctival proliferative changes called giant papilla accompanied by varying extents of corneal lesion, such as corneal erosion and shield ulcer, complain of foreign body sensation, ocular pain, and photophobia. In the diagnosis of allergic conjunctival diseases, it is required that type I allergic diathesis is present, along with subjective and objective symptoms accompanying allergic inflammation. The diagnosis is ensured by proving a type I allergic reaction in the conjunctiva. Given that the first-line drug for the treatment of allergic conjunctival disease is an antiallergic eye drop, a steroid eye drop will be selected in accordance with the severity. In the treatment of vernal keratoconjunctivitis, an immunosuppressive eye drop will be concomitantly used with the abovementioned drugs.

1. Definition and classification of allergic conjunctival disease

1.1. Definition

Allergic conjunctival disease (ACD) is defined as "a conjunctival inflammatory disease associated with a type I allergy accompanied by some subjective and objective symptoms." Conjunctivitis associated with type I allergic reactions is considered allergic conjunctival disease even if other types of inflammatory reactions are involved.[1]

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1.2. Classification

ACD is classified into multiple disease types according to the presence or absence of proliferative changes, complicated atopic dermatitis, and mechanical irritation by foreign body (Fig. 1).

1.2.1. Allergic conjunctivitis (AC) (Fig. 2)

Allergic conjunctival diseases without proliferative changes in the conjunctiva include seasonal allergic conjunctivitis (SAC) where symptoms appear in a seasonal manner and perennial allergic conjunctivitis (PAC) where symptoms persist throughout the year.

1.2.2. Atopic keratoconjunctivitis (AKC) (Fig. 3)

AKC is a chronic allergic conjunctival disease that may occur in patients with facial atopic dermatitis. Giant papillae may be present although many AKC cases have no proliferative changes.

1.2.3. Vernal keratoconjunctivitis (VKC) (Fig. 4)

VKC is characterized by conjunctival proliferative changes such as papillary hyperplasia of the palpebral conjunctiva or its enlargement, and swelling or limbal gelatinous hyperplasia. Many VKC cases accompany atopic dermatitis. Corneal lesions with various severities including superficial punctate keratitis, corneal erosion, persistent corneal epithelial defect, corneal ulcers, or corneal plaque have been observed in VKC.

1.2.4. Giant papillary conjunctivitis (GPC) (Fig. 5)

GPC is conjunctivitis that accompanies proliferative changes in the upper palpebral conjunctiva induced by mechanical irritations such as contact lenses, ocular prosthesis, or surgical sutures. Clinically, GPC differs from VKC by the absence of a corneal lesion and by having a different papillary form.

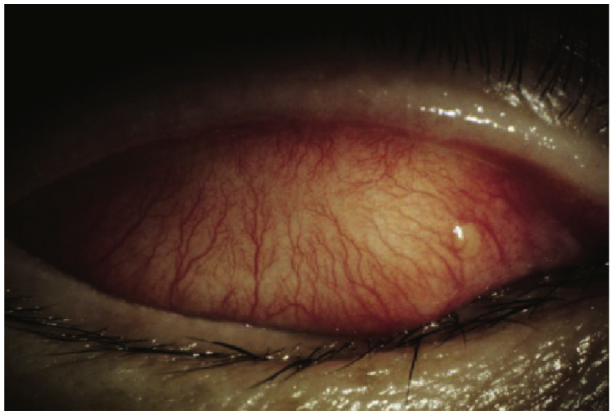

Fig. 2. Upper palpebral conjunctival findings in AC. Mild hyperemia and edema are present.

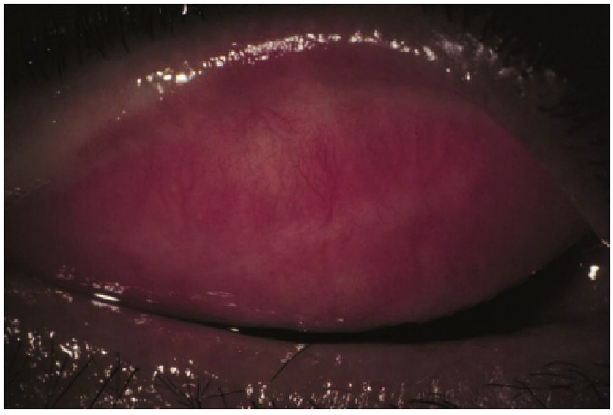

Fig. 3. Upper palpebral conjunctival findings in AKC. Hyperemia, opacity, and subconjunctival fibrosis are present.

2. Epidemiology of ACD

In surveys of the entire population conducted by the Allergy Integrated Project Epidemiologic Investigation Group of the Ministry of Health and Welfare in 1993, the proportion of persons with bilateral ocular itching was 16.1% in children aged less than 15 and 21.1% in adults. The proportion of persons with allergic conjunctival diseases diagnosed by ophthalmologists was 12.2% in children and 14.8% in adults. From these results, the proportion of persons with allergic conjunctival diseases in the entire population is estimated to be about 15–20%.

A research group on allergic ocular disease of the Japan Ophthalmologists Association conducted epidemiologic surveys of all patients with allergic conjunctival diseases that were treated at 28 facilities (7 university attached hospitals, 5 general hospitals, and 16 ophthalmic hospitals and clinics) all over Japan during the period from January 1, 1993 to December 31, 1995. They found that female patients with SAC or PAC outnumbered male patients by 2: 1, whereas male patients with VKC outnumbered female patients by 2: 1. The number of patients with ACD was maximum at the age of 10 and the incidence decreased with aging (Fig. 6). The main subjective symptoms were an ocular itching, ocular hyperemia, eye discharge, and a foreign body sensation in each disease type. In SAC,

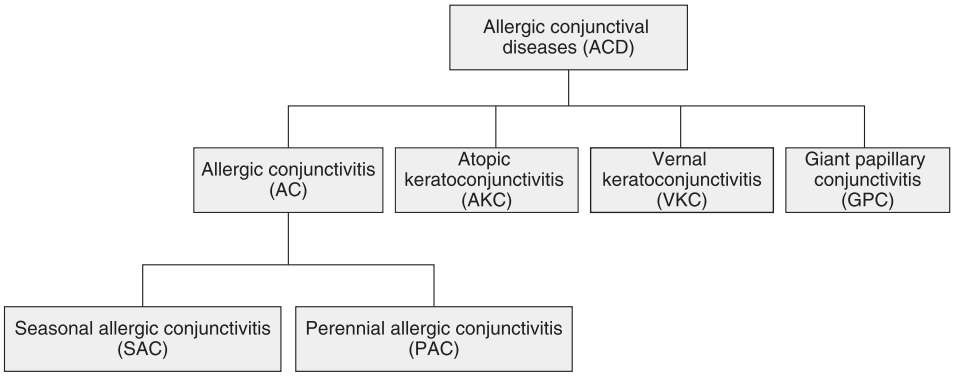

Fig. 1. Classification of ACD. ACD is classified as follows: (i) AC without proliferative change, (ii) AKC complicated with atopic dermatitis, (iii) VKC with proliferative changes, and (iv) GPC induced by irritation of a foreign body. Allergic conjunctivitis is subdivided into SAC and PAC according to the period of onset of the symptoms.