

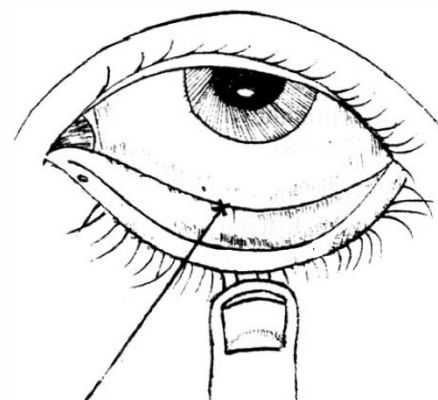
ment-epithelial-derived macrophages, leading to eventual desmosomal adhesion between Müller cells in the neuroretina and the pigment epithelium. In view of these findings it is perhaps surprising that the sort of macroscopic retinal necrosis we describe has not been reported before.

The factors responsible for the unusual response in this case may include an inherent structural weakness in the retina. The scleral thinness and splits as well as the previous adverse reactions in the fellow eye to surgical intervention may support this. It is probable that cryotherapy further alters the structure of the extracellular matrix proteins leading to a critical loss of structural integrity. However, scleral thinness is a common finding in patients with retinal detachment and one would expect such necrosis to occur more often if this were a significant factor.

The scleral thinness may also have contributed to inadvertently heavy cryotherapy, which was suggested as the cause of the cases reported by Okubo and Uemura.⁵ Electron microscopy has shown that extension of cellular necrosis into the inner retinal layers does increase with strength of application as judged by clinical retinal whitening, traversing the whole retina including the nerve fibre layer in the heaviest lesions.⁶ Overtreatment is thought to be unlikely as a factor in this case since the cryotherapy was applied by a very experienced retinal surgeon (J.D.S.) who is scrupulous in avoiding retreatment of any area of retina. Furthermore if retinal necrosis were simply the result of excess cryotherapy it would be expected to be more commonly reported, especially in the hands of trainees.

The exact reasons for the development of retinal necrosis in this case are unknown. We felt it important to report this unusual and dramatic complication of cryotherapy.

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ballooning of conjunctiva-
balloon sign

Fig. 1. The 'balloon sign' for IgE-mediated type 1 allergic conjunctivitis.

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Sir,

'Balloon Sign' in Allergic Conjunctivitis

Although ocular allergy may be associated with extra-ocular allergies, the local hypersensitivity of the eye and in particular the conjunctiva is usually predominant.

Despite advances in the basic understanding of ocular allergy, prior clinical experience has formed the basis of

the diagnosis of this condition. Intradermal skin tests, using appropriate concentration of allergen, are the best method of identifying ocular allergy.^{1,2} There are other diagnostic tests available, including detection of serum and local immunoglobulin E (IgE; specific and non-specific). However, these methods are complicated to perform and the results may be difficult to interpret. A simple clinical test is explained here that can be performed by an ophthalmologist or even a physician and that could facilitate diagnosis of IgE-mediated type 1 allergic conjunctivitis.

Without bending the patient's neck, the lower eyelid is gently pulled down while the patient is made to look up. If ballooning of the conjunctiva through the lower eyelid occurs (Fig. 1: the balloon sign) then this is almost pathognomonic for IgE-mediated type 1 allergic conjunctivitis.

Comment

The conjunctiva has a rich supply of blood vessels and, in addition, an abundance of lymphatic tissue, which makes it capable of developing all types of immune reactions.

Bulging out of the conjunctiva from the lower eyelid occurring in simple allergic conjunctivitis has been reported.^{3,4} We have used this test for many years and found it convenient and easy in the diagnosis of allergic conjunctivitis. Our experience has shown that this test is, with a few exceptions, seen only in allergic conjunctivitis caused by an IgE-mediated type 1 hypersensitivity reaction. It is not observed in contact conjunctivitis or keratoconjunctivitis medicamentosa, which are type 4 delayed hypersensitivity reactions. It is not seen in infectious or chemical conjunctivitis. In fact, in these latter non-allergic conditions, the same manipulation when applied on the lower lid will make the conjunctiva sink inwards. In vernal keratoconjunctivitis and hay fever conjunctivitis, both of which are type 1 hypersensitivity reactions, the 'balloon sign' is already evident in the earlier stages when the typical conjunctival signs are incomplete.

The 'balloon sign' when present is almost pathognomonic for conjunctivitis of allergic origin, mostly due to an IgE-mediated type 1 reaction. This test is very simple to perform and should help in the diagnosis and treatment of the diseases.

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Sir,

Uveitis and Skin Tattoos

There are numerous causes of acute anterior uveitis, many involving underlying immunological mechanisms which are still uncertain. The association of chronic recurrent anterior uveitis with swelling of skin tattoos is an unusual occurrence, thought to be due to an immunological response to the metallic components of the tattoo dye.^{1,2}

Case Report

A 53-year-old man developed a localised swelling and eruption related to a long-standing tattoo on his left forearm (Fig. 1). Two months later he presented to the eye department with a painful red eye and blurred vision, and a diagnosis of right-sided acute anterior uveitis was made. There was no significant past ocular history. Visual acuity was recorded as 6/18 improving to 6/9 with pinhole in the right eye, and 6/6 in the left. He was commenced on frequent topical steroid and mydriatic. The uveitis gradually responded over a 1 month period when the fellow eye became similarly involved. Recurrent episodes occurred



Fig. 1. Tattoo on left forearm.

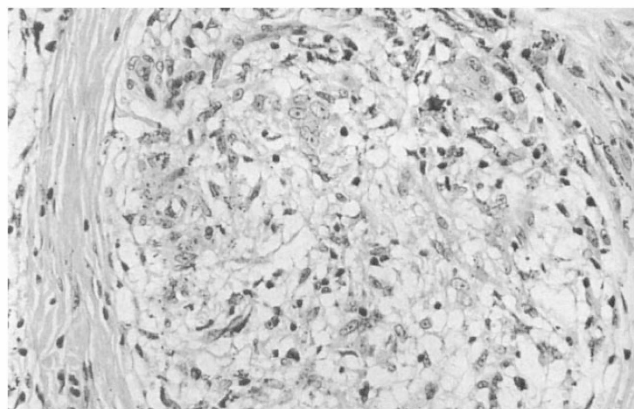


Fig. 2. 'Sarcoid type' allergic granulomatous reaction in upper dermis with overlying subcorneal pustule.