

adequate definition for describing the above-mentioned technique is “protected sclerostomy with Ex-PRESS® implant”.

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Tacrolimus in the treatment of atopic kerato-conjunctivitis[☆]

Tracolímus en el tratamiento de la queratoconjuntivitis atópica

Dear Sir,

Atopia affects about 5–20% of the general population. Atopic keratoconjunctivitis appears in approximately 20–40% of individuals with this disease. Apart from this entity, other common ocular events in this context are allergic conjunctivitis, giant papillary conjunctivitis and vernal keratoconjunctivitis.¹

In what concerns atopic keratoconjunctivitis, ocular involvement can range from superficial keratitis punctata to cicatrization defects, corneal thinning, keratoconus, formation of simblepharon and in advanced stages could even cause significant visual acuity reduction to the extent of causing blindness.²

In general, treatment is based on the application of anti-inflammatory or mastocyte-stabilizing eyedrops such as antihistaminics and corticosteroids. However, the chronic course of the disease limits the use of the latter. In some cases this therapeutic approach is not enough and calls for the adoption of other therapeutic options such as immunomodulators like cyclosporine A or surgical treatment.

Atopia can be defined as a particular sensitivity which in some families leads to the development of hypersensitivity to environmental substances which involve epithelia, skin and mucosa. Individuals with atopia frequently exhibit environmental allergy, allergic asthma, rhinitis, atypical dermatitis

or eczema. Less common are allergies to food, urticaria and hereditary angioedema. Immunoglobulin E (IGE) is the mediator of these excessive responses. Hypersensitivity reactions I and IV are responsible for inflammatory changes in the conjunctiva and cornea which occur in atopic keratoconjunctivitis.

Tacrolimus is an immunosuppressant macrolide produced by the fermentation of *Streptomyces tsukubaensis*, originally from Japan. This drug is highly efficient to prevent post-transplant rejection in patients resistant to steroids and cyclosporine. In this regard, tacrolimus is between 10 and 100 times more powerful than the latter.^{1,2}

At present, tacrolimus cream is available in 2 approved concentrations (0.1 and 0.3%) by the Food and Drug Administration for skin use in the treatment of atopic dermatitis.

There are several studies about tacrolimus, as described below.

Attas-Fox et al.³: this study assessed the usefulness of tacrolimus at 0.03% applied to the conjunctival sac for treating refractory allergic conjunctivitis. The results demonstrated highly significant improvements in all the evaluated categories, with only one patient suspending treatment.

Kymionis et al.⁴: this study described one case of giant papillary conjunctivitis. Six months later no relapses or side effects were found. Other studies on the use of tacrolimus

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applied externally to the eyelids in the context of atopic disease reported improvements in conjunctivitis symptoms without side effects.

It should be pointed out that the use of tacrolimus 0.03% constitutes an interesting treatment for giant papillary keratoconjunctivitis refractory to conventional treatments. However, studies must continue to be carried out.

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