Local conjunctival immunotherapy: A new treatment for allergic patients

By Assistant Professor Ngamjit Kasetsuwan

Research Protocol

1. Title

Local conjunctival immunotherapy: A new treatment for allergic patients

2. Researchers

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3. Background

Nowadays, the patients who suffer from allergic eye diseases are classified depending on signs and symptoms into four groups; allergic conjunctivitis (AC), vernal keratoconjunctivitis (VKC), atopic conjunctivitis (AKC) and giant papillary conjunctivitis (GPC). The allergic conjunctivitis (AC) patients are the most common among the others. They may develop acute attacks, as known for name seasonal allergic conjunctivitis or hay fever, chronic course that come with perennial allergic conjunctivitis (PAC), or multisystem manifestations, such as a common allergic rhinitis (allergic rhinoconjunctivitis, ARC).

Regarding to the treatment for allergic patients, many doctors prefer the combinations of medications (topical eye drops, nasal spray and oral tablets), environment modification and allergen avoidance. However, some patients suffer from chronic illness and prolong medical use may experience some side effects. If there is a new alternative treatment which can reduce or discontinue the combinations of medications, it will be beneficial and improving quality of lives.

Specific immunotherapy, is a treatment in which small amount of allergen is applied to conjunctiva periodically for a period of time in order to desensitize allergic response and finally decrease signs and symptoms. Nowadays, subcutaneous immunotherapy is accepted worldwide for treatment of allergic rhinitis patients and also in preventing asthmatic attacks.

Local conjunctival immunotherapy (LCIT) is recently introduced as a new modality of allergic treatment by applying allergens directly to the target organ; conjunctiva. There are few reports regarding these beneficial results. We question whether LCIT is effective in the treatment of ARC. The study is designed to be prospective. Symptoms and signs of allergic conjunctivitis
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will be scored after initiating conjunctival provocation test (CPT) provoked by house-dust mite antigen, Dermatophagoides pteronyssinus (Dp) and Dermatophagoides farinae (Of) in patients who have positive skin test to house-dust mite. The allergic response scores will be compared between groups (LCIT treated group vs non-LCIT group) at 6 months, and in the same LCIT treated group between 0 and 6 months.

Related articles

Panida et. al. found that in 445 Thai allergic patients, 82% were PAC, 10%,4.7% and 1.3% were VKC, AKC and GPC respectively. All had positive skin prick test (SPT), and the first 3 ranks allergens in each group were house-dust mite, house dust, cockroach and grass (Bermuda, Johnson and Timothy grass). The patients also had other systemic involvements, such as asthma 24.4%, allergic dermatitis 12.5% and allergic rhinitis which was found to be up to 71.5% and shown mostly in the group of PAC and GPC.

As mentioned above, there are many routes to apply immunotherapy (IT) such as subcutaneous IT, which has impressive results especially to flower allergens as well as sublingual IT (SLIT). Many studies have been shown that patients' symptoms and numbers of medications use were decreased after immunotherapy. They also found that subcutaneous IT had long term effects even after discontinue the treatment.

There have been some published papers about the advantage of local conjunctival immunotherapy (LCIT). In the study of Del Prete A, it has been shown that signs and symptoms scores of allergic conjunctivitis in patients who treated with LCIT for one year were significantly decreased when compared to non-LCIT treatment group. The study from Nunez JA also supported the previous study. In this study, only patients who had positive reaction to Dermatophagoides pteronyssinus (Dp) were recruited. The allergic conjunctivitis signs and symptoms scores were significantly lower than the control group at 6 months follow-up.

4. Objectives

To evaluate the efficacy and safety of local conjunctival immunotherapy (LCIT) in allergic rhinoconjunctivitis (ARC) patients who are allergic to Dermatophagoides pteronyssinus (Op) and / or Dermatophagoides farinae (Of).