Allergen specific immunotherapy

Department of Allergy and Clinical Immunology, Suwon, Korea

Yoo Seob Shin

Allergen-specific immunotherapy (AIT) is the practice of administering gradually increasing quantities of an allergen product to an allergic subject to ameliorate the symptoms associated with the subsequent exposure to the causative allergen. AIT has been shown to provide long-term relief of symptoms of allergic rhinitis and asthma; prevent the progression from allergic rhinitis to asthma; and have potential for preventing new sensitization. Although many drugs are effective in allergic diseases such as allergic rhinitis, conjunctivitis and asthma, drugs represent just a symptomatic treatment, while AIT represents the only treatment that might alter the natural course of the disease. Using an appropriate allergen product and a correct indication, AIT can significantly reduce the severity of the allergic disease, reduce the need for anti-allergic drugs, and improve the quality of life for allergic patients.

AIT is effective in the management of allergic asthma, allergic rhinitis/conjunctivitis, and stinging insect hypersensitivity. There is increasing evidence it is effective in the treatment of atopic dermatitis in patients with aeroallergen sensitivity. Immediate hypersensitivity skin testing is generally the preferred method of testing for specific IgE antibodies, although testing for serum specific IgE antibodies is useful under certain circumstances. Immunotherapy should be considered when positive test results for specific IgE antibodies correlate with suspected triggers and patient exposure.

Subcutaneous immunotherapy (SCIT) has been the predominant method of administration. Over the last 3 decades, sublingual immunotherapy (SLIT) of the extracts has increased and is now the dominant approach in several European countries. Additional approaches to AIT under active investigation include epicutaneous and intralymphatic administration.

The conventional schedule for SCIT consists of a dose build up by means of one-weekly injections, followed by maintenance dose injections at 4 or 8-week intervals. The build-up phase can be shortened by using cluster or rush schedules. During a cluster schedule, multiple injections (usually 2-3) are administered on nonconsecutive days. In a rush protocol multiple injections are administered on consecutive days,

reaching maintenance typically in 1 to 3 days. A direct comparison showed no increase in systemic reactions (SRs) and a more rapid achievement of symptomatic improvement for the cluster schedule. A rush protocol, on the other hand, even with use of premedication, is associated sometimes with an increase in SRs but can also be well tolerated. In SLIT the build-up period is either shortened or not needed.

The customary duration of AIT is 3 to 5 years. Prospective studies of SCIT with grass pollen extract for allergic rhinitis (AR) and house dust mite (HDM) extract for asthmatic patients suggest that 3 years of AIT produces prolonged remission of symptoms after discontinuation. A prospective study of SLIT with HDM extract in patients with AR demonstrated remissions lasting 7 and 8 years, respectively, with 3 or 4 years of active treatment.

AIT is effective in reducing symptoms of allergic diseases and potentially modifies the underlying course of disease. However, AIT remains underused because of a lack of awareness, limited access to specialist care, long duration, and concerns regarding safety and effectiveness.

References

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