Can Allergies Be Cured?

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What are allergies?

Allergies are caused by immune-mediated reactions to seemingly innocuous substances such as pollens, foods and cosmetics. It has been estimated that 25% of Hong Kong children suffer from allergic rhinitis, 12% from asthma, 6% from eczema and 5% from food allergies. Although these diseases are rarely fatal, they can significantly affect the quality of life. For example, allergic rhinitis has been linked to sleep apnoea and hyperactivity in children. Complications such as chronic sinus infection, glue ears, dental abnormalities and corneal abrasions can arise in severe cases. Young children with allergic rhinitis have up to a 30% chance of eventually developing asthma.

Can allergies be prevented?

Family history is very useful in predicting how likely a child will develop allergies. Someone whose parents are allergic has a greater than 60% chance of developing allergies. However, there are ways to reduce this risk. Studies have shown that infants who were exclusively breastfed for at least 6 months have a much lower risk of developing significant allergies. Other studies showed that lowering house dust mite allergen levels in an infant’s environment reduces the risk of mite allergy and asthma. Interestingly, recent data suggest that children who have been living with cats since birth are half as likely to develop cat allergy as someone who did not grow up with cats. It seems that certain allergens such as cat dander induce tolerance in the immune system when exposed at high doses early in life, whereas other allergens such as pollens and house dust mites induce sensitisation. Effective house dust mite avoidance measures include the removal of carpets, the use of special mite-proof covers for the beddings, and keeping the relative humidity constantly below 55%.

Can allergies be cured?

Although some people can outgrow food allergy, allergy to inhalants tends to be lifelong. It is important to find out what the offending allergens are, since the first line of treatment is to remove those allergens from the environment. This means avoiding allergic foods, furry pets, and instituting mite control. Diagnosing allergies by skin prick tests is safe and accurate, and can give an answer within 15 minutes. However, some allergens such as pollens, cats and mites can be difficult or impossible to eliminate. Studies have shown significant levels of cat allergens in public places such as schools and libraries. Medications such as antihistamines and nasal steroid sprays can reduce symptoms, but many patients do not like using medicines continuously for an indefinite period of time. Allergen desensitization treatment, also called allergen immunotherapy or allergy vaccines, can often help people with severe symptoms uncontrolled by allergen avoidance and medications. This technique was invented in 1911, but advanced biotechnologies now available have greatly improved its safety and efficacy. It is widely used in Europe and the US to treat nasal and ocular allergy, asthma and certain types of skin allergy. Vaccines to treat peanut allergy are under development and will hopefully become available within a few years. During the initial phase of treatment, the dose of vaccine is increased gradually through a series of injections until the therapeutic dose is reached. This dose is then given periodically, usually every month. This builds up an immune tolerance, and the person gradually loses sensitivity towards these allergens. Clinical improvement is usually seen within 3 to 6 months, by which time the majority of patients can stop using medications. Some patients even readopt their pets from relatives and friends. Treatment should continue for three to five years, after which the improvement appears to be long lasting. Although it is too early to say whether these patients are cured, but studies of patients who underwent two years of treatment showed no loss of efficacy six years after treatment has ceased. Moreover, the result of a large European study showed that children who have been desensitised to pollens were 2.6-fold less likely to develop asthma than children who received placebo injections. These children were also less likely to develop sensitivities to other allergens. This is very encouraging news indeed, as this is the first time a treatment is shown to prevent asthma and allergy. Studies using other routes of administration such as sublingual tablets are being carried out to find more convenient alternatives.

Patients with food allergies can develop symptoms ranging from mild itching to full blown anaphylaxis. Food allergies can cause significant difficulties in daily lives, especially for caregivers of young children with severe symptoms. Living with the fear that the next bite of food can lead to serious consequences can take a
major toll psychologically. There have been anecdotal reports of successful oral desensitisation of immediate type food allergies such as milk, egg and shellfish. A recent study of oral egg desensitisation in seven children with non-anaphylactic allergic reactions to egg showed that five subjects could be desensitised to tolerate at least 8 g of egg without reaction. This procedure must be carried out under strict medical supervision, but the development of modified food allergens with reduced allergenicity in the future holds promise as a cure for food allergies.

References