ASTHMA AND ALLERGIES IN CHILDHOOD - WHAT MORE CAN WE DO?

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In the last three decades, an important increase in the prevalence of allergic diseases, such as asthma, rhinitis and eczema, has been noted. Explanations for this increase are still lacking, although it seems that the increase might be related to western lifestyle (i.e. the hygiene hypothesis). Other factors that have been associated with the increased prevalence of allergic diseases are indoor and outdoor pollution, vaccination programmes, viral infections (such as infections with respiratory syncytial virus) and increased usage of medication (such as antibiotics and paracetamol) (Bach, 2002). In most young allergic children, eczema, asthma and allergic rhinitis have a chronological order of incidence known as “The Allergic March”. As allergic diseases are at present still incurable, prevention of allergic diseases (primary prevention and secondary prevention) seems to be the major approach in the management of potentially allergic children.
Primary prevention measures of atopy constitute avoidance of early allergen contacts (foods and inhalants) and avoidance of pollution. Early avoidance of house dust mite and birch pollen has been shown to reduce the occurrence of subsequent allergic diseases, although not all studies showed convincing results. Moreover, in a limited number of studies, avoidance of house dust mite in newborns resulted in an increased sensitisation to house dust mite subsequently (Woodcock et al, 2004). Most researchers agree that house dust mite avoidance should start during pregnancy, although studies on the subject are lacking. In contrast to house dust mite, exposure to cats and dogs during early life seems to induce tolerance.

Breast milk is generally considered as first choice for all infants, especially for atopic infants. However, the potency of breast feeding to inhibit the development of allergy is still unclear. At least, breast feeding seems to delay or prevent the occurrence of cow’s milk allergy. Hypo-allergic formulas have also an inhibitory effect upon the development of cow’s milk allergy. Late introduction (> age of 6 months) of solid foods seem to be advisable in atopic infants. However, the administration of hen’s eggs should be avoided in infants suffering from atopic dermatitis. The early administration of probiotics as a stimulus of Thl immune functions seems promising and in a limited number of studies, an inhibiting effect on the development of eczema was observed.

At the moment, limited data is available concerning the preventive effect of medication on the development of allergic diseases. In one study, early usage of ketotifen in infants suffering from eczema (i.e. secondary prevention) was able to prevent the occurrence of asthma, while in another study, the same drug inhibited the occurrence of asthma in high risk infants. More recently, it was found in one study that cetirizine, administrated during 18 months, was able to delay or prevent the development of asthma in young children suffering from atopic eczema and allergy to house dust mite and/or grass pollen (i.e. secondary prevention) (Warner et al, 2001).

The role of specific immunotherapy (SIT) on inhibiting “the allergic march” is still unclear, because of the lack of controlled studies in young children. However, in one study by Des Roches on preschool children, it was shown that SIT with house dust mite was able to inhibit further allergic sensitisation to other allergens (Des Roches et al, 1997). Moreover, in older children it was shown that SIT might have important immunomodulatory effects, which can result in persistent changes in the long-term evolution of allergic diseases. Other additional effects of SIT, compared to pharmacological treatments,
include the prevention of asthma in rhinitis and the improvement of the long term prognosis of allergic asthma. These additional effects of SIT offer exciting future perspectives, especially in view of the increasing prevalence of allergic diseases in young children. Furthermore, sublingual immunotherapy (SLIT), being a more child-friendly type of treatment, should also be considered as a possible alternative for inhibiting the allergic march in young allergic children. Recent studies on SLIT in asthmatic children were able to demonstrate effectiveness, safety and even long term efficacy, maintained for four to five years after discontinuation of SLIT (Sopo et al, 2004). However, more studies are needed, before generally advocating and using SIT or SLIT in young children, aiming to halt “the allergic march”.

The high prevalence of allergic diseases, resulting in a major health problem and a tremendous burden of medical cost, has forced us to look for new and better treatments. It is now clear that allergen avoidance programmes and pharmacological treatments are unable to cure allergy (i.e. to have any long-term or carry over effect). The role of SIT and SLIT in permanently inhibiting the allergic march is still unclear, but is an important field for future research, especially in young children.

**Selected readings:**