Atopic Diseases in Children

Atopic diseases are a group of diseases linked by a shared underlying problem with the immune system. The main feature is the development of a particular immunoglobulin (IgE) directed against allergens that are usually harmless. Childhood atopic disease includes atopic dermatitis, allergic rhinitis, asthma, and food allergy. This month’s JAMA Pediatrics includes 2 articles about atopic disease.

Atopic dermatitis, also called eczema, is a chronic, relapsing inflammatory disease of the skin that leads to itching and risks for skin infection. It is the most common skin disease in children: about 10% to 20% of children in the United States and Western Europe have atopic dermatitis. Skin treatment typically includes moisturizers and anti-inflammatory treatments such as steroid creams.

Allergic rhinitis is caused by allergic inflammation in the nose and throat after being exposed to an allergen. Symptoms include runny nose (rhinorrhea), stuffy nose (nasal congestion), itching, and sneezing. Itchy or watery eyes can also be symptoms. For some patients, the symptoms are seasonal; for others, the symptoms are year round. Treatment often consists of trying to reduce exposure to the allergen and using medicines such as nasal steroids, oral antihistamines, or decongestants.

Asthma is a disorder that includes airway obstruction that is reversible, lungs that are much more sensitive to allergens and irritants, and chronic airway inflammation. Symptoms include wheezing and difficulty breathing. Treatment often includes medicines that are inhaled as well as taken by mouth to open the airways and reduce inflammation.

Food allergies are common in children. The most common are nut and egg allergies. Some food allergies commonly resolve in later childhood, and others do not. Treatment involves being prepared in case of accidental exposure and avoiding that food.

Because the illnesses involved in atopic disease are linked by common causes, the “atopic march” refers to the common problem that children who have one of these illnesses are at significant risk for developing another at some point during childhood. For example, about 75% of children with atopic dermatitis will develop allergic rhinitis and more than 50% will develop asthma. There are 2 important factors in which children are at risk for atopic disease:

- Genetics: Genetics play a large role in developing atopic diseases; these underlying genetic risks then react to a trigger in the environment to cause the atopic illness. A family history of atopic diseases is a risk factor for children to develop these conditions.
- Environment: Even though genetics are important in risks for disease, exposure to environmental agents, or “triggers,” is important in atopic disease.

The “hygiene hypothesis” is that a more hygienic environment and fewer childhood infections may be an important reason why there are increases in atopic disease. According to this theory, too much hygiene or early avoidance of possible things that can cause an allergic reaction increase risks of atopic disease. We know that early exposure to peanuts, for example, can reduce the risk of developing a peanut allergy. Other studies have found that more exposure to viral infections, such as through daycare or school, was protective for atopic disease.

If your child has been diagnosed with one atopic disease, talk with your pediatrician about ways to prevent the atopic march.

FOR MORE INFORMATION
http://www.fmed.ulaval.ca/pediatrie/fileadmin/docs/serveur_pediatrie/Access_reserve/Medecins/Articles_scientifiques/recueil/AtopicDiseases.pdf
http://kidshealth.org/parent/infections/skin/eczema_atopic_dermatitis.html

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