

The allergic rhinitis:

If the body over-reacts...

Allergies are over-reactions by the body to substances it considers to be harmful. There are different kinds of allergies. Inhalation of the allergen via the nose leads to an allergic rhinitis. The allergens are pollen of trees, grasses and other plants, dust mite droppings or fungal spores. Why do some people suffer from these allergens, while others don't react on them?

The immune system

The different ways the immune system defends the body are complex and sophisticated. Its main task is to defend the body from harmful attacks. Sometimes the immune system over-reacts. The reasons for this in detail are unknown. But there is a genetic component: Allergies accumulate in families.

Part of the immune system is the antibody. Its job is to neutralise intruders, the antigens. Some antibodies are saved and serve as a memory. As soon as the same antigen enters the body, the immune system is able to react very much faster.

Pollen are antigens

Pollen pose no real threat for the body, but the immune system massively defends them. Some patients develop their allergies very fast, some take some years to do so and others never react like this.

The pollen grain is the structure used to transport the male gamete to the female part of a flower. The shape of the pollen differs from plant to plant. Usually the average size of a pollen is about 0,05 millimetres in diameter. Pollen therefore is invis-

ble. The outer wall of the pollen grain is composed of proteins which are responsible for the allergic potency.

Rhinitis has several sides

The allergic rhinitis expresses itself in different ways. Sometimes itching is the main symptom, sometimes the sneezing, the running or the blocked nose. In some cases all these symptoms trouble their victims. Mostly the allergic rhinitis is seasonal. But some patients suffer the whole year. Therefore it is very important to be diagnosed exactly. Which pollen are responsible for the symptoms?

Pollen don't pay attention to borders

The duration of the pollen season depends on the pollen itself and on the pollination. It differs throughout the year. Travelling Patients are advised to look at the pollen loading at their destination. Pollen loading differs from country to country even in Europe. The different climate leads to a different flowering of trees and bushes. Usually in the Mediterranean region pollination is a little bit earlier than elsewhere. Detailed information is given by national pollen loading information services.

Fungal spores induce allergic rhinitis

Fungal spores are microscopic but can induce allergic rhinitis as well as pollen do. There are thousands of different species. There are warm weather spores, such as *Alternaria* and *Cladosporium* and wet weather spores, such as *Sporobolomyces* und *Didymella*. Spores can be found in the air at all times of the year – a very malicious characteristic.

Dust mite droppings

The dust mite is common even in clean houses. Mites are tiny spider-like creatures only about 0,3 millimetres long and are therefore invisible to the naked eye. House dust mites are numerous in bedding (mattresses, pillows and covers). There they find their food: human scales. The allergic reaction is not due to the mite itself but to its droppings. The temperature of between 20 to 30 degree Celsius and relative humidity created by the body whilst patients are sleeping in bed, provides ideal conditions for these creatures.

Dealing with allergies

If you know the causes of your allergic reaction, you are a big step forward to avoid it. The following quite tips are useful:

1. Find out when pollen is most likely to be in the air (Internet)
2. Stay at home when pollen count is high or fight the symptoms with fast acting topical antihistamines.
3. Avoid additional cofactors like
 - a. smoking
 - b. extensive sports
 - c. sudden changes of the temperature
 - d. emotional stress
4. Use your medication correctly.
Nasal antihistamines act fast, Azelastine e.g. reduces the symptoms after 10 to 12 minutes and are ideal to fight occurring symptoms. Nasale corticoids start to act after two hours, an oral antihistamine needs two to three hours.

Some therapies have to be started weeks before the first pollen is in the air. In contrast, Azelastine only has to be used just when the symptoms occur.