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■ Tekst 10

Here kitty kitty...

Jonathan Heddle on a new cure for those who are allergic to furry pets

In many homes across the country lurks a health danger cunningly disguised as a fluffy ball of fun. While pets bring happiness to many, for those owners who are allergic, they can spell misery. Furthermore, the number of sufferers is on the increase.

ABOUT ONE IN THREE PEOPLE in the UK will experience an allergy-related problem in their lifetime. Up to 10% of the population are allergic to their pets, with cats being the number-one culprit. There is one obvious solution to the problem, but many people would rather suffer from sniffles, sneezes and itchy eyes than get rid of their four-legged family member.

Contrary to popular belief, pet allergies are not to the fur itself but rather to molecules of protein (called allergens) that coat the fur and usually come from the animal's urine, skin glands, or the microscopic skin cells (called dander) which they continuously shed. They are also present in the saliva, which is why the fastidious cat is the worst offender. Keeping your pet clean can help reduce exposure but the allergens are produced continuously and can never be completely eliminated.

When an allergic person first comes into contact with an animal, the allergen from the animal causes the sufferer's body to produce large amounts of an antibody called IgE. Antibodies are part of the body's natural defence system. They are usually involved in recognising and sticking to foreign invaders. In this case, as well as sticking to the allergenic animal protein, IgE attaches to some of the body's own cells, called mast cells. These are common in those areas of the body that react most strongly in allergic reactions: notably the nose, throat, lungs and skin.

The over-production of IgE means that a large reservoir of the antibody, already stuck to the mast cells, will be ready the next time the sufferer encounters the pet protein. In the subsequent exposure, the allergen will again attach to IgE. The IgE in turn causes the mast cells to release a number of chemicals including histamines.

IT IS HISTAMINES that are responsible for many of the symptoms of an allergic reaction such as itching, a watery nose and problems breathing. They work by increasing the permeability of blood vessels, causing fluid to leak out into the surrounding area, leading to swelling and itching.

Histamines also trigger other cells to release further chemicals, which in turn cause allergy symptoms, thus setting in motion a chain reaction. They also cause

some muscles, such as those in the airways, to contract. This can lead to the wheezing that some people experience.

The most common treatment for allergies is in the form of anti-histamine drugs. As their name suggests, these drugs work by binding to histamine receptors. Anti-histamine drugs look similar enough to real histamine to be able to compete against it in order to attach to the histamine receptors, but different enough that, once they have replaced histamine, they are unable to trigger the allergic response.

Unfortunately, antihistamines are not always effective and, like all drugs, they are not without side effects. The early drugs caused serious drowsiness. Newer versions are much safer but people often forget to take their daily dose.

In some cases, treatment can involve anti-allergy injections. Allergy shots work by continually exposing the body's immune system to the allergen until it builds up a resistance. However, injections only work against one specific allergen and have to be continued on a monthly basis.

BUT A NEW HOPE IS ON THE HORIZON. An allergy vaccine could give a permanent cure. The vaccine is being developed by Resistentia, a Swedish pharmaceutical company. It stimulates the body's immune system to completely destroy its own IgE antibody: without IgE, most allergic responses will simply not occur. The company claims the vaccine will be effective against pet allergies as well as hay fever and other common allergies and will require just a few treatments a year.

"A vaccine lies some years in the future, but we are very pleased with the current results," says Professor Lars Hellman, whose research group at Uppsala University in Sweden is working closely with Resistentia. "If we can succeed also in coming clinical trials, it will mean a major scientific breakthrough, and it will mean that allergy-sufferers will obtain help in a completely new way."

As with all medical treatments the vaccine does not come without a cost. In this case, it may mean an end to exotic holidays. This is because IgE's natural role in the body seems to be defending against parasitic infections. Such infections are rare in industrialised northern countries but common in the developing world. But for those torn between getting rid of a beloved pet and enduring the misery of allergy it may well be a price worth paying.

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- 1p 41 Citeer de eerste twee woorden van de zin waarin de werking van “a new cure” (onderkop) wordt uitgelegd.