

Allergy to bee and wasp stings

Introduction

Every year in the UK there are 2-9 deaths of people who have become severely allergic to bee or wasp stings. In addition some unexplained deaths of people over 40, although attributed to heart failure, may in fact have been caused by stings. This can be shown from blood tests taken after an unexplained death.

Most people known to be at risk of a severe allergic reaction find the prospect of being stung very frightening. Fortunately the risks of this happening are minimal if sensible precautions are taken; and the chances of a sting proving fatal are reduced considerably if the victim is carrying self-injectable adrenaline (also known as epinephrine).

Symptoms

A bee or wasp sting may cause gross swelling at the site of the sting. This is not dangerous. But a few people – under half a per cent of the population – may experience a severe, generalised allergic reaction known as anaphylaxis. The symptoms may include:

- an itchy feeling
- difficulty in swallowing
- hives (nettle rash) anywhere on the body
- generalised flushing of the skin
- abdominal cramps and nausea
- increased heart rate
- difficulty in breathing – due to severe asthma or throat swelling
- a sudden feeling of weakness (a drop in blood pressure)
- a sense of doom
- collapse and unconsciousness

Not all these symptoms would necessarily be present.

Bees

It makes sensational reading for the news media to write about “killer bees”. But bees sting only if they feel threatened or when their nest is in danger.

Anyone who is attacked by a swarm will testify that it is a terrifying experience. But over 100 bee stings do not necessarily kill. However, one sting can kill a very bee-allergic person.

Honeybees (*Apis mellifera*) are not aggressive like wasps (*Vespula*) but bee keepers and their relatives are liable to be stung by bees protecting their colony. Bee-keepers wear protective clothing when collecting swarms or honey but even when dangerously allergic, they may be very casual in the amount of protection they use. Most bee-keepers are stung many times and become desensitised (free of allergy). A few become allergic. Occasionally they refuse to give up their hobby, hoping they will not be stung again. Inevitably, they are.

Bumble bees are not aggressive and very rarely sting but they may do if trodden on with bare feet or if handled in tomato houses that breed them in large numbers to pollinate the plants.

The bee leaves its stinger (with venom sac attached) in the victim. Because it takes a few minutes for all the venom to be injected, quick removal of the stinger is important. This is done with one quick scrape of the fingernail. The sac should not be picked up with thumb and forefinger because that squeezes in more venom.

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Wasps

Wasps are often aggressive especially towards the end of the season (late summer and autumn). They will then turn to eating any decomposing foods.

Fruit pickers are often stung in the early autumn. From autumn until the end of the year, sleepy wasps can still be found. They are perfectly still and not buzzing and it is much easier to accidentally touch or step on one.

Because wasps have smooth, non barbed stings which can be withdrawn, a wasp can sting many times.

The first sting

Although a person's first wasp or bee sting may be painful, and there may be local swelling, it is not usually dangerous. But that first sting sometimes primes the immune system in susceptible people, so that subsequent stings will cause an allergic reaction. Sometimes that reaction will involve nothing more than local swelling but sometimes it is of the dangerous anaphylactic type.

A person will not necessarily become allergic at the first sting. Sensitisation may occur after several encounters.

Risk factors

Anyone can become allergic to bee or wasp stings - not just those people who have other allergies, such as food allergy. But if you are already allergic to food, pollen or other substances, your reaction is more likely to be severe - especially if you are asthmatic.

People who have experienced delayed, severe local swelling, if they keep being stung, will possibly enter the anaphylactic category.

When someone has had a severe and generalised reaction following a sting, sometimes the next sting,

especially after many years, may cause no reaction at all. This is the general pattern in children. Nevertheless, it is impossible to say with any certainty how severe a subsequent reaction will be - so care is always needed when there are stinging insects around. In some cases, symptoms become worse with each sting and there is often a shortening time after the sting to the start of symptoms.

Wasp stings in the UK cause twice as many anaphylactic deaths as bee stings. There is an added risk of a severe reaction if the allergic person has asthma or, if older, is on beta blocker drugs.

What symptoms justify a G.P.'s referral to an allergy clinic?

The diagnosis of wasp or bee sting allergy can be confirmed at an allergy clinic. You should certainly seek a referral if any past sting has caused generalised symptoms other than at the site of the sting. You should also seek a referral if you have ever had a large local skin reaction with redness and swelling over 10cms. Any potential risk can then be discussed.

Desensitisation treatment

Immunotherapy (desensitisation) is available at a few centres in the UK but the patient's need for such treatment must be assessed at an allergy clinic. It is a course not taken lightly.

When desensitising injections are considered, a doctor will carry out immunological blood tests, skin tests and a detailed history from the patient. It is useful if the GP has already taken the blood for testing, previous to the appointment.

A decision then has to be made about the advisability of a long course of injections. Immunotherapy has continued to be available at specialised centres because it is effective in cases of life-threatening venom hypersensitivity. The Committee on the Safety of Medicines in 1986

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recommended such stringent safety precautions that immunotherapy virtually ceased in the UK.

All patients receiving immunotherapy have to wait one hour after the injection in case this causes a reaction. Bee injections cause more reactions than wasp injections.

The course of injections is weekly for eight weeks. If by that time a dose of two stings has been reached, then monthly injections are continued for two to three years or longer. Some specialised clinics use various modifications of this injection treatment.

Avoiding insect stings

If you suspect you are allergic to insect stings, you should try to prevent putting yourself at risk. Here are some steps you could take:

- Wear shoes at all times when out of doors.
- Avoid using strong perfumes during the summer. Many products, such as suntan lotions, hairsprays, hair tonics and other cosmetics, contain strong perfumes. Test before you buy.
- If possible, keep your arms and legs covered.
- If a bee or wasp comes near you, do not try and swot the insect but move away slowly and calmly. If the insect lands on you, try not to panic. Keep calm and be patient. The insect will usually fly away after a few seconds. Make sure that you leave no crumbs or drink on your face which will interest the insect.
- If you find many wasps or bees in your house or garden and suspect that there may be a nest nearby – perhaps in the roof or a nearby tree – telephone the local authority or a pest control expert to come and remove the nest. Do not try and do this yourself.
- If you are planning to eat outside, check to find an area where there are no wasps or bees before you start eating. It is better to bring your

picnic inside than to risk being stung.

- Food attracts insects. When outside, avoid open rubbish bins, and keep food covered. Always look at what you are eating before you take a bite or a sip of a drink as wasps will slip into food and even into open drink cans. Boxed drinks with a straw may be safer but keep an eye on the straw.

Treatment

Local reactions, however large and painful, will usually respond to an antihistamine. But the treatment for a generalised allergic reaction is adrenaline (also known as epinephrine). Because this must be administered without delay, patients known to be at risk often carry their own adrenaline injections kits for use in an emergency. The injection many allergists prescribe is the EpiPen, an easy to use device with a spring-activated concealed needle.

The EpiPen is available on prescription and is distributed by ALK (UK), 2 Tealgate, Hungerford, Berks. Tel: 01488 686016. Fax: 01488 685423.

Another adrenaline injection kit called the Anapen is also available. It is distributed by Lincoln Medical, 13 Boathouse Meadow Business Park, Cherry Orchard Lane, Salisbury, SP2 7LD. Tel. 01722 410443.

Patients are advised to administer adrenaline as soon as a severe reaction is suspected. Signs of a severe reaction include difficulty in breathing, a feeling of dizziness or weakness, or a rash appearing away from the sting. Emergency help must be summoned by dialling 999. If a second injection is available, this may be administered after five minutes if there is no improvement and the ambulance has not arrived.

In hospital, the patient should be monitored for at least four hours.

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Conclusion

Insect stings cause allergic reactions in a small proportion of the population. Sometimes they are local reactions, but a later reaction may be more severe. Anyone who suffers a generalised reaction, or a large local one, should visit a GP and seek referral to an NHS allergy clinic. Desensitisation may be offered. People known to be at risk of severe allergic reactions to bee or wasp venom are usually prescribed self-injectable adrenaline.

Important: *The information provided in this leaflet is given in good faith. Every effort has been taken to ensure accuracy. But all patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.*

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