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Anaphylaxis

Anaphylaxis is a severe allergic reaction – the extreme end of the allergic spectrum. The whole body is affected, often within minutes of exposure to the allergen but sometimes after 1-2 hours of increasing allergic symptoms. Causes include food, insect stings, latex and drugs. However on rare occasions there may be no obvious cause.

What symptoms suggest anaphylaxis?

- Generalised flushing of the skin
- Hives anywhere on the body
- Sense of impending doom
- Swelling of throat and mouth
- Difficulty in swallowing or speaking
- Severe asthma / tightness of the chest
- Abdominal pain, nausea and vomiting
- Sudden feeling of weakness (drop in blood pressure)
- Collapse and unconsciousness
- Dizziness

Someone suffering an anaphylactic reaction would not necessarily experience all of these symptoms.

Involvement of at least two different systems including the airways or fall in blood pressure are usually needed to make the diagnosis.

Mild allergy symptoms?

Some people find that the allergy symptoms they experience are always mild. For example, there may be a tingling or itching in the mouth, or a rash over a small area. This is not serious in itself, and may be treated with oral antihistamines. The person should be watched carefully in case more serious symptoms are developing or if hives and vomiting occur together then use the Epinephrine autoinjector.

Severe allergy symptoms:

If there is marked difficulty in breathing or swallowing, and/or a sudden weakness or floppiness, regard these as serious symptoms requiring immediate treatment. If in doubt assume that it is a serious reaction.

What are the most common causes of anaphylaxis?

Common causes include foods such as peanuts, tree nuts (e.g. almonds, walnuts, cashews, Brazil nut), sesame, fish, shellfish, dairy products and eggs.

Non-food causes include wasp or bee stings, natural latex (rubber), penicillin or any other drug or injection. In some people, exercise can trigger a severe reaction – either on its own or in combination with other factors such as food or drugs (e.g. aspirin).

What is the treatment for a severe reaction?

Pre-loaded injection kits containing Epinephrine are available on prescription for those believed to be at risk. These are available in two strengths – adult and junior, the adult dose is used for patients weighing $\geq 25kg$. The injection must be given, as directed, as soon as a serious reaction is suspected and an ambulance must be called. If a second injection is available, this can be given in 5–10 minutes, if there is no improvement or if symptoms are getting worse.

*If you are prescribed Epinephrine, have it available at all times.

Why does anaphylaxis occur?

Any allergic reaction, including anaphylactic shock, occurs because the body's immune system reacts inappropriately to a substance that it wrongly thinks is a threat.

Why does Epinephrine work?

During anaphylaxis, blood vessels leak, bronchial tissues swell and blood pressure drops, causing choking and collapse. Adrenaline (epinephrine) acts quickly to constrict blood vessels, relax smooth muscles in the lungs to improve breathing, stimulate the heartbeat and help to stop swelling around the face and lips (angioedema).

Adrenaline is a well-understood drug and completely safe in the vast majority of cases.

What injectors are available? Two pre-measured doses are available (0.15mg for those under 25kg of weight and 0.3mg for those above 25kg). They are only available on prescription. Remember that these injectors usually expire within a year, make sure to get the refills as needed.

What should I do if I think I am/ my child is having a reaction? Your physician or allergist will review with you the use of the specific device prescribed to you. Always familiarize with the steps needed to use it, since different devices might have different instructions, also keep other caregivers familiar with it and with the anaphylaxis action plan.

In general, remember the following:

- Be alert to symptoms and take them seriously.
- Reach for the Epinephrine if you think yourself/ your child is beginning to show signs of a severe reaction.
- Do NOT wait until you are sure it is anaphylaxis. Simply, if you suspect it, give it.
- Give it while the child is lying down and keep him/her lying down until transferred by the ambulance.
- The injection can be given on top of clothes.
- The site of injection is the middle outer side of the thigh.
- Hold firmly the thigh while giving the injection, keep it for 3 seconds.
- When using an EpiPen, hold it firmly with all fingers, do not put the thumb at the upper edge to prevent accidental thumb injection.
- Always call 911 even if the child looks very well after the EpiPen use, he/she will need to be observed at ER for 4-6hours since a second reaction can happen.
- A second injection can be given in 5–10 minutes, if there is no improvement or if symptoms are getting worse.
- Always remember to get a refill for the Epinephrine injector once used or expired.
- Never put the Epinephrine injector in the fridge, do not leave it in the car, it should be kept in room temperature.

How to avoid anaphylaxis?

1. Minimise the risks by taking great care and being vigilant.
2. If you are food allergic:
 - Look closely at ingredient lists and know the different names that food can be documented.
 - Remember that recipes sometimes change.
 - Be assertive about asking for detailed information from manufacturers and supermarket staff.
 - Be particularly careful in restaurants, where proprietors are under no obligation to list ingredients.
 - Question staff very directly. It may be necessary to speak with a senior manager. You may wish to telephone the restaurant in advance to ensure your allergy is taken seriously.
 - Be open about your allergy problem with your family, friends and colleagues.

You can find this hand out among other allergy info on my website: www.doctorahmed.ca

Adopted with modification from BSACI.