



CAYMAN ANIMAL HOSPITAL

Anaphylaxis Reactions

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What It Is

Anaphylaxis is a potentially fatal allergic reaction to a foreign agent such as insect venom, vaccines or drugs. This allergic response involves the release of chemical mediators (histamine, serotonin and eicosanoids) from particular body cells called mast cells or basophils. There are two forms of anaphylaxis: anaphylactic reactions and anaphylactoid reactions. Both result in similar clinical symptoms.

Anaphylactic reactions are immune-mediated reactions. This means that pre-exposure to a particular antigen (medication, vaccine, venom) is necessary. After initial exposure, the animal produces antibodies (to that agent) that bind to the mast cells. When the dog or cat is exposed to the same agent at a later time, these antibodies activate the mast cells to release the chemical mediators, thus producing an inflammatory response.

Anaphylactoid reactions are identical to anaphylactic reactions in terms of clinical symptoms; however, anaphylactoid reactions are not immune mediated responses. A single exposure to the foreign agent can cause clinical symptoms.

In both conditions, activation of mast cells results in a number of physiological changes affecting respiration and circulation, causing a life-threatening emergency.

Agents That Can Cause Anaphylactic Reactions:

- Snake Venom (not here in Cayman though)
- Insect Venom
- Certain Vaccines
- Antibiotics
- Other Medications

Symptoms

Symptoms of anaphylaxis usually occur within one hour following exposure to the agent. Reaction may be restricted to the site of contact with the agent, such as local swelling and redness associated with insect stings or may be generalized, in which the whole body swells. Dogs suffering from systemic anaphylaxis are usually restless and excitable.



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Clinical manifestations of anaphylaxis generally include nausea, vomiting, circulatory collapse, rapid heartbeat, edema of the lungs and some neurological signs. Clinical symptoms can vary from one animal to another, depending on the "shock organ" of the species. In dogs, the shock organ tends to be the liver and gastrointestinal organs; in the cat, the shock organ is generally the lung.

Eventually, if left untreated, anaphylaxis can lead to collapse, convulsions, coma and eventually death.

Treatment

Systemic anaphylaxis constitutes a medical emergency. Circulatory collapse associated with results in oxygen deprivation to major organs. If symptoms of anaphylaxis occur, call your veterinary hospital immediately



Prevention

Unfortunately, anaphylaxis usually occurs unexpectedly and very rapidly. The key to prevention is to avoid the agent that produces the reaction. However, in regard to vaccine and drug reactions, there is no reliable prevention. With vaccinations, however, it is probably best to observe your pet for a half-hour after administration. If you suspect any adverse side effects please call us at Cayman Animal Hospital for advice, day or night - we are here for your pet.