

Autoimmune Hemolytic Anemia (AIHA) in Dogs

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Autoimmune hemolytic anemia (AIHA) is a disease in which the body attacks its own red blood cells. In dogs with AIHA, red blood cells are still being manufactured in the bone marrow, but once released into the circulation, they have a shorter-than-normal life span, since they are constantly being attacked and destroyed by abnormal antibodies in the blood. Antibodies are normally formed by the dog's immune system when needed to destroy invading bacterial or viral signs. However, with AIHA, the dog's immune system is not working normally and sees its own red blood cells as foreign, and therefore produces antibodies to destroy them.

A second abnormality often seen in AIHA is a decreased number of platelets. Low numbers of platelets is called thrombocytopenia. Platelets are tiny structures, which circulate within the bloodstream and function in the formation of clots when vessels are cut or broken. Over the course of a day, many of the body's small vessels normally break and the platelets clot the blood so no bleeding occurs. A simple bruise is nothing more than a collection of broken vessels, which allowed some blood to spill into and discolor the tissue. When low platelet numbers are diagnosed, clotting does not occur correctly. AIHA dogs, are therefore, similar to human hemophiliacs. Uncontrolled bleeding further decreases the number of red blood cells caused by the abnormal antibodies.

What are the symptoms?

A dog suffering with AIHA will have a lower-than-normal number of red blood cells within the blood. This is termed anemia. The lips, gums, and eye margins will appear pale (or yellow in the later stages of the disease) and not the normal pink to red color. Commonly, the dog will be tired and lethargic as there are not enough red blood cells to carry oxygen to the tissues. Fainting commonly occurs due to low oxygen levels in the brain.

As the red blood cells are being destroyed, hemoglobin (the oxygen carrier molecule of red blood cells) builds up to high levels within the body. The liver attempts to break it down and remove it. Elevated levels of the breakdown products causes a yellowish color to the skin and membranes that we refer to as jaundice. The urine may contain hemoglobin and appear dark or tea-colored. Additionally, the heart beats much more rapidly to pump the thinner blood faster through the tissue. This is an attempt to compensate for low oxygen levels.

If the platelets are also low in number, bleeding from the nose or blood in the stool may be seen.

What are the risks?

AIHA is serious and left untreated, usually results in death. An animal that is anemic will try to compensate by pumping more blood. This can overload the heart, causing it to fail. If the animal is cut, it typically takes much longer for the bleeding to stop.

What is the management?

Most dogs with AIHA will respond to steroid therapy. The steroid prednisone has been widely used to treat AIHA. Drug therapy may be required for months to years. Prednisone suppresses the immune system, helping to prevent red blood cell destruction. Blood transfusions may be required in the critically anemic dog. Thankfully, a portion of these cases may recover and no longer need therapy.