

Anemia, Immune-Mediated Hemolytic

ABOUT THE DIAGNOSIS

Cause: Anemia is a condition where the blood is too “thin,” as a result of a lower than normal number of red blood cells in the bloodstream. Red blood cells are important because they supply oxygen to all parts of the body, and when severe anemia is present, all of the body’s tissues are oxygen-starved, leading to symptoms such as sluggishness, loss of appetite, and even collapse and unconsciousness.

Immune-mediated hemolytic anemia (IMHA) is a particular cause of anemia in which the number of red blood cells is low because they are destroyed (hemolyzed) by the body’s own immune system. In the healthy body, the immune system attacks foreign invaders such as bacteria and viruses. However, in immune-mediated hemolytic anemia, the body misidentifies normal healthy red blood cells as foreign and destroys them faster than the body can replace them. In some pets, the onset of this disease appears to be somehow connected to or triggered by severe generalized infections, medications, cancer, and other immune-mediated problems. However, if and how these events cause immune-mediated hemolytic anemia remains unknown, and in the majority of cases of immune-mediated hemolytic anemia, an actual trigger for the whole process is never found.

This disease is diagnosed far more commonly in dogs than in cats. In dogs, it occurs more often in females. Cocker spaniels, poodles, springer spaniels, Old English sheepdogs, and Irish setters are affected more often than other breeds, although any dog, including mixed breeds, can develop this disease. Symptoms range from mild, vague symptoms to severe, life-threatening problems such as respiratory difficulty (see [Signs to Watch For](#)). Mild symptoms can quickly progress to severe, advanced disease, and a patient with these symptoms needs to be screened for anemia with a blood test performed by a veterinarian.

Diagnosis: Anemia (whether immune-mediated or not) can be suspected by a veterinarian when the oral mucous membranes (gums and tongue) are paler than normal. A definitive diagnosis of anemia comes from a standard blood test, which shows a lower than normal red blood cell count (hematocrit or packed cell volume are other measures of red blood cells). There are many causes of anemia in general, and the results of several tests as well as a complete history and thorough physical exam help to arrive at the diagnosis of immune-mediated hemolytic anemia. Be sure to share all information with your veterinarian regarding your dog’s or cat’s medical history, including the kinds of symptoms you have seen and how long they have been present, whether you have given your pet any medications in the preceding days, and so on. Spherocytes are a type of deformed red blood cell that can be detected on a routine blood test in many dogs with IMHA but not in healthy dogs; the presence of spherocytes is strongly suggestive of IMHA. An autoagglutination test is performed to determine if red blood cells clump together, which is a positive indicator of this disease. The Coombs’ test reveals if certain molecules are present on the red blood cells’ surface. Other tests may be appropriate for your dog or cat, including tests to try to find a trigger for IMHA. Your veterinarian will discuss medical tests with you because this type of anemia requires them for confirmation.

During treatment, one or more of these exams may be repeated to help assess the effectiveness of treatment and to determine if adjustments are necessary. Subsequent test results may also make

the long-term course of the disease clearer (help to arrive at an outlook, or *prognosis*).

LIVING WITH THE DIAGNOSIS

Immune-mediated hemolytic anemia is a disease that often begins with a critical, potentially life-threatening crisis, producing symptoms that prompt a visit to the veterinarian. The anemia may be difficult to control, and hospitalization, possibly with intensive care, is necessary for several days in many cases. After this period, or else right away in milder cases, oral medications are started and given daily for several weeks to months. Immune-mediated hemolytic anemia is a disease that can respond very well to treatment (all symptoms are abolished and the animal enters a clinical remission) or that may produce recurrent problems despite treatment—this varies from one dog to another. With IMHA, there is always a risk of recurrence, such that affected dogs need to be followed closely with veterinary rechecks.

TREATMENT

If your dog or cat is taking medication that might be triggering this disease, it must be discontinued. This needs to be discussed with your veterinarian first. If an infection is suspected, an appropriate medication is given to lessen or eradicate the infection. Intravenous fluids are often given to control dehydration. Corticosteroids (cortisone-like drugs, such as prednisone or dexamethasone) are commonly administered to subdue the excessively active immune system that is destroying the red blood cells. Other immunosuppressive drugs are often given in addition to corticosteroids for greater effect, and to eventually allow a more rapid reduction in dose of corticosteroid (**NOTE:** corticosteroids have many side effects, including increased thirst, urination, appetite, weight gain). Whole blood or red blood cell transfusions are sometimes necessary in moderate and severe cases to replace red blood cells that have been destroyed. Oxygen may be given. Because a serious complication of this disease is the formation of blood clots, blood thinners (anticoagulants) are likely to be given as well. Some of these anticoagulant drugs are given as pills, and others are given by injection.

Other treatment options are available, depending on how advanced the immune-mediated hemolytic anemia is. Not all of these treatments may be necessary for your dog or cat. Your veterinarian will tailor the treatment regimen for your pet. Immune-mediated hemolytic anemia is a life-threatening disease that can change and progress quickly. Although many affected dogs recover completely, they will require medications and frequent rechecks for months or even years. Sadly, many dogs with the disease succumb to the illness and die either in the first critical days after diagnosis, or are euthanized later on as a result of complications or relapse related to the disease or its treatment. There is a significant investment of effort and money in treating a dog with this disease. You should have a realistic conversation with your veterinarian about the outlook for your pet; it is not unreasonable to consider euthanasia (lethal injection to cause a painless death) either at the time of diagnosis, or if there is not a rapid response to treatment.

DOs

- Inform your veterinarian if your dog or cat has ever been diagnosed with a medical condition and is taking medication.
- Give medication exactly as directed by your veterinarian. For example, corticosteroids and other immunosuppressive drugs

must be given in gradually decreasing doses when the decision is made to discontinue them. Suddenly stopping them without medical support for doing so can have severe, life-threatening consequences for your pet. Be sure you ask for prescription refills well before the drugs run out.

- Follow your veterinarian's instructions to limit your pet's activity level if necessary.
- This disease may recur weeks to months after your dog or cat is apparently healthy. Continue to observe closely for symptoms.
- If your dog or cat has pale gums and is weak or if you suspect a relapse, take your pet to your veterinarian or to the local veterinary emergency clinic immediately.
- Realize that immune-mediated hemolytic anemia can be very serious and even life-threatening in some cases, but dogs that respond to the first several days' worth of treatment can do well in the long term (months to years).
- Understand that IMHA can be difficult to treat, and that a second opinion from a veterinary internal medicine specialist may be helpful. You can discuss this with your veterinarian and a list of these specialists is available at www.acvim.org or www.vetspecialists.com for North America, www.ecvim-ca.org for Europe.

DON'Ts

- Do not postpone visiting your veterinarian if you observe any symptoms of immune-mediated hemolytic anemia (see [Signs to Watch For below](#)). Prompt diagnosis and treatment may prevent complications that become more severe.
- Do not give medication that you have at home that has been prescribed for human use; some of these may interfere with treatment and cause even more severe problems.
- Do not jump to conclusions about what may have triggered IMHA in your pet. There is much hearsay about this disease, and your veterinarian can help you see clearly through it.

WHEN TO CALL YOUR VETERINARIAN

- If you cannot keep a scheduled appointment.
- If you are unable to give medication as directed.
- If you notice any of the [Signs to Watch For](#) listed below.

SIGNS TO WATCH FOR

- General signs of illness, which could indicate a beginning (or relapse) of immune-mediated hemolytic anemia. These include vomiting, diarrhea, decreased appetite, changes in behavior such as hiding more than usual (cats), weakness, lethargy, pale gums, exercise intolerance, labored breathing, yellow-tinted gums and/or skin (icterus, jaundice), and dark red/brown urine.
- Reduction in symptoms, especially return of appetite to normal and a normal energy level, are significant indicators of improvement.

ROUTINE FOLLOW-UP

- Follow-up appointments are always necessary to monitor progress, to determine if treatment should be adjusted or discontinued, and to pursue any abnormalities on previous blood tests. The exact interval varies from dog to dog, but the first recheck typically takes place 1 to 2 weeks after immune-mediated hemolytic anemia is first identified, and then the rechecks are spread out according to how well the problem is regressing.



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