

Immune Mediated Hemolytic Anemia in Dogs

A Brief Guide • Part of the Educational Pet Disease Series from Lap of Love

Signs & Symptoms

Initial Symptoms

- Mild to moderate weight loss
- Intermittent vomiting and diarrhea
- Off and on anorexia
- Generalized weakness, lack of play
- Unthrifty hair coat
- Easily bruising, pinpoint bruises

Intermediate Symptoms

- Jaundice (yellowing of skin)
- Panting
- Collapse
- Bloody diarrhea
- Swollen, pendulous belly
- Trouble breathing

Advanced Symptoms

- Shaking
- Weakness and lethargy
- Whimpering, whining
- Dark colored urine
- Seizures (rare)

Crisis Situations Requiring Immediate Medical Intervention

- Difficulty breathing/panting
- Unable to walk
- Blue gums and/or tongue
- Sudden collapse
- Uncontrollable vomiting/diarrhea
- Crying in pain

What Is It?

Immune Mediated Hemolytic Anemia (IMHA) is the most common canine immune system disease characterized by an overreaction of the immune system to a stimulus that results in self-destruction of the body's red blood cells (RBCs). The loss of RBCs results in anemia and decreased oxygen transport in the body, leading to trouble breathing, and, without intervention, death. As the red blood cells are attacked, the liver, which is responsible for processing pollutants and debris in the bloodstream, becomes overwhelmed leading to secondary liver disease. Possible IMHA causes are categorized as primary or secondary. A primary cause is genetic, or idiopathic (no identifiable cause). Secondary causes are introduced to the pet, such stimuli of IMHA may include vaccines, medications, tumors, allergens, and diseases (infectious, bacterial viral, parasitic etc.). These factors initiate an overreaction from the immune system toward the altered RBCs exposed to the stimulus, leading to subsequent RBC rupture. IMHA may occur alone, or in conjunction with other diseases, though the majority of the time, an underlying cause is not found. Moving forward, most owners are given documentation from their veterinarian with a medical exemption from the local immunization laws which excludes the pet from receiving future vaccinations. The medical vulnerability of IMHA dogs in remission should be taken seriously, and annual bloodwork among other precautions should be discussed with your veterinarian. Feline IMHA is similar and infectious diseases (feline leukemia (FeLV), drug/vaccine reactions, allergens, and parasites are commonly linked factors.

Diagnosis

Diagnosing IMHA is not always straight forward and determination of the underlying cause can be very difficult. Patients present with moderate to severe signs of weakness, lethargy, pale mucous membranes, panting, a swollen abdomen, and jaundice (yellowing of the skin from liver disease). Basic bloodwork reveals a moderate to severe anemia (low red blood cells), elevated white blood cells, and potentially elevated liver values. Based on the high level of suspicion in response to the initial laboratory findings, further confirmatory testing is available. Once confirmed, secondary diagnostics aim at searching for a possible underlying cause. If not found, the IMHA will be considered idiopathic. Due to the numerous causes of IMHA, secondary testing includes a wide range of diagnostics such as tick-borne disease testing, abdominal ultrasound and chest x-rays to scan for masses, biopsy of internal organs, and CT or MRI for advanced imaging.

Treatment and Management

IMHA treatment centers around aggressive immunosuppression, typically achieved with the common steroid prednisone, with or without additional medications. If the blood volume is markedly decreased, inpatient blood transfusions may be advised. Some dogs may need additional medications to successfully control the disease. Azathioprine is one of the most commonly added immunosuppressives. Dogs with IMHA generally remain on medications for months before slowly weaning down on the immunosuppressive medications. Liver supplements, stomach acid reducers, and blood thinners are often added into treatment regimes help to support the pet through treatment. If the underlying cause of the IMHA can be identified, aggressive treatment of that disease, if possible, will subsequently treat the IMHA as well. These treatments are individual to each specific disease.

Prognosis

The prognosis in the acute stages of IMHA is determined by the pet's response to medications and a possible diagnosis of a secondary underlying cause.

Continued



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continued from page 1

The prognosis is good for dogs that respond to medications within the first 7-10 days of inpatient/outpatient therapy. Unfortunately, as high as 50% of patients have been reported to succumb to complications within 14 days of admission for IMHA treatment. The prognosis is very good for pets with an identifiable, treatable secondary cause depending on the severity of the diagnosed primary condition. Some dogs may need additional immunotherapy medications, generally indicating a poorer prognosis. The prognosis is better for pets who present without vomiting, diarrhea, liver failure, weight loss, severe anemia, and lack other concurrent diseases. All IMHA patients are susceptible to relapses in the future, even after successful treatment, from the same or a different primary or secondary cause. Close communication with your veterinarian is key for fast treatment and management of IMHA.

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Management Tips

Consider providing:

- A blood transfusion, if recommended, to improve the overall prognosis
- Easily accessible water and food
- Consistently portioned meals
- Elevated feeding dishes for large dogs
- Ramps and short stairs when needed
- Traction (rugs) for slippery areas
- Well-lit hallways, nightlights
- Well shoveled paths in the snow
- Probiotics to help regulate gut health

Try to:

- Give all medications consistently and as prescribed. Never stop or alter doses of medications on your own.
- Call to refill medications ahead of time as skipping doses could be very detrimental to the pet's health
- Check gum and skin color daily
- Provide structured meal times and monitor appetite, thirst, behavior, etc.
- Log daily brief notes about overall quality of life, personality, spirit
- Limit stress (kids, noise)
- Get a letter from your vet for medical exemption from local vaccine laws

Before your pet's condition becomes unmanageable or they are losing quality of life, it is important to begin end-of-life care discussions. Learn about pet hospice care and/or euthanasia services in your area so you are prepared.

Immune Mediated Thrombocytopenia (ITP)

ITP is a similar disease to IMHA, except that the immune system attacks the thrombocytes, (platelets), instead of the red blood cells. Platelets are clotting factors in blood that help to patch millions of small bleeds everyday and prevent bleeding. The onset, causes, diagnosis, treatment and prognosis are generally similar with a few exceptions. IMHA and ITP can occur concurrently, which is called Evan's Syndrome.