

Are Your Pet's Red Blood Cells Under a Silent Threat?

Is your pet's body secretly fighting against itself? Their vital red blood cells might be under attack — here's what every pet parent should know.

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STORY AT-A-GLANCE

- Red blood cells are responsible for delivering oxygen throughout your pet's body, essential for maintaining your pet's energy, health, and overall well-being
- Immune-mediated hemolytic anemia (IMHA) occurs when the immune system mistakenly identifies healthy red blood cells as threats and destroys them. This condition is more common in dogs than in cats
- Key symptoms of IMHA include lethargy, pale or yellow gums, rapid breathing and heartbeat, dark-colored urine and unexplained bruising or red spots on the skin
- Diagnosis involves blood tests and physical exams, while treatment includes blood transfusions, immunosuppressive drugs and new therapies like stem cell treatment
- Lower your pet's risk of IMHA by ensuring proper nutrition, stress management, natural parasite prevention, a toxin-free environment, and regular vet check-ups

Your pet's well-being depends on the balance and function of many vital processes, including the production and maintenance of healthy red blood cells (RBCs), which deliver oxygen throughout their body. But what happens when the immune system attacks these cells?

This is the case with immune-mediated hemolytic anemia (IMHA), where the body mistakenly identifies its red blood cells as invaders and destroys them. IMHA leads to severe anemia, leaving your pet weak and lethargic.¹

Without immediate treatment, this condition can become life-threatening. Understanding its causes and symptoms allows you to better care for your pet, recognize the warning signs early, and seek veterinary care to protect their health.

What Is Immune-Mediated Hemolytic Anemia?

Anemia occurs when there aren't enough red blood cells (RBCs) or insufficient hemoglobin, the protein inside RBCs that carries oxygen. There are three leading causes of anemia — blood loss (like from injury or internal bleeding), insufficient red blood cell production (dyserythropoiesis), and destruction of red blood cells (hemolysis).²

IMHA is categorized under hemolysis. In this condition, the immune system, which typically defends against harmful invaders like bacteria and viruses, mistakenly identifies the body's red blood cells as a foreign threat, causing antibodies to bind to and destroy the RBCs.

This leads to a dangerous drop in RBC levels and oxygen supply throughout the body.³ There are two ways red blood cells are destroyed in IMHA:⁴

- **Intravascular hemolysis** happens inside the blood vessels, where RBCs rupture and release hemoglobin directly into the bloodstream. This often leads to a worse prognosis.
- **Extravascular hemolysis** occurs more commonly in organs like the liver and spleen, where cells break down RBCs. This process can overwhelm the liver and cause a buildup of bilirubin from hemoglobin breakdown, leading to jaundice or the yellowing of the skin, eyes, and gums.

IMHA is further divided into two types:⁵

- **Primary IMHA** occurs when the immune system malfunctions without any identifiable cause. Genetic predisposition often causes this.
- **Secondary IMHA** is caused by an underlying condition, such as infections, cancer, adverse reactions to medications, or exposure to environmental toxins. Severe stress can also contribute to secondary IMHA.

Certain dog breeds are more prone to primary IMHA, including Cocker Spaniels, Miniature Schnauzers, Old English Sheepdogs, and Poodles, indicating a hereditary component. Female and middle-aged dogs are also at higher risk, which may point to hormonal or age-related factors. While IMHA is much less common in cats, it is often a secondary condition tied to other illnesses.⁶

Recognizing the Symptoms of IMHA

The symptoms of IMHA can develop suddenly and may range from subtle to severe. Watch out for the following signs:^{7,8,9}

- **Lethargy** — Your pet may appear unusually tired, less eager to play, or more inclined to rest than usual. This noticeable drop in energy is often one of the first signs of IMHA.
- **Pale or yellow gums** — Check your pet's gums regularly. Pale gums indicate reduced red blood cell levels, while a yellow tint (jaundice) suggests the liver struggles to break down red blood cells.
- **Breathing and heart rate changes** — Rapid breathing, panting, or an accelerated heartbeat can indicate your pet's body is working overtime to compensate for the lack of oxygen.
- **Dark-colored urine** — Urine that appears reddish-brown, similar to the color of coffee or port wine, is a warning sign of intravascular hemolysis.
- **Bruising or red spots on the skin** — Small red spots (petechiae) or unexplained bruising may occur if IMHA is accompanied by immune-mediated thrombocytopenia (IMTP), a condition that also attacks platelets.

If you notice any of these symptoms, contact your veterinarian immediately. Acting quickly can significantly improve your pet's chances of recovery and help manage this life-threatening condition.

How Is IMHA Diagnosed?

Diagnosing IMHA involves a combination of physical exams, your pet's health history, and a few key tests. Your vet will start by looking for signs of anemia and may ask if your pet has been sick recently, started new medications, or shown unusual behavior.

A complete blood count (CBC) can confirm anemia and show if the bone marrow is working overtime to replace red blood cells. Under the microscope, your vet might spot spherocytes, red blood cells damaged during immune system attacks. These are a telltale sign of IMHA.

Another quick test is the saline agglutination test (SAGT), which checks for red blood cells clumping together. Clumping usually means antibodies are attached to the cells, a strong indicator of IMHA. If this test is positive, treatment often starts right away.^{10,11}

In some cases, additional tests like the Coombs test may be done to confirm the presence of antibodies. X-rays or ultrasounds may help detect secondary causes, such as tumors or infections.¹²

How Is IMHA Treated?

Treating IMHA involves several steps to stabilize your pet, manage the immune system's attack on red blood cells, and support their recovery. A blood transfusion might be needed in severe cases where anemia has left your pet weak or struggling to breathe.

This procedure quickly replaces lost red blood cells, helping restore oxygen to the body and providing immediate relief. Although it doesn't address the underlying cause, it provides immediate relief and buys time for other treatments to take effect.

Conventional treatments often include immunosuppressive therapy to slow the immune system's attack on red blood cells. Veterinarians commonly prescribe corticosteroids like prednisone to suppress immune overactivity and reduce red blood cell destruction. If pets don't respond well to corticosteroids or experience side effects, vets may add other immunosuppressive drugs, such as cyclosporine.^{13,14}

A holistic-minded approach to IMHA emphasizes integrating supportive care alongside these conventional therapies. This includes improving your pet's resilience by addressing nutrition, stress, and organ health. Pets with IMHA often benefit from a nutrient-rich, anti-inflammatory diet that supports red blood cell production.

Foods high in iron, B vitamins, and antioxidants, like liver, spinach, and blueberries, can help replenish depleted reserves.¹⁵ This approach works with conventional treatment to promote healing and long-term recovery.

Blood clots are a serious risk for pets with IMHA. Conventional treatment often involves anticoagulants like rivaroxaban to prevent clots, which can be life-threatening if they occur in critical areas like the lungs.¹⁶ From a holistic perspective, monitoring for clotting risks and supporting circulation through gentle therapies, like acupuncture or massage,¹⁷ can complement conventional anticoagulant medications.

Stem Cell Therapy — A Promising Treatment for IMHA

Emerging therapies, such as stem cell treatments, are gaining attention in the management of IMHA. A March 2024 study published in the *Journal of Animal Reproduction and Biotechnology*¹⁸ examined the use of mesenchymal stem cells derived from the amniotic membrane to reduce inflammation and regulate the immune system of dogs with severe IMHA.

The study involved three dogs with advanced IMHA who had not responded to traditional treatments like blood transfusions and hospitalization. These dogs showed severe anemia and elevated markers of inflammation. They received two to three intravenous injections of stem cells spaced over several weeks.

The results showed that red blood cell levels improved dramatically after the treatment, with one dog's hematocrit rising from a critically low 19% to a healthy 47%, indicating a restoration of oxygen-carrying capacity.

What makes this approach particularly promising is that it didn't just improve the dogs' symptoms — it also helped address the root cause of IMHA. Calming the dogs' overactive immune response, as evidenced by decreased levels of C-reactive protein (CRP), prevented further destruction of red blood cells and reduced inflammation.

"All dogs had better conditions and vital signs, and no side effects were found during the second treatment. After three times of stem cell therapy, the patient's body condition almost returned to normal," the authors noted.¹⁹ Although further research is needed to confirm these findings in larger groups of dogs, this study offers hope for pets with IMHA who don't respond to conventional treatments.

Strategies to Reduce Your Pet's Risk of IMHA

While not all cases of IMHA can be prevented, there are proactive steps you can take to lower your pet's risk and keep them as healthy as possible:

- **Schedule regular vet visits** — Routine checkups allow your veterinarian to catch early signs of anemia or other underlying conditions that could trigger IMHA before they become serious.
- **Prevent parasites** — Protect your pet from infections like Ehrlichia or Babesia, which are linked to IMHA.²⁰ Look for natural pest preventatives, such as essential oil-based sprays or diatomaceous earth. Regular tick checks and maintaining a clean, pest-free environment also help reduce your pet's exposure to these harmful parasites.
- **Monitor medications** — Some medications can have side effects that may contribute to IMHA.²¹ Always consult your veterinarian about the potential risks of any new medication and report any unusual symptoms immediately.
- **Provide a species-appropriate, nutritionally balanced diet** — Feeding your pet a protein-rich, fresh-food diet supports red blood cell production, boosts their immune system, and improves overall health. Add nutrient-dense foods like liver, spinach, and blueberries to help replenish essential vitamins and minerals.²²
- **Reduce stress** — Creating a calm and stable environment is essential for supporting your pet's immune health. Minimize exposure to loud noises, sudden changes, or high-stress situations to reduce their risk of immune system imbalances. Regular exercise and enrichment activities also help reduce stress and keep your pet happy.

- **Reduce exposure to toxins** — Keep harmful chemicals out of your pet's reach, choose natural flea and tick preventives, use pet-safe cleaning and lawn products, and avoid unnecessary exposure to cigarette smoke.

IMHA is a serious condition, but with early detection, proper treatment, and attentive care, many pets recover and live happy, healthy lives. You can protect your pet's red blood cells from this silent threat by staying informed and proactive.

Sources and References

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