Swanbourne Veterinary Centre

Immune-Mediated Haemolytic Anaemia (IMHA)

What is IMHA?

This condition is caused by destruction of red blood cells (RBC's) by the body's own immune system. This destruction of cells most commonly occurs within the blood stream itself ("intravascular"), or in the liver and spleen ("extravascular"). In a small number of cases, the immune response may occur at the level of the bone marrow.

Anaemia is caused by this destruction of RBC's. This will be evident by pale gums and it is quite often associated with a fever. Signs that you may detect at home include; lethargy, weakness, inappetence, abnormally coloured urine (yellow to orange), increased breathing rate, and in some cases vomiting, diarrhoea, and increased thirst.

IMHA Causes

Primary / Idiopathic IMHA

The large majority of cases are diagnosed as 'Primary IMHA'. This means that there is no identifiable underlying cause.

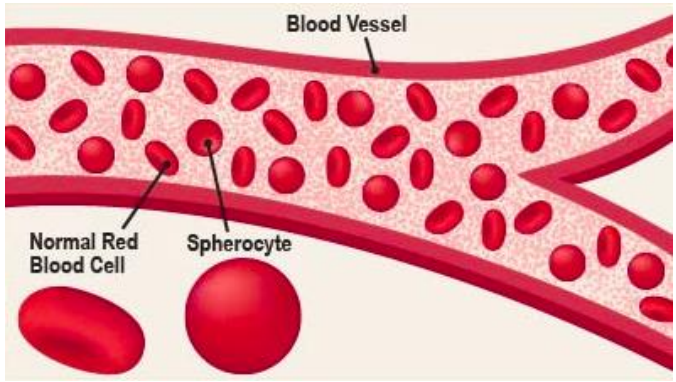
Secondary IMHA

IMHA caused by other illness or infections (i.e. infections in the blood or elsewhere, drugs (e.g. some antibiotics, hyperthyroid medications), cancer, or other immune-mediated diseases). It is important to rule out these possible underlying disease processes and therefore testing is imperative to diagnose the disease and check the animal's general health.

IMHA Diagnosis

Blood and urine testing

The blood test will check RBC levels as well as basic organ dysfunction. A blood smear will also be made to look at the RBCs under the microscope. Spherically shaped RBCs (spherocytes) and clumped RBCs are two possible indicators of the disease. The blood may also be tested for infectious diseases. The urine will likely give evidence of RBC destruction by-products and possibly indicate other underlying illness.



Coomb's test

This is a test that may be run in order to help diagnose primary IMHA. It tests the presence of antibody against RBCs. However, it only tests positive in up to ~66-75% of cases. **A negative result does not rule out IMHA**.

Imaging of Chest (Thorax) and Abdomen

Imaging such as; thoracic radiographs, an abdominal ultrasound, or advanced imaging (ie CT scans) may be required in order to rule-out potential neoplastic causes. If an abdominal ultrasound reveals abnormal findings, a small sample of cells may be collected from this abnormal tissue (FNAs).

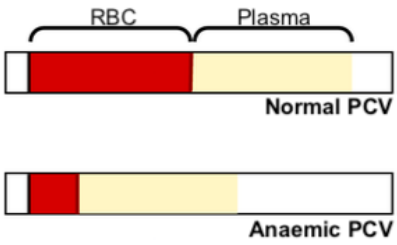
IMHA Treatment

Primary / Idiopathic IMHA

If we have diagnosed or have a high suspicion of primary IMHA, we will recommend a course of treatment to suppress the immune system. The aim of this is to stop the body's inappropriate immune reaction against its own cells. Obviously, caution must be used when electing to suppress the immune system. Hospitalisation for monitoring and strict confinement will be necessary in the majority of cases in the early stages of treatment.

Treatment usually commences with **high dose steroid therapy**. In addition, we commonly recommend an antibiotic and treatment aimed at decreasing any risk of damage to the gut by the steroids.

Once treatment has been commenced, close monitoring is required. This means a **minimum** of daily assessment of the animal's packed cell volume (PCV) which assess the degree of anaemia present. Treatment will be continued at the high levels until the PCV has returned to normal and is stable. The dose is normally then reduced stepwise every 2-4 weeks, providing the PCV level remains stable.



Side effects: Common side-effects to high dose steroids include gastrointestinal upset or bleeding, increased appetite and thirst, and subsequent weight gain and lethargy.

In cases where the response to steroid treatment alone is poor, or where the side effects are unacceptable, then a second drug may be added. This is normally called **Azathioprine**. This drug may suppress bone marrow function and again, careful monitoring of its side effects is required with ongoing blood testing.

If the destruction of RBCs reaches critical levels, then hospitalisation with supportive care and blood transfusions at a specialist hospital may be indicated. This is preferably done after cross-matching of blood types and may be required on more than one occasion until drug therapy has its desired effect.

Secondary IMHA

If a cause for the IMHA is identified (secondary IMHA), the aim for therapy is to treat that underlying cause / trigger.

Like with primary IMHA, secondary IMHA may also require blood transfusions if the destruction of RBCs reach critical levels.

IMHA Prognosis

A mortality rate has been reported of 33% of all cases. This is higher in certain forms of the disease. Treatment can vary from a few months and result in a full cure, or in some cases life-long therapy may be required and occasional relapses can occur. The first ten days are the most critical in determining prognosis. Long-term treatment is often referred to as a large cost commitment due to the required ongoing monitoring, medication administration, and possible necessary repeated blood transfusions.

Secondary complications can occur as a result of the illness itself (including; lung thromboembolism (clots in the lungs), bleeding disorders (Evan's syndrome – where the animal has low platelet numbers as well as IMHA), heart failure, and sepsis), or secondary to medication (including; gut ulceration, bone marrow suppression, secondary infection). These will obviously affect the likely outcome of the treatment.

IMHA Summary

- IMHA is a complex disease which can be fatal despite treatment
- The disease **may** require life-long therapy and **may** recur
- Side effects of treatment must be monitored closely as they can be severe

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