



Who gets idiopathic IMHA?

Is an underlying trigger still the most common cause of IMHA in cats? Do cats get primary ITP?

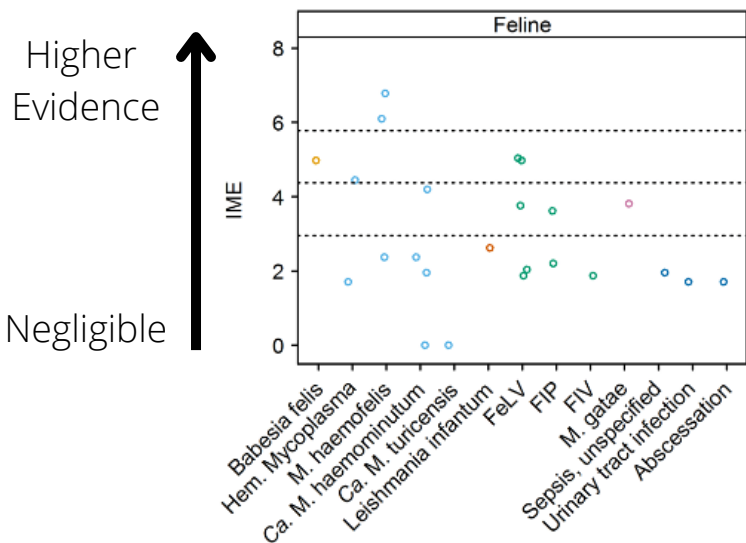
Understanding immune mediated disease is still a work in progress and more so in cats given it is less common than dogs. The common assumption has been that it is even more important in cats to look for underlying infectious and lymphoid proliferative disease than in dogs. This has good historical evidence based on the past incidence of feline leukemia infections in almost all cases and the known risk of hemotropic mycoplasmas. *M. hemofelis* is the main mycoplasma species known to cause hemolytic anemia which could then trigger a concurrent immune mediated attack on non-infected red blood cell membrane antigens.

What percentage of cats have underlying disease?

That is where the current information has changed, with the big caveat being it still also depends on your **geographic location** and **background** (stray/vaccine history/flea prevention etc).

Babesia felis has not been reported in Canada or the United States. It is found in South Africa and has a high level of supporting evidence that the associated hemolytic anemia can resolve with directed therapy and no immunosuppression. Cytauxzoonosis which could mimic IMHA on initial presentation can be seen in the southern and mid-Atlantic area of the USA. ***M. hemofelis* and FeLV have high and intermediate levels of evidence.**

ACVIM consensus statement on the diagnosis of immune-mediated hemolytic anemia in dogs and cats





In a recent retrospective study conducted in the UK, approximately **1/3 of cases** had underlying disease identified that could have potentially triggered immune mediated disease. These diseases included neoplasia (n=16), including lymphoma(5), erythroleukemia (2), histiocytic sarcoma (1), multiple myeloma (1), anaplastic sarcoma with giant cells(1), and uncharacterized masses (6); infection with FeLV (n=1), *Mycoplasma hemofelis* (1), *Mycoplasma hemominutum* (1), concurrent *M. hemofelis* and *M. hemominutum* (1), or feline infectious peritonitis (n=3); **cholangitis, pancreatitis or both (n=6)**, urinary tract infection and suspected pyelonephritis (n=1), and other inflammatory or infectious diseases(n=7).

Association versus Causation?

In some of these conditions together using the consensus statement along with personal experience, it is more easy to accept that there may be true causation and not just association such as in neoplasia unlike UTI. However in other situations it is not as clear cut and warrants consideration such as in cases of pancreatitis and cholangitis.



There has been a statistically proven association between Coombs positive IMHA and pancreatitis for which several pathophysiologic mechanisms have been proposed. For e.g. does hypoxia and increased numbers of inflammatory cytokines contribute to pancreatic injury or does an underlying disorder of the immune system concurrently target feline red blood cells and the exocrine pancreas?

The remaining approximate **2/3 of cases** were diagnosed as primary or non-associated IMHA.

Keep in mind that not all cases had a FeLV PCR performed on the bone marrow (controversial topic) and 62/72 cats underwent *Mycoplasma spp* PCR testing. Median survival time was 516 days.

Retroviral screening and *Mycoplasma spp.* PCR is always advised in any cat suspected of IMHA

What was the typical signalment?

Think **young!** Cats with primary IMHA were significantly more likely to be in the age range of 2-6 years. No sex, breed or blood type group of cats was predisposed to IMHA.

Were the cats more often regenerative or non-regenerative?

This is important ! Cats with IMHA seem to be presented more often with non-regenerative anemia, which converts to regenerative anemia within the first week of treatment. Take home message - Give them time.

There was a positive association with outcome which may surprise you.



The **lymphocyte count** and **serum globulin** concentration were inversely correlated with outcome, meaning that cats with higher lymphocyte and globulin levels had a more favorable outcome. It would seem natural to think that a lymphocytosis might be more likely associated with underlying disease or lymphoproliferative disease but clinicians need not assume this is the case if the rest of the clinical picture fits with a primary IMHA. Flow cytometry may still be warranted in certain cases to confirm a non-neoplastic lymphocytosis which is typically composed of B cells or mixed lymphocyte populations. At this time there is no obvious connection between the lymphocyte count and tailoring therapy. PCV and regenerative response remain the main criteria for establishing response to treatment.

Do cats get primary ITP?

Thrombocytopenia in cats is most often spurious. Confirmed cases of significant thrombocytopenia ($< 50 \times 10^9/L$) are expected to be anemic (Median Hct 18-22). The majority of cases have neoplasia or concurrent infection. Immune mediated disease is associated with multifocal petechiation and extreme thrombocytopenia ($< 10 \times 10^9/L$). Primary immune mediated disease was diagnosed in 6/112 cats in the largest study to date.



References and Resources:

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