



## Immune-mediated Diseases - IMHA, IMTP and IMPA (part 2b)



I hope you enjoyed part 2a on IMHA. We are now going to look at IMTP and IMPA, and how these immune-mediated diseases are treated.

### Immune-mediated Thrombocytopaenia (IMTP)

IMTP is the immune-mediated destruction of platelets. Platelets, like red blood cells, are produced in the bone marrow, and are essential for starting the 'clotting' process. Thrombocytopaenia means 'a deficiency in the number of platelets (thrombocytes) in the blood stream'.

The clotting process, called 'haemostasis', is the process in which blood clumps together and solidifies/dries on exposure to air, or other substances. It is what stops us from bleeding continuously when we get a scratch or a bruise. However, haemostasis is far more important than dealing with obvious injury, which becomes very apparent when it doesn't work properly. **When an animal does not have enough platelets, they bleed spontaneously for no reason, from the gums, into the gastro-intestinal tract, from the nose, and/or under the skin.**

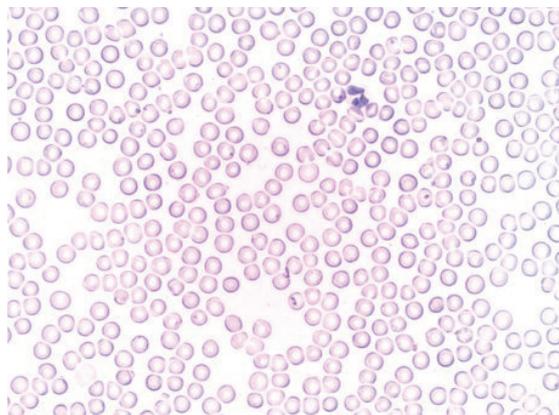


### Clinical Signs and Investigation of IMTP

The clinical signs of IMTP are not always easy to see, especially if the platelet deficiency is mild. You may see mild bleeding from the nose and gums, blood in the stools, 'bruises' or what appear like red 'rashes' on the skin especially in the groin, armpits and inside of the ear flaps. Often signs are intermittent, and they go away on their own, so are often forgotten about! The animal may have a high temperature, but they are usually happy and bright and showing no other signs of illness.

These clinical signs reflect a lack of functioning platelets, but this is not necessarily due to immune-mediated disease. There are many other reasons why we see an insufficient

number of functioning platelets and, as with IMHA, immune-mediated destruction of platelets can occur secondary to infections (especially tick-borne infections), cancer, drugs and toxins. It is, therefore, vital that we first rule out other causes of reduced platelets and, if IMTP is diagnosed, that we check for underlying causes. Unfortunately, diagnosing IMTP definitively is not possible as we do not have the equivalent of the Coomb's test in IMHA.



Even establishing that we have a lack of platelets can sometimes prove difficult. A lack of platelets can be picked up by our blood machines, but this can be unreliable, especially in cats. A more reliable test is to perform a 'blood smear' exam (see part 2a) and count the platelets manually using a microscope. This may require sending the blood smear off to a specialist lab.

## Immune-mediated Polyarthrititis (IMPA)

IMPA is the immune-mediated 'attack' of the joints; 'polyarthrititis' meaning 'inflammation of multiple joints'. It is much more common in dogs than cats, but both can be affected. There are two forms - 'erosive' and 'non-erosive'. 'Erosive' IMPA is less common than 'non-erosive' IMPA, and tends to be more severe leading to deformity of the joints.

### Clinical Signs and Investigation of IMPA

The clinical signs of IMPA are very variable as they depend on how many/which joints are affected, and how severe or advanced the disease is. IMPA does not just affect the joints in the limbs, but can affect the joints in the spine and jaw. You may see lameness on one or more legs, a reluctance to jump, a hunched stance, crying out during movement or when you tug on the lead, difficulty eating or a strange chewing action, swelling of the affected joints, a generalised stiff 'gait', weight loss and loss of muscle mass, lethargy, a loss of appetite, the list goes on...

IMPA is diagnosed by X-rays and sampling the joint fluid. It is essential to prove that there is 'active' inflammation in multiple different joints to diagnose IMPA, and that there is no evidence of infection in the joints. As with IMHA and IMTP, we must also check for underlying causes. The underlying causes in IMPA tend to be a little different to those in IMHA and IMTP, and bacterial infections of the uterus, kidney, prostate, and the skin can be a 'trigger'. Other 'triggers' are gastrointestinal disease, including pancreatitis (inflammation of the pancreas), and cancer.



## Treatment of Immune-mediated Disease (IMD)

If there are no underlying causes for the IMD, or they have been identified and removed, IMDs are treated with immunosuppressive therapy. This involves, primarily, high doses of steroids. However, as high dose steroids lead to a number of adverse side effects (both in the short term and long term), additional immune-suppressive drugs (eg. azathioprine and chlorambucil) are used to try and reduce the steroid dose as much as possible. Of course, the additional immune-suppressive drugs have their own side effects, so animals must be monitored very closely. If the anaemia and thrombocytopenia in IMHA and IMTP respectively is very severe, blood transfusions may be needed to give time for the treatment to work.



Dogs and cats with IMHA, IMTP or IMPA are treated until their anaemia, thrombocytopenia or joint inflammation resolves. The dose of steroids is then gradually reduced over a period of a few months, checking closely for relapses. Additional immunosuppressive drug are often continued until the animal is 'off' the steroids completely; these are then stopped too.

The vast majority of animals recover from their IMD completely. Unfortunately, some animals suffer relapses. This can happen as soon as the steroid dose is reduced or when treatment is stopped, or it can happen weeks, months, or years after the animal has recovered from the initial illness. How we deal with this will depend on the particular case.

I hope you enjoyed part 2b of this series, and the series as a whole. If you have any questions on IMHA, IMTP and IMPA, or any other IMD, please do get in touch. Next time, we shall be looking at a condition that affects numerous (probably most) dogs and cats at some point in their lives - osteoarthritis.

