



## FIP

FIP stands for Feline Infectious Peritonitis which inflammation of the lining inside the belly (peritoneum) due to infection in cats. This terrible condition can actually affect just about anywhere in the body but the main locations it occurs in are inside the chest, inside the belly or the brain. Because it is now known that it can affect multiple locations, we tend to use the abbreviation to describe it rather than its full name.

Simply stated, FIP is an almost always fatal disease that mostly affects young cats. It is a complicated disease and the processes encompass infection, genetics and immune responses.

The underlying cause is a virus called **coronavirus**. Most cats (as many as 90% in catteries) are infected with the enteric (intestinal) form of coronavirus. This can cause diarrhoea but is not necessarily severe or long lasting. After infection, the virus can live in the lining of the intestines for years and cause no overt damage but stress (eg bringing another cat to the household, moving house or being ill with something else) can lead to replication of the virus. In **a few cats** who have a **genetic susceptibility**, when the virus replicates, there will be **mutations** to the **FIP form of coronavirus**. The main distinguishing feature is that this form **can** continue to **replicate inside** a particular sort of **white blood cell** called a macrophage. Macrophages are meant to 'gobble up' infections so the virus persisting here sets up for an immune response.

The disease formed depends on the degree of immune response and the organs where inflammation occurs. The typical signs are a persistently elevated body temperature and fluid accumulation within the belly but FIP is **not a typical disease** so the **possible** clinical **signs** are **many and varied**. Examples include (but are not limited to): fits (seizures), cloudy eyes (or other eye changes), fluid accumulation in the chest, jaundice and non-specific signs like poor growth, lethargy or being off food. Individual cats vary in the signs they show. Some cats can show mild signs for months before more severe changes occur.

When we suspect FIP, our investigations are actually trying to prove another, hopefully more treatable, disease. We usually start with **blood and urine testing** and **typical changes** include, anaemia, elevated globulins (inflammatory proteins) and elevated bilirubin (associated with jaundice) but these **don't always occur** and are **not specific for FIP**. There are blood tests that can show exposure to coronavirus (serology) but they are not specific for FIP and most cats with coronavirus never get FIP; this test can actually be negative in later stages of FIP. Because of the difficulty in interpreting results, we don't normally run serology tests for this disease. The only **conclusive tests** are those that show large numbers of coronavirus in places they shouldn't be. This is done by 'tagging' the coronavirus in a fluid or biopsy sample. The technique used to assess a suspicious fluid sample is called ImmunoFluorescence Antibody (**IFA**) testing. A positive result definitely confirms FIP but sometimes cats with FIP can be negative (ie a false negative). The technique used to assess a biopsy sample this way is called **immunohistochemistry** and is this a conclusive test.

There is **no definitive treatment** for FIP. The sad truth is that most cats with FIP die. A recent journal article has suggested a treatment that appears to have been successful in 4 out of 12 cats. There are some problems with the paper (that the authors acknowledge) so the suggested treatment is not proven. One of the medications for this is very expensive which is a further barrier to trying it in every FIP cat. We have attempted this treatment with several patients in the past, and have been unsuccessful in all but one case.

Please feel free to discuss any aspects of this. It is a difficult disease to understand and we are really sorry that your cat was unlucky enough to have it.