

## **Preliminary report of the treatment of cats with naturally occurring FIP using a viral protease inhibitor**

We are currently almost two months into a field trial to test the efficacy of a protease inhibitor against 13 cats with naturally occurring FIP of wet, dry and mixed types with and without neurologic disease. The trial has been closed at this time to allow us time to study this initial group of cats.

Details on the drug being used have been recently published in PlosPathogens: <http://journals.plos.org/plospathogens/article?id=info:doi/10.1371/journal.ppat.1005531>. You will be impressed when you access the article and read about the research that has made this trial possible.

All of the cats were adolescent or adults and three were purebred (two Himalayan, one Sphynx) and 10 were random bred. Random bred cats were all adopted from shelters or kitten rescues. Cats presented with abdominal wet FIP as well as dry FIP (enlarged mesenteric lymph nodes, kidney masses, cecal/colic masses, and ocular). Two cats were presented in extremis and died before treatment could be started. Two cats developed neurologic disease and became refractory to treatment and were euthanized. Nine cats remain on the study.

The trial has already yielded a great deal of information, most of which is promising. The main issues we have to deal with include determining the optimum dose and length of treatment and what clinical and laboratory features are associated with a better prognosis. Studies of the 11 cats that survived long enough to be treated indicate that we will need to use far more drug than we had anticipated and cannot treat disease once it attacks the brain. We have also realized that we can learn more from a smaller number of cats that are closely monitored over a long period of time than a large group of cats studied over short periods of time. Our objective is to cure cats of disease, which requires us to pay close attention to their disease status and to continually monitor and adjust the dosage regimen. We also need to follow cats for many months after treatment to make sure that their disease does not recur. We are learning a lot and the cases we have are sufficient for us to learn most of what we need to know. We will reopen the trial in the future when more drug becomes available, but we will concentrate our next efforts on kittens that have become acutely ill, especially those with the abdominal effusive form of FIP.

We must emphasize that the drug is extremely expensive to make and is only available in amounts necessary to conduct this trial. We cannot use this drug outside of UC Davis and require strict owner compliance to UC Davis IACUC and VMTH clinical trials protocols.

If this drug should prove curative to at least some forms of FIP, it is still a ways from becoming commercially available. A company willing to market the drug must be identified and they will have to work with the FDA in what could be a lengthy and expensive approval and licensing process.

We greatly appreciate the cats and owners who have worked with us on this first stage of the field trial. They have been extremely cooperative and come from as far as Florida, Illinois, Connecticut and Southern California. We are also grateful for our collaborators at KSU and veterinary practitioners who have helped make this study possible. -NCP