

FIP FIGHTERS - FIP DIAGNOSTICS AND TREATMENT SUMMARY

DIAGNOSTICS - links to Diagnostics Articles

Diagnostic tests for FIP:

<https://www.facebook.com/groups/fipfighters/permalink/1770375063008756/>

IDEXX Real PCR test for FIP virus:

<https://www.idexx.com/files/feline-infectious-peritonitis-virus.pdf>

Dr. Addie's video on the Rivalta test:

<https://www.youtube.com/watch?v=XmOk2veunqA>

Dr. Addie's flowchart:

<https://www.facebook.com/groups/fipfighters/permalink/1322560334456900/>

Differential diagnoses:

<https://www.facebook.com/groups/fipfighters/permalink/855627237816881/>

TREATMENT - information and links to articles on FIP palliative and experimental treatments

1. FOI (Feline Omega Interferon by Virbagen) and Prednisolone:

FOI acts on infected cells to inhibit the cells' internal synthesis of new virus particles and thus limiting the viral infection. Prednisolone helps to suppress the inflammation caused by FIP. FOI can be used for wet or dry FIP. We recommend using Dr. Ishida's protocol (see below).

The package contains 5 vials. One vial is 10 MU, so a package of 5 vials gives in total 50 MU. Dr. Ishida's protocol requires a dosage every second day (and at least 4 doses) until remission, then a weekly maintenance dose of at least 4 doses. If the cat weighs 5 kg it needs 5 MU every second day until remission, and then weekly. That would mean 2 doses out of a vial, and 10 doses out of 5 vials. So if all goes well, expect a minimum of 8 doses but probably 10 and possibly more.

Cost : The current cost for 1 pack of 5 vials Virbagen, Omega, including shipping, insurance, cool box charge and credit card surcharge is £356.00 (approx. \$483.00 USD)

*Treatment rarely effects a cure, so FOI should be considered palliative.

FOI information from the European Medicines Agency:

https://www.ema.europa.eu/en/documents/overview/virbagen-omega-epar-summary-public_en.pdf

Dr. Ishida protocol (FOI with prednisolone), see last page:

http://www.alessandrasorrentino.com/protocollo_eng.pdf

Dr. Ishida study (FOI):

<https://www.facebook.com/groups/fipfighters/permalink/1625975287448735/>

How to obtain FOI:

In Europe, Virbagen Omega can be prescribed by your vet. If you live in the US, you need to import FOI from England. You will need the full participation of your vet in ordering and obtaining FOI. Share the protocol to be used with your vet, either Dr. Ishida's for wet FIP or Dr. Addie's for dry FIP.

To start the ordering process, ask your vet or vet staff to Contact Abbey Vet about ordering FOI at office@abbeyvet-export.co.uk or sales@abbeyvet-export.co.uk.

2. Doxycycline and Prednisolone Protocol:

Doxycycline is an antibiotic that also possesses anti-viral and protease inhibitor properties *in vitro*.

Although there are no published studies to support doxycycline treatment for FIP, anecdotal evidence from veterinarians indicates that doxycycline may reduce coronavirus antibody titers, and possibly slow down the progression of FIP, by reducing the viral load. Prednisolone reduces inflammation.

This palliative treatment can be used for wet or dry FIP.

The protocol is 60 days of doxycycline at 5 mg per kg (2.5 mg per lb) bodyweight a day. This is half the normal daily dose of doxycycline when used for bacterial infections, and the lower dose prevents some of the gastrointestinal (GI) side effects associated with this type of antibiotic. The daily dose can be split into twice a day. It's available both in liquid form and in pills. Regardless of how you give it, follow with a few syringes of water to make sure it safely gets through the esophagus, since doxycycline is locally irritating and can cause inflammation and stricture of the esophagus. Make sure to give the medicine on a full stomach, to avoid GI side effects.

Doxycycline can be used alone, or together with prednisolone. The dose of prednisolone is initially 1-2 mg per kg bodyweight a day, to be slowly tapered down over the following 6 weeks.

Cost: Economical as it is an easily available antibiotic.

*Treatment will not cure, so is palliative.

3. PI (Polyprenyl Immunostimulant) from VetImmune:

PI is an immune modulator/booster. It requires a prescription and can be expensive as it is a lifetime treatment.

PI is used for dry FIP only.

The dose is 3 mg per kg bodyweight a day. PI is given orally as a liquid. It comes in packages of 6 vials (10 mL each). The concentration of the solution is 2 mg/mL.

Calculation example: a cat that weighs 3 kg (6.6 lbs) needs $3 \times 3 = 9$ mg PI every second day. $9/2 = 4.5$ mL every second day (the first two weeks PI is given daily).

Cost: approx. \$260 US for 6 vials (for a 3 kg cat this will last for about 26 days. Please note that PI is a lifetime treatment).

*Treatment is palliative, although there have been a small number of longer-term survivors.

Field study in cats with dry FIP:

<https://www.frontiersin.org/articles/10.3389/fvets.2017.00007/full>

The Essential FIP Survivor Guide - P.I. (polyprenyl immunostimulant) for dry FIP:

<http://fipsurvivorguide.com/>

VetImmune's website - PI for dry FIP:

<http://vetimmune.com/polyprenyl-immunostimulant/>

To order PI in Europe:

<http://vetimmune.cz/index.php/en/vetimmune-pi-2>

4. GS441524/EVO984 and GC376 - this information pertains to FIP treatments that have been tested in clinical trials (now closed) and may be approved in the future:

There have been scientifically sanctioned trials and publications on these two drugs by Dr. Niels Pedersen from UC Davis in California and Dr Y. Kim at Kansas State University. GS441524 and GC376 interrupt the replication of the virus in different stages of development. GS441524 acts earlier in the replication process. It is a nucleoside analog that blocks the enzyme RNA polymerase at the beginning of viral replication, leading to RNA chain termination. GC376 is a protease inhibitor. Protease is an enzyme needed to continue the process of replication. In the GS441524/EVO984 research trial, 26 cats achieved remission out of a total of 31 cats (cats with wet and dry FIP). In the GC376 research trial, 6 cats achieved remission out of 20 cats (5 of the cats in remission had wet FIP and one had dry FIP). These drug trials are currently closed.

The groundbreaking clinical study on GS-441524:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6435921/>

5. Black market GS441524 and GC376:

These compounds may be approved in the future for use in cats with FIP but they are not approved by the FDA, or by any other international regulatory body, at the present time. This means they can't be prescribed by your veterinarian. The compounds on the black market in China are not monitored to strict safety standards, as they were in the clinical trials. Some of the GS compounds have reportedly been tested for biological activity against FIP virus, and found to be comparable in activity to the compound used in Dr Pedersen's clinical trial.

The recommended dosage of GS for cats with nonneurological FIP is 4 mg/kg, subcutaneous injection, once a day, for 12 weeks. Cats with neurological FIP may require a progressively higher dosage of 5-10 mg/kg. Recently, an oral form (capsule) of GS has also become available.

GS for injection is being sold in 5 mL bottles at either 12.5 mg, 15 mg or 16.5 mg per mL concentration. Calculation example: a cat that weighs 3 kg (6.6 lbs), and has nonneurological FIP, will need $4 \times 3 = 12$ mg per day. Using a 15 mg/mL concentration this means $12/15 = 0.8$ mL by subcutaneous injection once daily. A bottle of 5 mL for this cat will last 6 days. This means the cat will need 15 bottles in total. One bottle costs \$70-\$358 depending on the brand. The cost for 12 weeks of injection treatment is \$1500 - \$8000 USD.

GS capsules contain 4 mg active substance. The cost is \$16 USD per pill.

Dr. Niels Pedersen's statement on Black Market GS:

<https://www.sockfip.org/about-fip/black-market>

Dr. Niels Pedersen's article on Neurological/Ocular FIP:

<https://www.sockfip.org/about-fip/neurologicalfip>

ADDITIONAL RESOURCES

Dr. Addie's FIP and FCoV infection treatment summary:

<http://www.catvirus.com/downloads/FIPtreatmentsummary.pdf>

* If you can't open one of these links from your mobile device, please locate it in our group files or access it from your PC.