

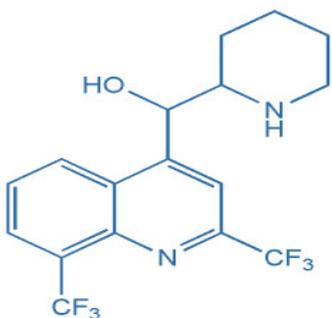
# FELINE INFECTIOUS PERITONITIS

## OTHER TREATMENT OPTIONS, MONITORING TREATMENT & SIDE EFFECTS

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### MEFLOQUINE AS AN ALTERNATIVE DRUG

This anti-malarial drug has shown **inhibition of the coronavirus *in vitro*** and cats can tolerate and metabolize this drug via the liver.



- Trials have also been conducted using Mefloquine alone and a combination of Mefloquine and Interferon.
- Response to FIP treatment may be improved through the **combination of an anti-viral, immunomodulatory drugs** to boost the patient's immune response, and possibly an **immunosuppressive drug** to dampen immune-mediated consequences in the body.

A single, generic box of Mefloquine is **cheap** compared to Remdesivir and will last past the 12-week treatment duration.

- Results may not be as good as Remdesivir but it may be **useful in improving the quality of life** in FIP patients.

Current investigation with Mefloquine shows the possibility of it being able to **treat the early stages of dry FIP and neurological FIP** due to its **good concentration in the CNS**.

- Mefloquine **crosses the blood-brain barrier a bit better** which is great for its application towards neurological and ophthalmic FIP.

Mefloquine has the **potential to work well** when it is **given together with Remdesivir**.

- Patients poorly responding to Remdesivir despite a dose of 10 to 15 mg/kg can benefit by adding Mefloquine on board.



**PRO TIP: Do not give Mefloquine on an empty stomach** as it can upset the patient's tummy. Make sure that the patient is getting food with it.

### MEFLOQUINE DOSE

**10 to 12 mg/kg**  
per os, twice weekly



## DRUG MECHANISM OF ACTION

### NUCLEOTIDE ANALOGUES (REMDESIVIR)

Acts by **inhibiting viral replication**

### MEFLOQUINE

The mechanism of action of Mefloquine remains to be **unclear** however, it may be related to **preventing viral endocytosis** into the cell

The **synergistic action** of these drugs may prevent the replication **and** the entry of the coronavirus into the cells when given together.

## PITFALLS

With Remdesivir, **do not underdose or go below 6 mg/kg** to make the drug last longer in cases where the budget for treatment becomes tight. Doing this makes it more likely to promote **drug resistance**, similar to the use of antimicrobials.

- It is **better initially to go hard on with Remdesivir** as long as the client can afford it and then introduce Mefloquine if they cannot afford a full 12-week protocol.

Be vigilant for '**weight creep**' (especially in growing kittens) for the entire 12-week treatment duration.

- **Do weight checks at least fortnightly** to adjust the drug doses accordingly.



**NOTE:** In wet FIP cats, keep them on the **same dose that they started on** despite the drop in weight from the loss of fluids.

- Do not try and estimate the lean weight on these patients initially.

## MONITORING

**Haematology** and a **biochemistry**, checking for improvements in:

- ✓ **ALBUMIN / GLOBULIN RATIO**
- ✓ **ALT:** not used as a reason to extend treatment
- ✓ **BILIRUBIN LEVELS:** come down within the first 2 months of treatment
- ✓ **CBC:** Anaemia and lymphopenia
  - **Anaemia** is probably the last to resolve around the 8-12 weeks mark



**NOTE:** For a dry FIP, make sure that the **size of the mesenteric nodes is normal** before discontinuing the drug.



## INJECTION SITE PAIN

The second hurdle when it comes to treating FIP is injection pain.

- **GABAPENTIN** at a **dose of 50 mg** (or Buprenorphine) CAN facilitate the injections



**NOTE:** Some cats tolerate the injections fine.

- **Patients don't seem to develop long term psychological problems** from it --- they're grumpy after the jab, but then just get over it.
- For cases that cannot tolerate subcutaneous injections, **consider catheter replacements** for IV administration of the antiviral drug.

On the behavioral side of things, exploring techniques such as **establishing positive injection routes, giving rewards, or distracting these cats** may minimize the trauma associated with these injections.

- **Provide support to the clients** as this can also be a stressful event for them.
- The possibility of an **oral formulation for the GS 441524** may provide better relief to the cats and their owners.

## SIDE EFFECTS

**Keep a close eye** on patients starting on treatment for the **first few days**. **Recommend hospitalization** to the owners and be cautious for the possibility of side effects which may include:



### INJECTION SITE REACTION

Very few cases only; the primary solution is to **rotate injection sites** every time however, it takes some time for it to resolve on its own



### PERSISTENT ALT ELEVATIONS



### POTENTIAL FOR RENAL & LIVER FAILURE



### ANAPHYLACTIC REACTION

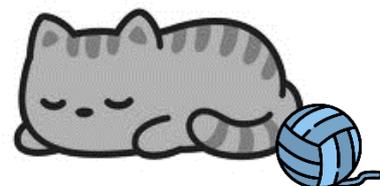


### PLEURAL EFFUSIONS

Few cases in the **first 48 hours** of starting Remdesivir (effusions were absent to begin with)

**Some vets start with higher doses** or start with subcutaneous injections and then manage FIP cats as outpatients from the start.

- In this case, **teach owners how to monitor the resting respiratory rate** with rechecks for signs of tachypnea.



## THOUGHTS ON OTHER MEDICATIONS?

There is **no need for steroids** with Remdesivir.

- If they are already on it - **tapered off** in the first 2 weeks, depending on how long they've been on it prior to the start of treatment.

## TIPS FROM AN EXPERIENCED FIP CAT OWNER

- 1 Try using a **mesh shower bag** to restrain your cat to give injections.
  - o Put the cat inside and just cut holes on where you will be giving the injection (it's available on Amazon 😊)
- 2 Cats may become **more chill** when **Gabapentin is given a dose of 100 mg** prior to the antiviral medication.
- 3 After getting their injections, cats walk away and tend to '**angry eat**' or shove their faces into their food bowls due to their voracious appetite.



For questions related to FIP, its treatment, and other related concerns, you may send an email to Dr. Sally Coggins through [sally.coggins@sydney.edu.ph](mailto:sally.coggins@sydney.edu.ph)

