Flow diagram outlining the work-up and treatment of FIP

Work-up

- **Physical exam, gold standard/ comprehensive profile**
  - + α1-acid glycoprotein
- **Quantitative reverse transcription PCR (qRT-PCR) for coronavirus (University of Glasgow, Langford, Veterinary Pathology Group/Synlabs, Idexx, Axiom and Finn)**
  - Blood (not usually recommended; negative does not exclude)
  - Fluid sample (including abdominal lavage; minimum 100µl), OR
  - Tissue fine needle aspirate (FNA; mix with either small amount saline, ethylenediaminetetraacetic acid-saline or RNA later if available – add FNA until cloudy), OR
  - Tissue sample – fresh frozen best, but fixed also possible
- **Immunocytochemistry: detects FCoV antigen in macrophages (contact lab first; universities of Edinburgh, Glasgow and Liverpool)**
  - two cytospins of fluid, if cytospin possible in-house, OR
  - cell pellet (preferred) from fluid or FNA tissue fluid
- **Immunohistochemistry: detects FCoV antigen in macrophages in tissue (contact lab first; see above)**

Oral GS-441524

- Charge whole bottles only, not individual tablets.
- Theoretical intestinal absorption limit is 10mg/kg per dose.

Remdesivir

- Shelf life = 1 month **FRIDGE**
- To make up, add 9ml diluent = 10mg/ml.
- Route: IV (**slow**), **dilute to 10ml total with saline.**
- Advocated if can afford hospitalisation, particularly if neurological/ocular.

Treatment

Systemically well

Oral GS-441524 10mg/kg every 24 hours

Cost constraints

Oral GS-441524

Dose dependent on FIP severity, for as long as affordable

Systemically unwell/not eating WITHOUT ocular or neurological signs

Remdesivir 10mg/kg every 24 hours – 5 days minimum (up to 14 days if required) – followed by oral GS-441524 10mg/kg every 24 hours

Ocular/neurological

Remdesivir for 5 to 14 days, then oral GS-441524

OCULAR signs

(For example: uveitis, chorioretinitis, hyphaema, hypopyon)

GS-441524 15mg/kg every 24 hours

(Dividing the dose may be beneficial)

NEUROLOGICAL signs

(For example: ataxia, hyperaesthesia, nystagmus, seizures, dullness)

Remdesivir 20mg/kg every 24 hours, followed by GS-441524 10mg/kg every 12 hours

Full treatment course minimum 12 weeks

(Oral duration is offset by duration of IV)

Monitoring

- During hospitalisation
- Two weeks after starting treatment
- One month after starting treatment
- At two and three months after starting treatment

- Physical exam
- **% weight change – recalculate dose needed**
- Point-of-care ultrasound (if effusions or abdominal lymphadenopathy are present)
- Additional abnormalities specific to the cat
- Haematology
- Total protein, albumin, globulins (A:G ratio)
- α1-acid glycoprotein concentration
- Bilirubin

If cost is a concern, focus on checking clinical parameters – especially weight – as well as PCV, total proteins, serum globulins, colour of plasma and bilirubin

Follow-up

Poor response after six to eight weeks (or sooner if no improvement)

- Clinical signs or hyperglobulinaemia
- Reconfirming diagnosing of FIP
- Increasing dosage by 3mg/kg to 5mg/kg (to maximum 20mg/kg) per day after

Successful

Stop treatment two to four weeks after the cat is normal clinically, and on haematology and biochemistry (**after** minimum 12 weeks treatment)

Monitor at three months after treatment completion, then every six months

Relapse

Reconfirm it is FIP:

- Restart with remdesivir or GS-441524
- Increase dosage by 3mg/kg to 5mg/kg (maximum 20mg/kg) for 12 weeks
- Divide total dose and give every 12 hours

Refractory to high-dose treatments

Addition of alternative treatments

Cost constraints

If the owner cannot afford GS-441524 or a full course, contact the FIP advisory team via fipadvice@gmail.com to discuss alternatives

(Mefloquine, interferon omega, polyprenyl immunostimulant)