

Questions & Answers - Treating Feline Infectious Peritonitis (FIP)

Feb 17, 2021

Toxoplasmosis questions

Answers

what are the symptoms for toxoplasmosis and how to differentiate from dip?

Toxoplasmosis has very similar presenting signs to FIP: uveitis, icterus, weight loss, neurological signs.

The simplest way to diagnose Toxoplasmosis is an antibody test: if the cat has a high toxoplasma antibody titre, or IgM, then toxoplasmosis is suspected so see if there is a response to clindamycin.

How do you diagnose Toxoplasmosis the best way in a cat presenting with uveitis?

Please watch my video series called "Does Tommy Have FIP?" for more on this subject: https://youtu.be/F_rRr6pZ1RE (please give all 5 videos a like). This video series works through the differential diagnosis of a cat with uveitis and the answers relating to diagnosis are in the 3rd and 4th videos of the series.

Mutian questions

Mutian availability

Is Mutian available in USA?

Hello. We are from Bulgaria and we do not have Mutian here. Can you tell us something like this drug or from where can we make a delivery?

How can I obtain Mutian in Belgium?

Is Mutian available in Canada?

Is mutual available in the Netherlands?

are we expected to find the treatment available in Brazil?

Where can we obtain meds in the US?

are mutian pills available in the uk?

Mutian can be purchased online at www.mutianstore.com: my impression is that it is sold worldwide.

Check with your veterinary body about whether it's legal /licensed in your country.

For UK vets, the RCVS advised me not to buy it: usually the cat guardian buys it themselves.

Email Niki Ng <nikiyu@live.hk> to find out if it is available and approved in your country.

Ursula Lanigan, yes Mutian is available but direct from Mutian.

Download the Mutian case report paper from the MDPI Viruses website.

Diane, how do your order / advise on Mutian in the UK as it is not a licenced product for any species?

Is Mutian licensed for use to treat FIP?

Other Mutian questions

how do we access a supply of Mutian in the UK? How does it differ to the product that Facebook groups are sourcing for injection?

Mutian pills can be given orally, and they have excellent clearance of virus from the gut. I do not recommend the injections because they don't always stop virus shedding, which could lead to drug resistance.

Hi. what is the composition of Mutian? Is it available in european countries (other than UK)?

Please see the answer below and the section above.

What actually is Mutian? The datasheet only mentions Mutian X as ingredient but not a pharmacological name.

The new datasheet contains its formula. I believe that the active antiviral ingredient is an adeosine nucleoside analogue (i.e. it interferes with viral replication). The pills also contain various other ingredients, some are hepatoprotective, but I still recommend using SAME in addition.

The mutian pills are difficult to administer: what are your tips and tricks?

See below. I would add to try a pill popper. Split the day's dose into 2 or 3 if that helps. I tend to put my fingers over the cat's zygomatic arch (cheekbones) then tilt the head backwards.

Kiki Vleeschouwers, the best way to give the Mutian tablets is putting a little butter on them. I also hold the scruff of the cat with my left hand and with my right i open the cats mouth and slip the tablet in. then i rub under the chin to ensure the tablet has been swallowed.

This great answer came from my case report co-author, Johanna. :)

Dr Addie, are you related to Mutian?

I have never received one penny from Mutian, nor do I have shares or any other vested interests. Thank you for asking this important question. I am aware that there are people slandering me on the internet saying that I am a Mutian rep: this is a lie.

Hi, we really need to discuss or the speaker should outline the cost of treating FIP using Mutian or other drugs that were mentioned. I

already see that the price of Mutian alone is quite expensive, and in the lecture, there are other medications, diagnostics, etc need to be done at the same time.

regarding to duration of treatment, can mutian be withdrawn once the AG ratio back to normal range? or we should use it until full three month?

Will you prolong the treatment of Mutian if the clinical signs of FIP do not resolve? or will you just change to interferon treatment?

Does this mean treating in contact cats with positive corona virus titres even if they don't have FIP? What concerns should this give us for resistance?

Indeed it is very expensive. In the UK we are fortunate in that some pet insurance companies (e.g. Petplan) are covering the cost. I don't know what the situation is in other countries in regard to insurance.

Please watch my FIP Treatment page on www.catvirus.com, because I have some other ideas, but no evidence for them as yet.

This is a really good question and one that I haven't yet analysed my data to answer. My impression is that globulins are slower to return to normal than AGP, so that you'd possibly finish the Mutian before the globulins become normal. If globulins, bilirubin, lymphopenia and anaemia have all resolved, plus the cat is gaining weight, and you've done a week of double dose to clear the brain of virus, then it should be safe to discontinue Muitan. The 12 week figure likely comes from the Pedersen GS study and in my view probably doesn't apply to Mutian.

Neither: I would investigate what second disease the cat is suffering from, and I would check the FIP diagnosis. I would also check how much treatment the cat is getting to see if the attending vet had rememberd to increase dose with increasing weight. And I'd find out if the cat is getting anything which would counteract the treatment - for example corticosteroids.

In over 20 cases of definite FIP, I have not known Mutian pills to not work. However, as I said in the webinar, I have encountered an astonishing number of mis-diagnoses.

If Mutian resistance arises, it will be because people used too little of it, or for too short a time. The most worrying scenario would be a cat breeder causing drug resistance, because they would be homing out infected kittens to new households. In a normal pet household the virus gets eradicated and that's the end of it, but even if a mutant arose, it would be contained within that home.

The problem with Remdesivir resistance in humans is because it doesn't adequately penetrate the lungs, which is where SARS-CoV2 replicates: Mutian pills attack the virus where it is most at home, in the gut, which I believe is the reason that we're not seeing drug resistance develop.

I wonder why the dosage of Mutian capsules is reduced at/near the end of the therapy

The dose of Mutian should not be reduced near the end of therapy: in fact, as patients gain weight we often have to increase their Mutian doses.

However, the high doses used to treat neurological or intra-ocular FIP should be reduced to the normal level (normal is one Mutian 200 per 2kg bodyweight) once clinical signs have abated to avoid damaging the kidneys. Monitor SDMA when using a higher than normal dose.

How to treat FIP if Mutian is not available / possible

Virbagen Omega

if we cannot source the mutian pills, what treatment would you recommend?

Virbagen Omega dose:

Effusive FIP: 1 million units/cat/q48 hours subcutaneously

Non-effusive FIP: 100,000 units per cat per day orally

Both given with meloxicam (see below) unless the cat has kidney problems or high blood pressure.

Unfortunately this combination only occasionally cures cats, but may give remission until a cure is available.

I have emailed you all about possible other therapies, which I do not want to post in a public place. Please check your spam box if you haven't received the email.

When I have no access to mutian, is the combination NSAID and Virbagen Omega a good combination ?

How about FIP prognosa? how many % you success treatment FIP? In indonesia we dont have mutian pill yet, so what the drug of choice to treatment FIP cat?

Hi, I am Burcu - The Veterinarian from Istanbul/Turkey. We cant find Virbagen Omega in Turkey and Mutian or equal medicines like it are very expensive here. Because of that most time we cant do this treatment. What do u offer alternative treatment for effusive and non-effusive FIP. And how much time can we meloxicam and which doses?

Thank u

Meloxicam questions

Why NSAID is now rec. to treat FIP (from last webinar)

For its anti-inflammatory properties: FIP is primarily an inflammatory condition.

Since Mutian pill is not available yet in my country, may I know what meloxicam dosage and duration is appropriate to use in FIP patients?

I go with half the meloxicam dosage because I worry about kidneys in FIP cats: so if the cat weighs 4kg, I ask his guardian to just fill to the 2kg part of the dropper. Without Mutian, meloxicam alone won't cure FIP. I've sent you an email about possible alternatives: please check your spam box if you don't see it.

How should we use Meloksicam day by day?

See above for dosage in FIP. I also use it in feline chronic gingivostomatitis cases, and of course it's main use is in arthritic cats and as a general painkiller.

DO NOT USE MELOXICAM IN CATS WITH LOW BLOOD PRESSURE or it can cause papillary necrosis and kidney failure.

what dosage of meloxicam do you use and for how long for these cats? do you use fluids as well during this time to protect the kidneys?

Please see answers above and below. If cats are hospitalised then yes, I would use fluids. When home, I do recommend wet food rather than dry for several reasons including hydration.

Thank you for this insightful and practical question.

if the cat starts recovering for how long do we need to use meloxicam?

Duration of treatment varies with each individual cat. We're using it to counteract inflammation and the best measure of inflammation is the acute phase proteins - i.e. AGP (perhaps SAA, but I haven't measured that) - so when AGP returns to normal, meloxicam is no longer needed. But I haven't achieved cures with meloxicam and interferon omega - only remissions.

Itraconazole NOT RECOMMENDED

is it true Itraconazole can use to treatment FIP cat?

Itraconazole can decrease, but not eradicate, FCoV shedding. However, the cat will lose weight and condition on itraconazole. It is not an effective treatment for FIP.

I DO NOT RECOMMEND ITRACONAZOLE TO TREAT FCoV OR FIP.

can i know how itraconazole works for fip treatment, and what the recommended dosage?

Do you think Itraconazole is one of the medications to slow down treat FIP?

Please see above re itraconazole. I'm sorry I'm not sure what you mean by DM? I was skeptical about immune boosters at first, then I saw that polyprenyl immunostimulant (VetImmune) was helping some cases. As you imply in your question it's potentially a risky strategy though - I wouldn't want to try out an unknown one.

What do you think the usage of immune booster for example DM*, do you think such immune booster will increase the progresion of the virus?

Ivermectin

Hello Dr Addie,
What do you think about ivermectin effects on FCoV?

what do you think about ivermectin treatment?

Merhabalar.İvermectin Fip tedavisinde kullanılırmı ?

thanks you Dr Addie what do you think about the use of ivermectin

Thank you all for this interesting question. Please see my email response to you: if you don't find an email from me in your inbox, please check your spam box.

GS-441524 / Remdesivir questions

why are we no longer recommending the injection?

By injection, I presume you mean GS-441524 / Remdesivir, rather than GC376? If you cannot obtain Mutian, then an injectable nucleoside analogue might be the next best thing. However, the injections are horribly painful and the injectable anti-virals do not always clear the infection from the gut, which could lead to escape mutants.

If your question was about Virbagen Omega injections: I do still recommend using Virbagen Omega by injection in effusive FIP and in other virus infections.

what do you think about another antiviral drugs like favipiravir or remdesivir or both remdesivir and GS-441524?

I have no experience of favipiravir (Avigan) in FIP, I'm sorry. I don't know if it would be safe in cats.
Please see above re Remdesivir.

what do you think about another antiviral drugs like favipiravir or remdesivir or both?

GS-441524 tedavisi esnasında gelişen azoteminin sorumlusu ilaçtır hastalıktır. Böyle bir yan etkisi var ise bu etki kaç gün kullanımda çıkar. Ve düzeltmek için ne yapılmalıdır.

The cause of azotemia - if it occurs - is that adenosine nucleoside analogues are toxic to kidneys. I'm sorry I am unable to answer you in your own language.

We get a lot of questions about SAK, lot of people start doing this on their own... What is your opinion about this?

SAK is a brand of injectable GS-441524. I'm sorry, I have no experience of this brand. But please see my answer above on why the GS drugs are not my first choice of treatment.

Miscellaneous FIP treatment questions

is the use of probiotics good in cats with FIP ?

Good question! Yes, probiotics are good in FCoV diarrhoea and FIP: **Protexin prokolin enterogenic are the best probiotics**. I analysed a number of probiotics in the microbiology department at Glasgow Vet School, i.e. grew them to see what was in them. It was sometimes scary to find out that not only did they not contain what they should have, but some contained pathogenic organisms. However, the Protexin make had what it said it had in it.

If cats which suffer from FIP are fed with real meat to support their nutrition, has it to be raw, or is cooked meat useful, too?

Cooked meat is fine: the arginine will not be degraded by cooking. Cooked may be better, to avoid things like toxoplasma cysts in raw meat.

Was it the Royal Canin Senior cat food that you felt was best for cats with hairballs?

It is the Royal Canin dry food called Ageing 12+

Is it advisable to give cereal free food with cats with FIP?

Difficult and interesting question: the big companies mostly use cereal-based food which is not good for cats, BUT the big companies have histories of years of research into feeding cats, so their foods tend to have adequate levels of some essential micronutrients, (for example, taurine) which smaller companies who sell more natural foods may not have. I am keen on Applaws and Almo Nature makes, but they often do not contain enough calcium for the bones of growing kittens. Therefore my best advice is to give as varied a diet as possible, mainly consisting of wet food. And as I've said, I'd include one tablespoon of Royal Canin Ageing 12+ to prevent furball. I'm embarrassed to tout my books, but I do go into this question in detail in my book "Feline Infectious Peritonitis and Coronavirus, everything a cat lover needs to know," from Amazon.

Is there anywhere we can submit case data for the cats we treat? I got the survey before from the FIP vets FB group but I think it has closed.

Yes, that would interest me: my email is draddie@catvirus.com

Have you seen any data on ozone therapies for FIP? That, and Chlorine Dioxide, is what we are currently using on an FIP cat. ClO2 has been shown to be active against Coronaviruses.

I'm sorry, I have no experience of these, thank you for sharing them with me.

I living in turkey and cannot use mutian.If I cannot prednisole, what I use and can you give me example for immun stimulant ?

An old fashioned immune stimulant is levamisole which you probably have in Turkey? However, for cats, the single best thing you can do to support their immune systems is feed them real meat: many cats are arginine deficient due to dry cereal-based cat foods. Arginine is an essential amino acid for the cat and preferentially used in the urea cycle, thus when a cat is deficient, it's the immune system which suffers.

In preference to prednisolone as an anti-inflammatory, I recommend meloxicam at half normal dose.

I just had a 12 m old kitten get very sick with fever, progressive neuro signs, anemia, globulinemia, stunted growth.... suspected FIP and owners elected euthanasia. There are two other cats in home, 15 yr old and a littermate from deceased cat. Should I test the feces of remaining cats? And if positive should I do anything proactively?

Yes, please do test the faeces and if positive, a 5-7 day course of Mutian will stop them shedding virus, and likely also prevent FIP (I have yet to prove this, but my preliminary data do seem to support Mutian as an FIP prevention).

A FeLV + cat that develops FIP can be treated for FIP? What is the prognosis?

The prognosis for FeLV positive cats is quite poor: average survival 3.5 years. HOWEVER, first please confirm the FeLV result, since depending on prevalence of FeLV in your city, as many as half of positive tests can be false positives. FeLV survival can be improved by a course of 5 Virbagen Omega injections q48 hrs given every 6 months. If a cat had both FeLV and FIP, I would use both Virbagen Omega and Mutian, if possible, but the prognosis would be quite guarded.

FIV/FELV den biri ile enfekte olan kedide tedavimizde değişiklik veya takip nasıl olmalı. ZIDOVUDINE kullanımını önerir misiniz.

Thank you for your question, and thanks be to Google translate! Please see my reply above to a similar question. The ABCD guidelines does say that AZT (Zidovudine) can be used to treat FeLV, but with extreme caution, because of toxicity. Please see Karine de Mari's paper on treating FeLV with feline interferon (Virbagen Omega), for me that is the best option.

Thanks for your presentation. What do you think about usage of human interferon alpha (Roferon A) in FIP infected cats. Because feline interferon not always ensuring in Turkey.

Roferon A given orally would be better than nothing, but would not effect any cure. I've taken the liberty of noting your email to discuss alternative treatments privately with you.

Tengirşenk Burcu (You): Hi, I am Burcu - The Veterinarian from Istanbul/Turkey. We cant find Virbagen Omega in Turkey. Also Mutian or equal medicines like it are very expensive here. Because of that most time we cant do this treatment. What do u offer alternative treatment protocol for effusive and non-effusive FIP. And how much time can we use meloxicam and which doses? Can we use human interferon (Roferon alfa) to alternative Virbagen omega.

Many great and practical questions, thank you Burcu. Please see my personal email to you (check your spam box if you don't find it): with suggestions for alternative treatments (but not yet tested).

For the meloxicam question please see the meloxicam section.

Roferon can be used at 30 international units a day orally, but won't be as effective as feline interferon, still it could be better than nothing and can certainly be used alongside the alternatives I suggest in my email.

Thank u

Why we don't systemic corticosteroid
Are there any procedures done for ascites?

Because it reduces survival time. Only use if there is no hope for the cat and you just want to make them feel better.

It is an excellent idea to drain ascites and especially pleural effusions, both to ease breathing and to enable more accurate diagnostic testing: FCoV RT-PCR, cytology, alb:glob ratio, etc. can be done on the effusion sample.

Can vitamin c give fip cat ?

You can give vitamin C for a short period, but do NOT use vitamin C long term because of the risk of oxalate urine crystals and blocked urethra. However, there is nothing published about whether or not vitamin C would help a cat with FIP: it definitely won't cure the cat without other treatment.

nörofipte uygulanan
Ventrikuloperitoneal şant ile
hidrocephalus sagaltımını ve kök
hücre tedavisine yaklaşımınız nedir.

Thank you for your question. It's important to differentiate FCoV-related hydrocephalus, from congenital hydrocephalus which would require a surgical drain. FCoV related hydrocephalus can be cured medically, using e.g. prednisolone and a bolus of mannitol given over 20 minutes in an emergency, followed by high dose Mutian when the patient is stable. By the time a cat is showing neurological signs, I think it would be too late for stem cell therapy. I know of only two FIP cats treated with stem cell therapy, and only one made it, the other died of acute haemolytic anaemia. I know that the people at UC Davis did try stem cell therapy for FIP, but my impression is that - like me - they gave up on it, at least for FIP.

Are you aware of similar research
for Covid 19 in humans ?

There are some excellent resources for COVID-19 research:
<https://c19ivermectin.com/> and medrxiv.org

It is also worth visiting the FLCCC website: <https://covid19criticalcare.com/> - see the stunning effect of ivermectin used prophylactically on reduction of COVID cases in Peru. It shows that prevention with medication, much as we do for malaria, will likely be more effective than vaccination for preventing SARS-CoV2, which mutates like crazy.

Have there been other neurological
signs documented ?

FIP has been responsible for almost every neurological sign you can think of: ataxia, seizures, nystagmus, behavioural changes, paralysis, stroke.

Do you or other resarchers have
more infi about latent herpes/FIP ?

Unfortunately there's nothing published (yet) about recrudescence of latent herpesvirus in relation to FIP, but of course the ABCD website (www.abcdvets.org) has a guideline on FHV. I mentioned it because immune suppression and stress do tend to bring out latent FHV: then we see the watery conjunctivitis and sneezing. It's also a warning sign of furball, in my experience with my cat, Tommy.

Can cat be FIP AB neg
yet classically symptomatic ?

It is possible, but extremely rare, for a cat with FIP to be antibody negative. I have seen it in effusive FIP when there were huge amounts of virus, all binding the antibody and making it unavailable: this was a problem with some poor quality tests, especially if effusion rather than blood was used.

Your work and website are so appreciated.

If you subscribe to JFMS you can find my two papers on this subject: Addie DD, le Poder S, Burr P, Decaro N, Graham E, Hofmann-Lehmann R, Jarrett O, McDonald M, Meli ML. 2015. Utility of feline coronavirus antibody tests J Feline Med Surg 17(2):152-62.

Thank you !

Meli ML, Burr P, Decaro N, Graham E, Jarrett O, Lutz H, McDonald M, Addie DD. 2013. Samples with high virus loads cause a trend toward lower signal in feline coronavirus antibody tests. J Feline Med Surg. 15 4 295 – 299.

I also saw it once in a cat with non-effusive FIP (once only, in over 3 decades).

I'd like to thank you very much for your kind comments: I've come under a lot of attacks in the last few years and your encouragement is really appreciated.

AGP Questions / what to do if AGP not available

As the AGP test is not commercially available in the U.S., what would be the best diagnostic measure to determine whether Mutian X treatment is working in a cat with non-effusive FIP?

Weight monitoring is really useful. We do also see quite a rapid fall in globulin levels, which is a good sign. However, I would have to say that the VDS laboratory in Glasgow, Scotland does receive FedEx'd samples from all over the world: <https://www.gla.ac.uk/schools/vet/cad/submitsample/>. I can't help wishing that Biogal would make an AGP kit too.

Dr. said AGP must be normal for 2 consecutive test. How much time should be between 2 tests?

At present I would say one week or longer, but this is a work in progress and I may have to correct this at a later stage - for example, it could be that just a couple of days would suffice. Great question, thank you.

Hi! Is the AGP test also adaptable to cats with neurological FIP? Cos thats where most relapses occur.

This is a BRILLIANT question: you are quite right - so far as I can tell, AGP does not always rise in neurological FIP when the FCoV has caused hydrocephalus. Thank you for pointing that out.

if dont have access to check AGP levels what else we can use as a marker for healing?SAA do you recommend?

great lecture! thank you! I would like to know if SAA can be alternative choice for AGP?

Great question. Yuki et al, 2020 (doi: 10.3390/vetsci7020045) found elevated SAA in 5 cats with FIP, therefore I imagine that monitoring reducing SAA levels would be a useful indicator of recovery from FIP, since serum amyloid A is also an acute phase protein. However, I have no data to prove it - perhaps that is a study you will do?

Thank you for your very kind comments and great question - please see my reply above.

FIP diagnosis / FCoV antibody testing

Is the ImmunoCombo test kit specific for FIP or just for coronavirus?

is it possible to diagnosa FIP use test kit FCoV a.g or FCoV a.b?

The FCoV Immunocomb tests for antibodies against feline coronavirus: it is a sensitive test, therefore negative results are reliable for ruling out a diagnosis of FIP or FCoV-associated enteritis.

However, positive results are NOT confirmatory of FIP, only indicating that FIP can be included in the list of rule outs.

I would NOT recommend a FCoV antigen test kit since they are not sufficiently sensitive: send to a GOOD laboratory for FCoV RT-PCR testing.

The FCoV antibody test kit (FCoV Immunocomb) is best used for ruling out FIP - a negative test makes FIP very unlikely.

However, **you CANNOT equate the presence of FCoV antibodies with a diagnosis of FIP, many cats are seropositive but do not have FIP.**

How do we get access to the FIP diagnosis algorithm? It says for veterinarians only

Thank goodness-I found the algorithm.

I am not able to download the FIP dx algorithm on website, can you email it to us?

if Ultrasound guided fNA RT-PCR is not available, which other diagnostic test would u recommend?

skin diseases in PIF ?

www.catvirus.com - choose the Downloads tab from the menu on the left

I'm glad you found it Lisa!

OK

Please see the FIP diagnosis algorithms for details on FIP diagnosis, also my previous webinar with Biogal and my video channel: www.youtube.com/user/DrDianeDAddie. There are case studies on my YouTube channel.

Yes, occasionally PIF causes skin lesions, but it is quite rare. One example (free case report) can be found here: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6340254/>

As a shelter vet, I have very limited access to funds for diagnostics such as titers, and I see a lot of kittens and cats with uveitis and no other clinical signs. What do you think would be the most practical way to differentiate ocular toxoplasmosis from FIP vs other causes (other viruses, unknown trauma, etc)? We do test all cats for FELV/FIV. Does treatment with oral clindamycin make sense? If so, how quickly would we expect to see some reduction of the uveitis? We unfortunately do not have the funds to do the extensive treatment and monitoring required to follow your treatment protocol for FIP. Thank you for any suggestions. Elissa Green, DVM Director of Veterinary Medicine, Delaware Humane Association

I think that a major cause of uveitis in kittens and cats in a shelter situation would be feline herpesvirus due to the stress, and possibly a poor, cereal-based, diet. Please watch my video series called "Does Tommy Have FIP?" Part 3 deals with the differential diagnoses of FIP: <https://youtu.be/vhZimdsSt4s> and then in Parts 4 and 5, I go through what tests I deemed necessary to perform and finally his diagnosis and outcome. Very often one can use history and common sense to eliminate possible diagnoses.

In a shelter situation I think minimising stress is very important, and can be done cheaply, for example by placing cardboard boxes in pens for timid cats to hide in. Improving the quality of nutrition will also reduce infectious disease burden: I visited a shelter where all the cats got Applaws food every day and there was hardly any cat flu or diarrhoea.

Hi thanks for this opportunity. My cat (7 yrs old) has high level of titre at biogal tests 6++.
Hopefully she is not showing any clinical signs and blood levels are good (a:g=0.8)
As far as I know you suggest mutian pills for 7 days to prevent it to mutate to fip if titre test is high.
But does it risky in terms of treating any further mutations that might happen sometime?

Before treating your cat, do a faecal test to see if he or she is actually shedding virus: just because a cat has FCoV antibodies doesn't mean that he is actively infected- could be a past infection.

Please see my comments about mutations.

Because Mutian is oral, it goes to the site of viral replication, the gut, which completely eradicates FCoV, so far as I can tell (except from the brain in some cases) therefore it is far less risky than not clearing virus infection. Good question - thank you!

If we do not have any sign or there are even no symptoms would you recommend 7 days using pills as a preventive way

Please see my paper on this subject, it is open access: Addie DD, Curran S, Bellini F, Crowe B, Sheehan E, Ukrainchuk L, Decaro N. 2020a. Oral Mutian® X stopped faecal feline coronavirus shedding by naturally infected cats. Res. Vet. Sci. 130:222-229. doi: 10.1016/j.rvsc.2020.02.012.

I am gathering data, cannot yet prove that it prevents FIP, but over 40 infected cats have been treated in households totalling over 80 cats and there has been no FIP so far, so it would appear to act as a preventative of FIP, much as ivermectin in Peru, and hydroxychloroquine in malaria endemic countries, have prevented serious mortality to SARS-CoV2.

Vaccination questions

**To the shelter person who wrote about FIP prevention in the survey part of the webinar - please watch my YouTube film on the Felocell FIP vaccine:
<https://youtu.be/OdYSWIF2rX4>**

Is it advisable to vaccinate (core vac) for young cat that recover from FIP>?

Once the cat has fully recovered, and the weight has stabilised for many weeks, then yes, give core vaccines: feline panleukopenia, calicivirus and herpesvirus. Only give rabies or FeLV if the cat is at special risk for those viruses.

At what age is it appropriate to vaccinate a cat against FIP
what do you think about the vaccine

The earliest age the Felocell FIP vaccine is recommended is at 16 weeks.

Please watch my YouTube film on the Felocell FIP vaccine:
<https://youtu.be/OdYSWIF2rX4> - you'll see that I support its use.

Mutation questions

Why did you mention Re-infection?
Isn't FIP supposed to be in mutation
within an individual cat anymore?

I have to admit that I don't subscribe to the internal mutation theory. FCoV is an RNA virus - some strains are more virulent than others, just as with any other RNA viruses - and in most cats there is likely a quasispecies present (but not in carrier cats).

My belief is that it's virus load, plus the cat's general health / immune status, that determines whether or not he develops FIP, i.e. my view is holistic vs reductionist. The virus load theory accounts for FIP outbreaks and there is good evidence for it. I do plan to make a video about it so please subscribe to my Bitchute or YouTube channels. If you'd like to be kept informed of updates send an email to draddie[at]catvirus.com with Veterinary Newsletter in the subject. To watch my cartoon of FCoV transmission, see <http://www.youtube.com/watch?v=rkqUjeQNEQs> for the English version (it is also available in French).

I thought that FIP results from in-vivo mutation of Coronavirus, which would not be impacted by fecal PCR...or I am just confused/mis-informed.

Would reinfection with the virus lead to another virus mutation causing FIP in the same cat?

Will you explain the contagiousness of Corona vs FIP for household cats living with a cat diagnosed with FIP. I was taught that if a cat has its own Corona already unlikely to be infected with another strain

Could you tell me how the coronavirus in gut mutant to FIP?

Regarding FIP, I had 3 cats (one of my own) that developed FIP at the age of 8-9 years of age in one summer. All were orange/white cats. All died since this was before meds were available. One female, the other two males. How often are older cats seen with FIP? Is this something that they were carrying since they were young? In my case, the cats had not been exposed to any other cats and my other two cats that I had at the time, did not develop FIP.

That's a really sad tale. About 50% of cats with FIP are over 2 years old - Skywise was 5 years old when diagnosed. Do you remember Jasper in the webinar? He was 6 years old when FIP was diagnosed and I believe that was due to him having been a persistently infected cat.

We also see an upsurge of FIP in teenage cats, as their immunity wanes. My research showed that cats are most likely to develop FIP on their first exposure to FCoV, so if the cat meets it for the first time later in life then FIP can ensue.

Feline Infectious anaemia / Haemotropic mycoplasma infection

regenerative anemi (hemolytic anemi)and FIP how is the chance to go together ?

Do you associate any anti flea treatment to doxycycline in the treatment of feline infectious anemia?

In the case of Mycoplasma cortocids are part of treatment. But in FIP cats we can not use them?

How can we successfully treat mycoplasmas? My cat Max is 2 years post wet FIP. Doxycycline didnt work for mycoplasmas, but pills with natural chinese herbs showed great results as his coughing is almost gone. Maybe you can share more ideas in treating mycoplasmas. Thank you!

I believe that the reason we see more haemoplasmosis in FIP cases is due to the immunosuppression of FIP: remember Basil (in the webinar) was quite lymphopenic.

Yes, I DEFINITELY recommend flea treatment of all dogs and cats in the household if infectious anaemia is present (and to prevent it).

My personal favourite flea treatment for cats is Advocate, and Bravecto tablets for dogs. Fleas are a huge problem where I live.

Good point! Very low dose pred (1mg/cat/day) is often used in haemotropic Mycoplasmosis, but I haven't found it necessary in FIP cases. FIP treatment tends to take priority, since it's more lethal normally. If doxycycline isn't working, you could try pradofloxacin (see the webinar notes for details).

It might be worth trying pradofloxacin (10 mg/kg q24 hr per os for 2 weeks) for Max. Doxycycline needs to be used for a full month, but even then sometimes it doesn't clear the infection.

Also try Advocate spot-on to see if that helps his coughing. Well done you! Keeping wee Max alive despite all these health problems.

Questions relating to the webinar itself: access to the webinar recording and script / notes

Will Mutian be discussed here today?	Yes
Do we get a script of this session?	Yes
Could we have a chance to access this presentation? Thank you.	Yes, it can be found here: https://www.biogal.com/products/immunocomb/treating-feline-infectious-peritonitis/?utm_source=Biogal&utm_campaign=49acfe44dc-treating_fip_addie_recording_2021_02_23_08_02&utm_medium=email&utm_term=0_001597654e-49acfe44dc-1320483934 ... and also on the Biogal YouTube channel.
Any chance to get a link to this webinar at the end so I can rewatch? thank you! Please,send us recorded webinar after	
Will slides and a transcript of the lecture be available after this CE ?	Yes
It will be great that we have chance to access this great webinar later. Thank you for this valuable work!	Thank you for giving your valuable time to attend.
Will there be a transcript of this seminar??	Yes - Biogal will let you know how to obtain it
Will we be able to share the link with other veterinarians of this recording? I am a member of many Facebook pages for veterinarians only and this is a great lecture. I am learning a lot that I did not learn at school and I believe it would be a great benefit to many veterinarians.	Wow! Thank you for such a positive comment! I would love if you would also share my www.catvirus.com website with other veterinarians please. I think it will be possible to share the link to the webinar: I'll check with Biogal. Yes: the link can be shared - it was sent to your email address.
Thank u congratulations Dr Diane from Cordoba Mexico MVZDr miguel. angel lopez jimenez Vilnius Lithuania	Thank YOU! THANK YOU DR JIMENEZ!

You rock :)

Hi, thank you all for your presentation. Since I've been a little late to the webinar just because of my connection issues, I'll appreciate if you can send me the link that you mentioned in your answers. Thanks

So do you.

Glad you got onto the webinar in the end! Biogal will send you the link.

thanks for the seminar
thank you both very much

Dr Addie has a great video on her website re cat litter to ensure that FCOV infection to multi cats is limited in multi cat house holds. In addition I used Silicone cat litter and this has also limited it

Thank you for giving your valuable time to attend.

Thank you Johanna. The cat litter film can be found here:
<https://youtu.be/eEkOFXh8Xd4>