

Happy Holidays!



This December We Decorate the Halls with...

Urine Gold

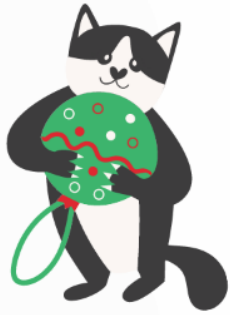


Dr. Scott Weese - Shining Star

Miracles on FIP Street?



True North Lab News





Urine is Gold. It is Urin-animous!

Many results on a biochemistry panel need a urine for more information.

- Elevated Urea/Creatinine and Phosphorus needs to be paired with a USG to determine pre-renal versus renal causes. Post renal is determined based on history, physical examination +/- imaging diagnostics.
- Older dog with an elevated ALP? A urine specific gravity over 1.035 makes Hyperadrenocorticism far less likely.
- Could this hyperglycemia be stress? A negative urine glucose confirms stress in patients not receiving insulin.
- Could this hypercalcemia be real? Finding dilute urine in a dog will increase the concern. Finding high numbers of calcium oxalate or calcium phosphate crystals also increases the clinical concern.
- Low albumin discovered? Proteinuria needs to be ruled out.
- Elevated cholesterol higher than expected for post prandial? Proteinuria associated with protein losing nephropathy is also associated with hypercholesterolemia
- Persistent hypokalemia in a cat? Finding proteinuria and casts will increase the concern for hypertension and possible hyperaldosteronism.
- Hypoglycemia present? Positive ketones would be consistent with a negative energy balance and suggest the hypoglycemia is real.
- All hyper or hyponatremia cases need to be assessed in relation to patient volume status. A urine analysis is key.
- Elevated liver enzymes ? Urate crystals are supportive of liver dysfunction



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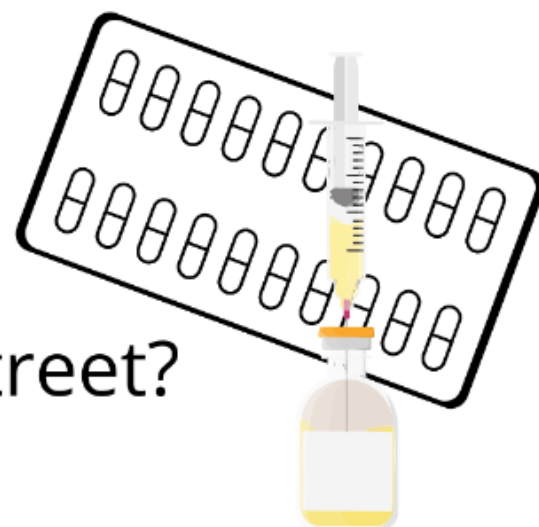
I cannot help but provide yet another link to the Worms and Germs blog. I would likely include it in every newsletter if I could! But first, I would like to congratulate Dr. Scott Weese as he has been inducted as a Fellow with the Canadian Academy of Health Sciences (CAHS). Dr. Weese has been an amazing leader throughout his career and especially this past year. Sincere congratulations from all of us at True North.

The links in this case are a double whammy! The first link below provides an indispensable amount of concise and practical information when it comes to COVID-19 for any veterinarian in practice. Secondly, I am very excited to see the launch of a project that helps veterinarians quickly flag diseases of concern when it comes to imported pets. We have seen pets from Mexico, Korea, Hungary, and Taiwan amongst others, come across our desks this year.

How about you?

COVID Review: Cats, Dogs, Horses, Cows, Ferrets, and Birds

Your Puppy came from Where???



Miracle on FIP Street? Yes and No

Feline infectious peritonitis (FIP) is a devastating illness. The obstacles we face begin with the challenge of making a definitive diagnosis. No single test will diagnose FIP on its own. Serology does not equate to a slam dunk diagnosis and only indicates exposure to coronavirus (not specific to mutated coronavirus). Multi-cat households often have positive coronavirus titers but this does not mean they will develop FIP. Clinical cases often have a very high titer, but one cannot rule out the disease 100% even with a negative titer in an ill cat.

The exact nature of coronavirus mutations causing FIP in cats is not known and a single consistent mutation responsible for all cases does not exist.

Antemortem Diagnosis of FIP is a Challenge

Uveitis, elevated serum globulins, low albumin, mild bilirubin elevation, waxing and waning fever and a viscous, non septic exudate abdominal effusion in a young purebred cat are reasons for confidence in putting FIP at the top of our differential list. Obtaining abdominal effusion is an easy minimally invasive procedure. Several investigative tests on this effusion include fluid analysis, cytology, the Rivalta test, RT-PCR testing or immunostaining staining for coronavirus within macrophages to help support a diagnosis. Unfortunately, not all cases present with effusions. Immunological staining of viral antigen within tissue lesions **remains the gold standard** for diagnosing FIP.

Harvesting tissue samples is more invasive and requires either ultrasound guided or surgically obtained tissues. Finding pyogranulomatous inflammation or vasculitis warrants add on immunostaining. In a suspect case without effusion, and when only fine needle aspirate samples are available for further testing, PCR should be considered. Ultrasound guided FNA samples of multiple tissues, such as spleen, liver, mesenteric lymph node along with aqueous humor and CSF may be utilized for PCR testing.

The Yes and No Explained.



Yes, there are new treatments on the distant horizon. Two research drugs, GC376 and GS-441524 , which demonstrate the best efficacy to date. This is the miracle on FIP street.

We are seeing clinicopathological resolutions that are downright staggering compared to historical options. The downside is these are street drugs. It is illegal for veterinarians to prescribe them as they are black market, unregulated and unapproved drugs at this time. One should also note, ocular or CNS disease remains tougher to treat. Owners will quickly determine from the internet and Facebook support groups which expensive injectable (and oral) options are available to them. A comprehensive yet practical veterinary review of therapy and links to the studies are available at the UC Davis website, (see below).

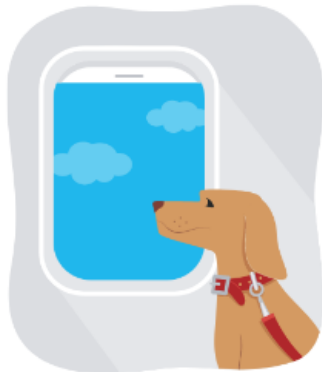
We can always be reached for case discussion on those challenging cases.

Open Access References

- Felten, Sandra, and Katrin Hartmann. "Diagnosis of Feline Infectious Peritonitis: A Review of the Current Literature." *Viruses* vol. 11,11 1068. 15 Nov. 2019, doi:10.3390/v11111068
- Emmler L, Felten S, Matiasek K, Balzer HJ, Pantchev N, Leutenegger C, Hartmann K. Feline coronavirus with and without spike gene mutations detected by real-time RT-PCRs in cats with feline infectious peritonitis. *J Feline Med Surg.* 2020 Aug;22(8):791-799. doi: 10.1177/1098612X19886671. Epub 2019 Nov 15. PMID: 31729897; PMCID: PMC7206566.

Lab News

RABIES AND LEPTOSPIROSIS



Kansas State University has resumed offering STAT service on Rabies FAVN (Test S665). There remains a back log of cases, therefore turn around time is 10-14 days.



A note to remember. Confirmed or working cases of Leptospirosis should be reported to the Provincial Health Veterinarian, Dr. Brian Radke.
Phone 604-556-3066; 1-877-877-2474.



We would like to take this time to wish you a wonderful holiday season. Sincere wishes for a healthy and happy 2021.





Christmas & New Year's Holiday Hours



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