

Paws claws and udder things

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Welcome to the latest edition of *Paws, Claws and Udder Things*, which this month includes a broad mix of articles for both companion and production animal practitioners. Some of you will be aware that earlier this month Gribbles Veterinary completed the sale of part of its Australian operations to IDEXX, specifically our interests in NSW (including ACT) and QLD. This was a strategic divestment which will allow us to focus our efforts on our highly successful VIC and SA businesses; it will in no way impact our long term strategy for our New Zealand operations to which we remain fully committed. As always, if you have any concerns or questions about this or anything else, please do not hesitate to contact me.

Kevin Darling
Group General Manager, Australasia
kevin.darling@gribbles.co.nz



Acute toxoplasmosis a significant health risk for humans

Given the exposure risk faced by practicing veterinarians, we thought that the following article, reproduced courtesy of Rural News, might be of interest:

It's not just sheep and pregnant women that are at risk from the cat-borne parasite Toxoplasma gondii: the resulting disease, toxoplasmosis, may be a much more severe and disabling in the wider population than previously understood, say researchers at University of Auckland.

The disease begins with an acute phase lasting typically for six to eight weeks. It continues as a chronic infection, normally without obvious symptoms, that cannot be cured and lasts for life.

"While chronic toxoplasmosis has been shown to have a strong association with condi-

tions affecting the brain such as schizophrenia, and with suicide and self-harming behaviour, the disease in its acute phase has usually been seen as a benign, trivial and self-healing illness," says Associate Professor Mark Thomas from the university's Department of Molecular Medicine and Pathology.

His comments follow a questionnaire study completed by 31 adults diagnosed with acute toxoplasmosis by GPs in Auckland in 2011.

"We were surprised, when the results came in, to discover how common it was for patients to report significant and prolonged symptoms such as impaired memory and concentration, headaches and extreme fatigue."

Thomas told Rural News the study did not determine wheth-

er respondents were rural or urban residents.

"We did ask about cat contact (16/31 respondents) and about gardening with bare hands at least once a week (4/31 respondents)."

While there are probably many reasons for higher rates of suicide and depression in rural populations, Thomas says he couldn't rule out toxoplasmosis as having some effects.

The few studies of chronic toxoplasmosis incidence in New Zealand hint at increased incidence in rural areas: 60 out of 140 blood donors (43%) tested positive in Waikato in 2005; 163 out of 500 (33%) pregnant women in Auckland in 2004; 340 out of 566 (60%) pregnant women in Hamilton in 1982.

"Perhaps the Waikato and Hamilton samples had higher

rates than the Auckland sample because of more rural people in these samples," Thomas suggests.

Studies of laboratory animals with toxoplasmosis show that the organism releases dopamine – an important brain messenger molecule. Thomas suspects some human effects of acute and chronic toxoplasmosis may be due to excessive amounts of this.

Andrew Swallow
Rural News

The study referred to in this article, published in the Scandinavian Journal of Infectious Diseases, is co-authored by Dr Arlo Upton, a microbiologist working for Gribbles Veterinary's sister company, Lab-tests Auckland.



Toxic diseases and histology of the liver

We frequently receive requests for histopathology of the liver to check for evidence of poisoning. While the liver is a common site of detoxification of a wide range of chemicals and toxins, it is not always injured in poisonings.

Many rapid acting toxins produce no histologic lesions; examples include cyanide, nitrate, organophosphates, and some bacterial toxins (e.g. botulinum, tetanus and epsilon toxins).

Furthermore, although the liver detoxifies many agents, it is not necessarily the target organ for injury. For example, nitrate targets RBCs; organophosphates, botulinum toxin and tetanus toxin target the nervous system; monensin targets

the heart and skeletal muscles; aminoglycosides target the kidney. So, while some toxins target the liver (e.g. pyrrolizidine alkaloids, aflatoxin, and microcystin from blue-green algae), it is important to note that many do not (in which case there will be no liver lesions).

While some toxins cause distinctive histologic lesions, the laboratory diagnosis of many other poisonings relies on detecting the toxin itself. In order to do this, the laboratory must know what to analyse for.

If you suspect a particular toxin, contact your local Gribbles Veterinary laboratory and ask what samples are required to make a diagnosis. Alternatively, at a minimum collect fresh liver, kidney, fat, stomach/ rumi-

nal contents and suspect feed material for possible toxicological analysis. In addition, always collect a wide range of tissues in formalin for histopathology, including brain in cases with neurological signs or sudden death. The absence of histologic lesions may help support a presumptive diagnosis of poisoning due to a rapidly acting toxin.

Finally, the diagnosis of some poisonings relies on circumstantial evidence. Nitrate poisoning is a classic example: nitrate may be detectable if the laboratory promptly receives samples from freshly dead animals, but more often the diagnosis is based on a history of sudden death on high nitrate pasture, combined with a lack of histologic lesions in a range of tissues.



Hungarian Vizsla polymyositis

A breed-specific polymyositis has been identified in Hungarian Vizslas. Clinical signs include ptalism, dysphagia, temporalis and masseter muscle atrophy, increase in serum CK and megaesophageus. Occasionally, generalized muscle wasting and exercise intolerance may be noted. Age of onset may vary from several months to several years of age. Diagnosis is made by exclusion of other disease processes (i.e. myasthenia gravis, masticatory myositis, infectious aetiologies) and histological confirmation of myositis. Most case reports are from the United Kingdom, although recent cases have been identified in the United States and Australia. Recently, two cases of this

disorder have been identified in the Auckland area.

A researcher in the UK, Diane Addicott, is interested in obtaining genetic material from affected Hungarian Vizslas in New Zealand. She is currently attempting to localize the genetic abnormality that leads to this breed-specific disorder in hopes that a screening test may one day be made available. If you have a suspect case and would like to contribute genetic material toward this endeavour, please contact Laura Brandt at our Auckland laboratory:

laura.brandt@gribbles.co.nz

At your request, a genetic kit can be couriered to you

for use, returned to Gribbles Veterinary and shipped back to the UK at no cost to you or your client. You may also contact Diane directly via email:

di.addicott@googlemail.com

For further information on this disease, consider a trip to this helpful website:

http://www.veterinary-neurologist.co.uk/Vizsla_Polymyositis

Laura Brandt



Changes to hairy shaker disease testing

Advances in molecular diagnostic technologies have enabled the development of a highly specific and sensitive quantitative real time polymerase chain reaction (qPCR) test for hairy shaker disease (HSD). This HSD qPCR has been very successfully used over the past few years to diagnose HSD in sheep flocks; the test has revealed HSD as a cause of ovine abortion and has shown that HSD infections are more widespread than previously thought. Recently, the test identified the first case of HSD virus infection in a bull in New Zealand¹.

The HSD antigen ELISA has subsequently been withdrawn from use and only PCR testing is now available. Preferred samples are serum from adult sheep and lambs, and heart blood or fetal fluids from an aborted fetus. It is important to note, however, that the qPCR test results cannot be used for export certification purposes.

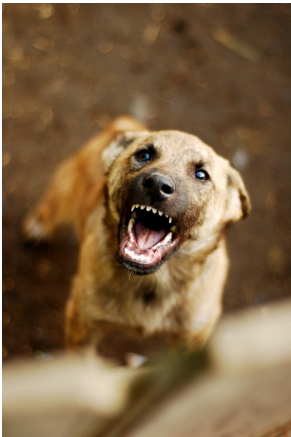
The price of the qPCR for an individual serum is \$50.12 (excl. GST), but sera from up to five animals can

be pooled and tested for the same price (\$50.12 excl. GST), with a result for each individual in a positive pool provided.

David Tisdall

Reference

1. McFadden AM, Tisdall DJ, FI Hill, P Otterson, D Pulford, J Peake, CJ Finnegan, SA La Rocca, T Kok-Mun & AM, Weir (2012) Bull Persistently infected with Border disease virus in New Zealand. *New Zealand Veterinary Journal*, DOI:10.1080/00480169.2075568



District court judge orders dog destroyed after a two year legal battle costing \$76,000

In last month's issue of *Paws, Claws and Udder Things* we introduced Gribbles Veterinary's animal forensic testing service; a real life example of the application of this service was provided the following week on the front page of the Waikato Times newspaper - read the full story [here](#).

Jimbo, an American Staffordshire terrier accused of killing pet rabbits and attacking another dog while being held at the Tokoroa pound, has finally been ordered to be euthanased after a protracted two year court battle, costing Waikato taxpayers \$76,000. In his summing up, the judge commented that "the most damning witness evidence came from the rabbit owners, who positively identified Jimbo as the dog who attacked their pets... I have no reason to disbelieve their

evidence..."

Unfortunately, at the time of the original attack on the pet rabbits, animal forensic testing was not available in New Zealand; had it been, the case would have undoubtedly been concluded much sooner and without the significant drain on public funds. DNA samples collected from the attack scene and from Jimbo would have quickly and conclusively proven whether or not Jimbo was 'guilty' without the need for a series of time consuming and expensive legal challenges.

If you are presented with an attacked pet (or livestock) and an owner seeking justice, you can do something proactive to help by having a staff member trained in sample collection and by becoming a certified animal forensic sampling clinic.

An online Animal Forensics Course is now available [here](#) (use Promo Code 'New Zealand') and, upon successful completion, participants receive a certificate and a free dog attack DNA kit (valued at \$40.00) containing everything required for taking canine DNA samples and for collecting forensic evidence at the scene of an attack.

For further information about this range of services, please contact your local Gribbles Veterinary laboratory or your business development manager.

What's up Doc?

In the January issue of *Paws, Claws and Udder Things* we asked practitioners to make a diagnosis on a 4 year old bull terrier that presented with chronic rhinitis with some depigmentation of the nares. The correct diagnosis was:

The morphology of the fungi seen in these samples is most consistent with *Aspergillus fumigatus*, although fungal culture would be required to determine the exact species involved. Nasal fungal infections of dogs can be primary or secondary to another underlying disease (e.g. neoplasia.) If the clinical signs and findings from other tests (e.g. radiography) support primary aspergillosis then treatment for this is appropriate.

Congratulations to Feargus McConnell from VetFocus Te Awamutu who wins a bottle of wine courtesy of Gribbles Veterinary.



Rumen - a neglected post mortem sample

When investigating unexpected deaths in ruminants and undertaking post mortems, consider routinely collecting a piece of ventral rumen for histopathology. Why? Supportive lesions and pustules here can indicate ruminal acidosis. Recently, pustular ruminitis was seen in lambs dying while being fed maize, and cows on concentrates can also succumb. Make your sample set ventral rumen, abomasum, small intestine, large intestine and any lesions, along with your usual full range of tissues.

Fraser Hill

Contact us

Contacting Gribbles Veterinary couldn't be easier:

auckland.vetlab@gribbles.co.nz
hamilton.vetlab@gribbles.co.nz
palmerston.vetlab@gribbles.co.nz
christchurch.vetlab@gribbles.co.nz
dunedin.vetlab@gribbles.co.nz



Alternatively, you can contact us using our Free Phone number (0800 474 225) or by using the online enquiry service, available through the Gribbles Veterinary website:
www.gribblesvets.co.nz

Last but not least, please feel free to contact your local Business Development Manager:

Janine Maultsaid (North Island) - 027 476 7714
Jack Gillman (South Island) - 027 476 7713

Breaking news

- The canine relaxin pregnancy test has previously been performed using an ELISA test which required the use of heparinised plasma. We are now changing to a different methodology (Rapid Immunomigration) for which serum is the preferred sample-type (0.5ml).
- Due to the unavailability of purified specific antigen, the Mortierella ELISA test has been withdrawn. For abortion investigation, fresh and fixed tissues including placenta, should be submitted for culture and histology.
- Since 1999, our Hamilton laboratory has utilized the chemiluminescent method by Immulite for measuring B12 levels in serum and liver samples. While the levels for liver samples from all species and ovine serum samples have been similar to the levels obtained by the radioimmunoassay employed by the remainder of the Gribbles Veterinary network, the results for bovine sera have on average been 40% lower – reflected in a lower reference range reported via Hamilton's former computer system. Recently, we had major issues with the reliability of supply of the Vitamin B12 kits for the Immulite, which created significant delays and frustration to all concerned. With the integration of our Hamilton laboratory on to the Gribbles Veterinary network computer system, and in order to have consistency of test service and reference ranges between our laboratories, it has been decided to revert back to the RIA method with immediate effect.
- Gribbles Veterinary is proudly sponsoring Richard Malik, an internationally regarded, high quality speaker well known in multiple fields of companion animal medicine, who will visit New Zealand in May 2013. Unfortunately, Richard's time is extremely limited and so will only be available in Wellington (Tuesday 21 May) and Auckland (Wednesday 22 May). More details to follow in due course.