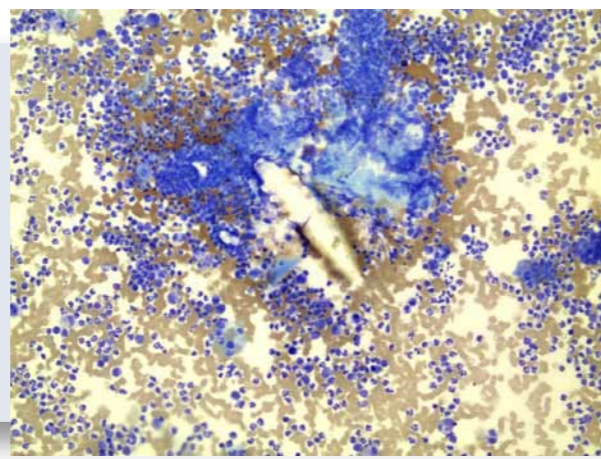


## WHAT'S YOUR DIAGNOSIS? ANSWER - DEMODECOSIS

Demodex mites often appear as non-staining areas on the Diff-Quik stained smears and are recognised by shape alone at low power. On the higher power more detail of the mites (legs etc) can be seen. There were large numbers of mites on the smears from the blood blisters on the pads and low numbers of mites on the scrapings from the lesions on the back and axilla.

Thanks to Dr Vicky Armstrong Vetlife Oamaru for this case.



## ENTEROCOCCAL INFECTIONS

Enterococci are bacteria that were unheard of a few years ago because they were initially classified as Group D Streptococci, a group with which they have similarities but also a few differences. They are lowly pathogenic bacteria living benignly in the gastrointestinal tract of mammals and birds. However, occasionally they have been associated with diarrhoea in neonates of several species and there are rare reports of gastrointestinal infections in adult dogs and cats.

Most enterococcal infections in animals are reported in the urinary tract of cats and dogs but positive cultures have been reported from wounds, abscesses, ears, meibomian glands and blood in various species of animals. Infections often occur in patients receiving antibiotics which compromise normal bacterial flora and allow proliferation of enterococcal organisms. Serious cases are rare but when present commonly involve implants such as urinary catheters or orthopaedic hardware.

Enterococci are resilient organisms that are able to survive over a wide range of temperatures (10-45°C) for long periods of time. Treatment of enterococcal infections can be difficult because they are inherently resistant to a number of antibiotics including a low level resistance to penicillins, cephalosporins, aminoglycosides,

fluoroquinolones, trimethoprim-sulpha and clindamycin and they can readily develop acquired resistance to other antibiotics. They are usually treated with a combination of amino glycosides and penicillins but new agents are being investigated for management of resistant strains.

Having said that, some infections do not need to be treated because the organism is simply colonising not infecting a site. Managing the underlying problem and/or removing implants and catheters may be sufficient to reduce bacterial numbers. Withdrawing (for those on therapy) or withholding antibiotics can be considered but only if Enterococci are cultured in asymptomatic animals as sometimes seen in urine cultures after a period of antibiotic therapy.

Sandra Forsyth



## FRUCTOSAMINE

In a recent paper<sup>1</sup> published in Veterinary Clinical Pathology male cats were found to have significantly higher fructosamine concentrations than female cats (279.9 +/- 42.6 and 249.0 +/- 36.0 umol/l, respectively). This difference was still significant when adjusted for body weight, body condition score and age. Lean cats, body weight < 4 kg, were found to have a statistically lower fructosamine level (240.5 +/- 31.7 umol/l) than heavier cats. Age was not significant.

<sup>1</sup> Gilor et al (2010) The effects of body weight, body condition score, sex, and age on serum fructosamine concentrations in clinically healthy cats. Vet Clin Pathol 39/3: 322-328.

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# SYNAPSE

FEBRUARY 2011

.....making connections

ISSUE 43



## NEW YEAR, NEW LOOK for Biochemistry Panels At NZVP

With 2011 upon us NZVP has decided to start the New Year with some enhancements to a range of our biochemistry panels. We believe these panel enhancements will add diagnostic value and cost savings for both large and small animal veterinarians.

### CANINE SICK ANIMAL PANEL

As of March 2011 lipase will be added to all sick canine panels at no extra cost.\*

Traditionally sick canine panels have included amylase as the biomarker for pancreatitis and lipase has been used as an add-on test. Lipase does have a higher specificity for diagnosing pancreatitis than amylase but with both tests there are significant numbers of false negatives. The sensitivity of lipase is reported to be 55% and for amylase, 62%. For those cases where the amylase and lipase are low but the clinical signs still suggest pancreatitis the pancreas-specific lipase (Spec cPL/SNAP cPL) needs to be used as the sensitivity for this test is 82% and specificity is 95%.

\*By adding lipase to the traditional canine sick panel the overall diagnostic value of the panel is increased at no extra cost.



### RUMINANT SICK ANIMAL PANEL

As of March 2011 all ruminant sick panels will include serum haptoglobin at no extra charge\*.

Serum haptoglobin measurement has proven to be a very valuable diagnostic tool in assessing the cause of important ruminant disease. Haptoglobin is a major acute phase protein and is elevated in cases of inflammation, infection and trauma. Its main value is that it is increased within hours of a systemic inflammatory stimulus compared with fibrinogen which can take days. The addition of this test adds an extra diagnostic tool for managing acute inflammatory diseases such as pneumonia, mastitis, enteritis, peritonitis and retained placenta/endometritis.

\*NZVP is pleased to offer serum haptoglobin at no extra charge when included in a sick ruminant panel for a three month period. When ordered as a stand alone test or in addition to another panel the cost per test is [redacted].

### EQUINE CHEMISTRY PANELS

As of March 2011 the cost of blood selenium analysis will only be [redacted] when ordered with an equine fitness panel or equine sick animal panel\*.

The measurement of whole blood selenium in all breeds of horses is very important to assess an animal's selenium status. Selenium deficiency has been associated with a number of muscle-related problems including white muscle disease in foals and "tying up". Conversely over supplementation of selenium can lead to both acute and chronic toxicity.

\*NZVP is pleased to offer whole blood selenium analysis at [redacted] for a 12 month period when ordered with an equine fitness panel or equine sick panel.





Casper was my cat. Our family of four had three cats but Casper was mine. He was the blokes, hunting cat that reminded me of Horse from Footrot Flats. Whenever he did seek human company "Dad" was

who he looked for and he was particularly partial to that feline favourite of a good neck scratch. As he was a bloke's cat, the more vigorous the better and you didn't have to talk to him while you were doing it.

His hunting feats were legendary within our family. Our Palmerston North home was within hunting distance of the Manawatu River. I was away one time when the largest water rat seen by my wife, Sarah, was deposited under our daughter's bed. Sarah was brought up on a farm and has handled many dead animals but the neighbour was summoned to get rid of this one. Her relief was that he also blanched upon first sighting of this corpse.

The cat door was in no way big enough for him to get the hare through! We found this victim laid out in front of the door and I swear it was of equal body size to Casper.

We now live on a lifestyle block just out of Hamilton and this place was just heaven for Casper. Two prunings from the poplar trees are still in the paddock four years after the first cut in a pile that promises a spectacular bonfire should I ever be allowed to light it. This pile is the Hamilton Hilton for an ever increasing rabbit population that was only kept in some sort of check through Casper's total dedication to pest control. The variations of his presentation of these trophies ran the whole gambit of live catches that we released to be seen another day, through headless carcasses to an amazing ability to leave

nothing but a perfectly intact pelt behind. Perhaps the most impressive catch of his career was when he nailed one of the mustelid family. I remain unsure of the differentiation between stoats, ferrets and weasels but I saw enough of this battle to know Casper was at the top of his game that day.

One recent Sunday evening Casper became very lethargic and stiff in his movements. We woke several times that night to syringe water into him and rushed him to our vet first thing on Monday morning. Casper died in Sarah's arms at the clinic just after lunch that day. It is most likely he succumbed to an unusual and unlucky fate by way of a clostridial infection. He had some bite marks around his back end and there was a gas gangrene type thing going on there as well as neurological symptoms that one does associate with clostridial toxins.

As my colleagues in chemistry, haematology in combination with our pathologists processed the blood samples the animal and human stories of the work we do really came home to me. It is too easy for me to consider our efforts purely in terms of numbers on financial statements. Casper served to remind all of us at NZVP of the lives we touch every day and how important it is that we never lose sight of this. We take this responsibility very seriously and it is why we must always strive to do the very best work we can. One tangible change in our systems came about as a result of Casper. There was an initial delay in the processing of his samples as our normal QA samples were run as they always are on Monday mornings when we normally don't get samples until later than other days. We have now streamlined that process to be up and running significantly earlier.

Finally I would like to make a special thanks to Rebecca Brown and all those at The Pet Practice who tried so hard for Casper and showed our family tremendous compassion.

 **Richard Campbell**

## VETERINARY REFRACTOMETERS

At the recent VetLearn/Hills Urology symposium with Dr Jody Lulich from the Minnesota Urology Lab there was discussion about the need to use veterinary refractometers to get an accurate urine SG especially for cats. The Reichert Vet 360 Rhino refractometer is available in New Zealand from Bio-Strategy. Their phone number is 0800 342 466. The cost (Jan 2011) is around [REDACTED]. The freight charge changes with how many are in the order from the USA. They can take 6-8 weeks to get here.

**Jenni Donald**

## LIVERS FROM CULL COWS AS A MEANS OF ASSESSING THE COPPER STATUS OF THE HERD – WORTHWHILE OR NOT?

A recent study (Grace et al. 2010) compared the usefulness of measuring concentrations of copper in samples of liver sourced from biopsies and cull cows from the same herds.

Ten herds were selected within the Waikato. From each herd twelve healthy lactating cows were biopsied in the autumn of 2009. During the same period, as cows were culled from each herd, twelve livers were collected at slaughter.

The concentrations of copper in the livers from the cull cows tended to be less than those from those cows biopsied and the difference was statistically significant in two of the herds.

However, further statistical comparison of the distribution of copper concentrations obtained by the two methods showed them to be similar indicating that either method would be useful for categorising a herd's copper status.

Some emphasis was also given to sample size. On farms considered copper replete, because of the wide variation in liver copper concentrations, it was recommended that at least twelve cows per herd should be sampled. In contrast, herds considered copper deficient would only require four or five cows to be sampled.

However, determining the herd copper status is frequently the purpose of sampling. On this basis collecting an insufficient number of samples could

render the exercise pointless and/or lead to inappropriate decision making.

### The Study Conclusions:

"Use of either biopsy samples or livers from cull cows were indicative of the copper status of the herd"

"Wide variation in observed concentrations of copper in liver indicated that at least twelve cows per herd should be sampled"

"The copper status of dairy herds should be determined, and monitored, before making any recommendations regarding supplementation"

### Reference:

Grace ND, Knowles SO, Hittmann AR. High and variable copper status identified among dairy herds in the Waikato region by concentrations of Cu in liver sourced from biopsies and cull cows. New Zealand Veterinary Journal 58(3), 130-136, 2010

**Angus Black**



## WHAT'S YOUR DIAGNOSIS?

An 18-month-old Staffie presented with alopecic areas on the back, pustules in axilla and a severe pododermatitis with blood blisters. The photo is from the FNA smear from the pad lesion.

See back page for diagnosis...

