

**Vetpath** is a specialist veterinary laboratory dedicated to providing our clients with the finest laboratory diagnostic service. A team of veterinary pathologists and medical scientists with extensive experience in veterinary diagnostic pathology forms the core of the Vetpath team.

# VN News

**OCTOBER 2014**

## Changes in reporting of resistant bacteria

Multi-drug resistant bacterial infections are becoming an increasingly common problem in veterinary medicine.

For the last couple of years, Vetpath has been reporting intrinsic resistance of bacteria to some antibiotics (designated X on the sensitivity panel). This helps clinicians choose the appropriate antibiotics for each isolated organism.

*Pseudomonas aeruginosa* is intrinsically resistant to a number of antibiotics including ampicillin, amoxicillin-clavulonic acid, cephalosporins, tetracycline, chloramphenicol and trimethoprim-sulpha drugs.

The gram negative sensitivity panel used at Vetpath contains these antibiotics and therefore there is a large proportion of the panel that will be ineffective against *Pseudomonas aeruginosa*.

Vetpath will now automatically proceed to the resistant *Pseudomonas* panel. This will provide a wider range of antibiotics *Pseudomonas aeruginosa* is not intrinsically resistant to. In ear cultures, the chloramphenicol and clavulox sensitivities will be replaced by ciprofloxacin and ticarcillin sensitivities. In other locations, the resistant pseudomonas sensitivity set will be used if a *Pseudomonas aeruginosa* is isolated. This set consists of amakacin, carbenicillin, ceftazidime, ciprofloxacin, enrofloxacin, marbofloxacin, norfloxacin and ticarcillin.

Vetpath has also recently been reporting intermediate susceptibility (I), indicating the bacterial isolate is neither susceptible nor resistant to the drug. In these cases, Vetpath recommends MIC testing

(Minimum Inhibitory Concentration) if this antibiotic is clinically considered the treatment of choice.

The MIC is the lowest concentration of an antimicrobial required to inhibit the growth of a microorganism. This concentration can be compared against clinically established susceptible, intermediate and resistant breakpoints. The insert information accompanying most veterinary antimicrobials provide information on serum concentrations achieved following the recommended dose.

Please contact the laboratory if you have any questions regarding culture and sensitivity testing at Vetpath.



## Canine pancreatic lipase in Cushingoid dogs

Hyperadrenocorticism (HAC) and pancreatitis are common conditions in dogs that can occur concurrently.

Many of the clinicopathologic findings of HAC can also occur secondary to pancreatitis including neutrophilia, lymphopaenia, increased liver enzyme activities, hyperglycaemia and hypercholesterolaemia. Some pancreatic biomarkers are also affected by excess glucocorticoids and this complicates the diagnosis of pancreatitis further.

The canine pancreatic-specific lipase (CPLi) assay is considered the most specific test available for canine pancreatitis. CPLi can be estimated with a point-of-care SNAP test or measured with a quantitative ELISA test (Spec) with good correlation between the two methodologies. There has been minimal information in the literature about how HAC affects CPLi, and a recent study published in JVIM compared the Spec and SNAP CPLi in clinically healthy dogs and hyperadrenocorticoid dogs.

Twenty healthy dogs and twenty hyperadrenocorticoid dogs were selected for the study. The control dogs had normal

biochemistry panels and ACTH stimulation test results.

Spec CPLi test concentrations were significantly higher in dogs with HAC compared to healthy dogs. There were also more positive SNAP CPLi test results in dogs with HAC (55%) compared with healthy dogs (6%). The specificity of the SPEC and SNAP assays in dogs with HAC without clinical signs of pancreatitis were 65% and 45%, respectively.

The study concluded that SNAP and SPEC CPLi concentrations should be interpreted with caution in hyperadrenocorticoid dogs to avoid false positive diagnosis of concurrent pancreatitis.

**Reference:** Mawby DI. Canine Pancreatic-specific lipase concentrations in clinically healthy dogs and dogs with naturally occurring hyperadrenocorticism. JVIM 2914; 28: 1244-1250.

## Canine thyroid panel

The canine thyroid panel offered at Vetpath is a cost-effective method of assessing thyroid function in dogs and includes a CBC, cholesterol, total and free T4 and TSH concentrations. The panel is used for **diagnosis** of hypothyroidism, not for monitoring of treatment. **Monitoring** thyroxine therapy requires only total T4 to be checked immediately before or 4 – 6 hours after dosing for the trough and peak concentrations, respectively.

## Tips for haematology samples

Following a few basic procedures can improve the accuracy of haematology results.

- **EDTA/purple top** tubes are the preferred sample for CBC.
- Lithium heparin samples can cause inaccuracies in total and differential cell counts.
- Fill the EDTA tube to the appropriate level – under filling can affect RBC morphology.
- Small samples should be submitted in paediatric tubes.
- Keep the sample refrigerated until submission.
- Try to submit a freshly made smear to preserve cell morphology.
- Filling the blue top citrate tube to the line is essential for accurate PT and PTT results
- Submit **citrate and EDTA** samples for a full coagulation screen.



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