BattLab Quality Veterinary Diagnostics from disease to optimal health

Newsletter 01/2019

We are pleased to welcome you to the monthly BattLab newsletter. This newsletter will bring you the latest news and information about our laboratory and all tests that we can offer to all our clients.

Since BattLab became part of the Laboklin family in 2015 we have been in the favourable position of still being able to operate as an independent business but with the added benefit of support from a much larger organisation. As a result of this, we have expanded, **doubling the size of the laboratory** and greatly **increased the spectrum of tests offered**.

In mid-2018 we began the next stage of expansion and began to offer to offer **our free national courier service**. This new service means we can now offer guaranteed next day delivery to the lab and ensure everyone can benefit from our quick turnaround times! The existing Royal mail free post label delivery option remains in place.

We pride ourselves on giving the **best personal service possible** and there is always someone available to help with any queries you may have. Our clinical pathologists are available to discuss results, difficult cases and the possible avenues of diagnostics available to vets.

Below is a quote from one of our long-standing clients regarding the service and support we have been able to provide to her business over the years.

"We have built up a relationship with the BattLab team over the years and have picked their brains many times! The improved accuracy of their results, compared to those of a small in-house machine, is unquestionable. However, we particularly like the personal friendly touch that we get from Battlab, and the fact that we can speak to a person there easily, without sitting on hold for hours. On occasion, Battlab have even phoned and personally alerted us to a result that really concerned them, which has meant we have been able to get that pet in to re-check it or start it on potentially life-saving treatment at the earliest possible opportunity. That impressed us."

- Elly Pittaway (2017)

If there is anything we can help you with or you would like to book a courier please contact us via email admin@battlab.com or call 02476 323 275

RODENTICIDE TOXICOSIS: FAQs

What is the treatment of choice for rodenticide toxicity and why?
Vitamin K is considered to be the treatment of choice for rodenticide toxicity. Anticoagulant rodenticides interfere with the vitamin K-dependent carboxylation of certain coagulation factors (FI, FII, FVII, FIX FX) by inhibiting the enzyme necessary for reducing vitamin K, causing a depletion of the body stores of vitamin K. This does not allow prothrombin to be converted into thrombin, interfering with the coagulation cascade. Vitamin K1 is generally administered at a variable dosage of 1 to 5 mg/kg for 1 to 6 consecutive weeks. This dosage depends on the rodenticide that was ingested, as these have a variable half-life from a few days (e.g. coumarin compounds – warfarin, coumafuryl, brodifacoum, bromadiolone) to several weeks (e.g. indanedione compounds – pindone, valone, diphacinone, chlorofacinone). Vitamin K1 should be preferably administered with small amounts of fatty food, because fat will enhance vitamin K1 absorption.

What are the main laboratory changes expected in a dog with rodenticide toxicity?
Coagulation screening tests in uncomplicated rodenticide toxicity are characterised initially by an elevation in PT, since factor VII has the shortest half-life of the vitamin K-dependent factors. Later in the course of the toxicity and in the presence of clinical bleeding, both PT and PTT will be prolonged, and these will likely be accompanied by variable degree of thrombocytopenia.

What is the best way to monitor a dog with suspected rodenticide toxicity and receiving vitamin K?
Vitamin K1 treatment should stop the bleeding and cause the coagulation times (PT and PTT) to return to normal or near normal within 24 hours. The treatment is generally continued for a minimum of 4-6 weeks, especially if the nature of the rodenticide and its half-life are unknown. PT is usually used to monitor response to treatment with vitamin K1. The best way to know when to stop vitamin K1 treatment is by checking the PT time 48-72 hours after the last dose has been given. If PT is normal at that point, treatment with vitamin K1 can be stopped; if it is still prolonged, treatment with vitamin K1 for 1 more week is warranted.

Are there specific tests to detect the presence of rodenticide in the body?
Stomach contents, serum, or plasma can be analyzed for the presence of anticoagulants to confirm a diagnosis by gas chromatography-mass spectrometry. This can detect most of the anticoagulants available in the market in the serum, plasma, liver, or kidney. The half-life of these compounds in the serum varies from a few hours to several weeks.

Our laboratory offers a **comprehensive service of coagulation and toxicologic testing for most domestic species**. For more information visit our website or contact us by phone or email.

ACTH stimulation test and LDDST for the diagnosis of canine hyperadrenocorticism – which one to use and when?

Hyperadrenocorticism is one of the most common endocrine diseases in dogs. Approximately 85% of cases of spontaneous canine HAC are due to an ACTH secreting pituitary tumour (pituitary dependent hyperadrenocorticism; PDH), with the remainder due to autonomous secretion of cortisol by an adrenocortical tumour (ADH).

A suspicion of hyperadrenocorticism (HAC) in dogs typically is based on history and physical examination findings and can be further supported by several routine laboratory abnormalities (e.g. increased ALP, hypercholesterolaemia, hyperglycaemia, hyposthenuria, proteinuria). However, in order to confirm the clinical suspicion of HAC, the first step is to perform a screening test. The tests most commonly used in practice include the **adrenocorticotropic hormone (ACTH) stimulation test** and the **low dose dexamethasone suppression test (LDDST)**. Neither of these tests is wholly accurate in confirming the diagnosis in animals with HAC, nor in excluding it in dogs presenting with non-adrenal illness (NAI).

The following information may help to select the most appropriate screening test based on clinical suspicion:

- LDDST is the preferred initial screening test for HAC because of its high sensitivity (chances of identifying true cases of HAC).
- In dogs with a **known adrenal tumour** (based on imaging findings), the LDDST should be the initial screening test because adrenal tumours may not respond to ACTH administration
- **Non-adrenal illness** can affect both ACTH stimulation test and LDDST, however the latter may be less affected.
- Dogs with **suspected iatrogenic HAC** should be screened with the ACTH stimulation test, as it is the only test that can diagnose this condition.
- **Progestagens, glucocorticoids, and ketoconazole** may interfere with both ACTH stimulation test and LDDST

In conclusion, choosing between ACTH stimulation test and LDDST implies considering the particularities of each case: clinical signs, nonadrenal illnesses, findings of the abdominal ultrasound, and any current medication. Additional tests (urine cortisol: creatinine ratio, high dexamethasone suppression test, endogenous ACTH) may also provide supplementary data important for a definitive diagnosis.

Our laboratory offers a wide range of endocrinology testing, including all the tests commonly used in practice to diagnose adrenal disease. For more information visit our website or contact us by phone or email.

Yours sincerely,
The BattLab team

024 7632 3275
www.battlab.com

Find us on