Canine ACTH Stimulation Test

Test Use

This protocol is indicated in dogs as an aid in diagnosing both hypoadrenocorticism (Addison’s disease) and hyperadrenocorticism (Cushing’s syndrome). It may help with identifying iatrogenic hyperadrenocorticism and also can be used to monitor response to therapy when treating hyperadrenocorticism.

Note that this test is of little use in monitoring therapy for previously identified hypoadrenocorticism. Monitoring of this condition and efficacy of therapy is achieved through assessing the serum electrolyte levels, specifically including a Na:K ratio.

Protocol

Patient preparation. The animal should preferably be fasted before collection. Pituitary-adrenal function testing is best performed in a healthy, non-stressed animal. Given the circumstances leading to testing, this is rarely achievable, but minimizing stress/illness is nonetheless recommended. Note also therapy with corticosteroids can alter the pituitary-adrenal axis and where possible should be avoided, especially in the previous 48-72 hours.

i) Collect blood into a plain or SST for a baseline cortisol and clearly label as the resting or 0 hr sample.

ii) Administer synthetic ACTH (Synacthen®)

Canine: 250 µg/dog IM

Synacthen is only registered for IM administration, however 5 µg/kg IV has been shown to adequately stimulate the canine adrenal gland¹.

iii) Collect post-ACTH (collected 1 hour post-ACTH) blood into a plain or SST and again clearly label with animal name and appropriate time.

¹ Watson et al. AVJ 1998; 76: 255–257