Hypertension and proteinuria in canine cushings syndrome

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Hypertension and proteinuria are 2 complications of cushings disease that should be tested for an managed. Up to 85% of dogs may have hypertension and 44 – 46% may have proteinuria and these conditions may persist despite successful management of the cushings disease. Because both proteinuria and hypertension are major factors in the development and progression of chronic kidney disease these conditions need to be managed in addition to the cushings.

Angiotensin converting enzyme inhibitors (ACEi) re used to decrease intra-glomerular hypertension as well as reduce mesangial proliferation and glomerular remodelling. When managing proteinuria, note that ACE Inhibitors such as enalapril and benazepril have special warnings for use in patients, they can cause an (initially reversible) azotaemia. You should have a baseline urea and creatinine. Recheck levels 2 weeks after initiating treatment in any patient, even a non-proteinuric patient. Re-check biannually as well. An initial dosages of 0.5 mg/kg q24h (for benazepril) and 0.5 mg/kg q12h (for enalapril) are appropriate; the dosage of both drugs can be increased if required, by giving q12h for benazepril and up to 1.0 mg/kg q12h for enalapril. These drugs can also be used as second- or third-line agents for controlling hypertension.

Amlodipine (0.2 – 0.4 mg/kg q24-12h) is the best agent for primary control of systemic blood pressure (SBP) >160 mmHg; for 140-160 mmHg, rather use an ACE inhibitor or angiotensin receptor blocker (ARB).

Never start a patient on anti-hypertensive agents on the basis of a single measurement, measurements in a very stressed patients or for SBP <140 mmHg. Rather re-evaluate in 5 – 14 days (sooner, for more hypertensive patients).

For example, in an asymptomatic cat with an initial SBP of 220mmHg, I would recheck in 3 – 5 days, ensuring a calm environment. In a symptomatic patient (cat with retinal detachment, gallop rhythm and a proteinuria, with a SBP of 190/130 mmHg), immediate antihypertensive therapy and hospitalisation is more appropriate.

When amlodipine is used, recheck the patient every 5 – 14 days, depending on the severity of the hypertension, and the UPC every 14 – 30 days, to chart response to therapy. Your target should be a UPC <0.2 and SBP 120-140mmHg with diastolic blood pressure (DBP) of 70 – 90 mmHg, no lower. Diastolic hypotension is as damaging to organs as hypertension.