

RAMIPRIL AS A FIRST LINE MONOTHERAPY FOR THE CONTROL OF FELINE HYPERTENSION AND ASSOCIATED CLINICAL SIGNS

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Systemic hypertension (idiopathic or secondary to another condition e.g. hyperthyroidism) is common in old cats. Left untreated, it leads to target organ damage (TOD) such as blindness or decreased renal function. Hypertension is currently staged according to systolic blood pressure (SBP) and future risk of TOD from category I (SBP < 150 mm Hg, minimal risk) to IV (SBP • 180 mm Hg, severe risk). This clinical trial addressed the efficacy and safety of the vasodilator ramipril for the reduction of elevated blood pressure and the control of associated clinical signs in cats.

Seventy-six client-owned cats with SBP ranging from 160 to 230 mm Hg (measured by Doppler) were enrolled of which 64 completed the trial. The cats were started on ramipril treatment orally at a dose of 0.125mg/kg once daily. In cats where SBP was still above 160 mm Hg on day 14 the dose was increased to 0.25 mg ramipril/kg once daily up to the end of the trial (day 63). Clinical signs, SBP and clinical chemistry were monitored in each cat on day 0, 14, 28 and day 63. Changes in SBP, risk category and clinical signs were analysed using parametric (ANOVA) or non-parametric (logistic regression) analysis for repeated measurements with time as the main factor. Post-hoc multiple comparison tests were run as appropriate.

SBP rapidly declined over time ($p=0.0001$). At the end of the trial, there was a decrease in SBP of 20 mm Hg or more in 62% of the cats. Of these cats, 69% had a final SBP below 160 mm Hg. In addition, 57% of the cats ended up in a lower TOD risk category on day 63: 75% of cats initially in risk category III were in risk category I (55%) or II (20%). Similarly, 48% of cats initially in risk category IV ended up in risk category III (16%), II (9%) or I (23%) ($p=0.0508$). The proportion of cats with clinical signs decreased from 82% (inclusion) to 68%, 63% and 54% on days 14, 28 and 63, respectively ($p<0.0001$). This improvement was similar irrespective of the risk category (III or IV) at inclusion ($p=0.6300$). Treatment was well tolerated even after dose increase (62% of cats were dose increased). The only treatment-related adverse effect reported was acute decompensation of pre-existing kidney disease in one cat.

To our knowledge, this is the first prospective clinical trial using ramipril as a first line monotherapy for the management of feline hypertension. The present study demonstrates that ramipril at dose rates starting from 0.125 mg/kg once daily effectively and safely reduces SBP and associated clinical signs in cats with SBP up to 230 mm Hg.