

Association between initial systolic blood pressure and risk of developing a uremic crisis or of dying in dogs with chronic renal failure.

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OBJECTIVE: To determine whether high systolic blood pressure (SBP) at the time of initial diagnosis of chronic renal failure in dogs was associated with increased risk of uremic crisis, risk of dying, or rate of decline in renal function. **DESIGN:** Prospective cohort study. **ANIMALS:** 45 dogs with spontaneous chronic renal failure. **PROCEDURE:** Dogs were assigned to 1 of 3 groups on the basis of initial SBP (high, intermediate, low); Kaplan-Meier and Cox proportional hazards methods were used to estimate the association between SBP and development of a uremic crisis and death. The reciprocal of serum creatinine concentration was used as an estimate of renal function. **RESULTS:** Dogs in the high SBP group were more likely to develop a uremic crisis and to die than were dogs in the other groups, and the risks of developing a uremic crisis and of dying increased significantly as SBP increased. A greater decrease in renal function was observed in dogs in the high SBP group. Retinopathy and hypertensive encephalopathy were detected in 3 of 14 dogs with SBP \geq 180 mm Hg. Systolic blood pressure remained high in 10 of 11 dogs treated with antihypertensive drugs. **CONCLUSIONS AND CLINICAL RELEVANCE:** Results suggested that initial high SBP in dogs with chronic renal failure was associated with increased risk of developing a uremic crisis and of dying. Further studies are required to determine whether there is a cause-and-effect relationship between high SBP and progressive renal injury and to identify the risks and benefits of antihypertensive drug treatment.