

Jacob F, Polzin DJ, Osborne CA, et al. Association of initial proteinuria with morbidity and mortality in dogs with spontaneous chronic renal failure. (Accepted for publication in *J Am Vet Med Assoc* 2004)

### **Summary**

**Objective---**To evaluate whether initial urine protein/creatinine (UP/C) ratio  $\geq 1.0$  at the time of initial diagnosis of chronic renal failure (CRF) in dogs was a risk factor associated with increased risk of uremic crises, mortality, and decline in renal function.

**Design---**Prospective cohort study.

**Animals---**45 dogs with spontaneous chronic renal failure.

**Procedure---**Dogs were prospectively divided into 2 groups on the basis of initial UP/C ratio measurements (UP/C  $< 1$  and UP/C  $\geq 1$ ). Kaplan-Meier and Cox's proportional hazards methods were used to estimate the association of the magnitude of proteinuria with uremic morbidity and mortality. The same statistical approach was used after dogs with initial UP/C ratio  $\geq 1.0$  were further divided into 3 subcategories and compared to dogs with UPC  $< 1.0$ . Changes in reciprocal of serum creatinine concentration were used to estimate the decline in renal function.

**Results---** At the initial visit, dogs had similar clinical, hematological, and biochemical characteristics with exception of systolic blood pressures and UP/C ratios. The relative risk for uremic crises and mortality was approximately 3 times higher in dogs with UP/C  $\geq 1.0$  compared to dogs with UP/C ratio  $< 1.0$ . In addition, the risk of adverse outcomes was approximately 1.5 times greater for every 1 unit increment in UP/C ratio. Decline in renal function of a greater magnitude was observed in dogs with higher UP/C ratios.

**Conclusion and clinical relevance---** Higher initial UP/C ratios in dogs with CRF were associated with an increased risk of uremic morbidity, and mortality. Therefore, initial measurements of UP/C ratios in dogs with spontaneous CRF may be of value in refining prognoses.