

ACE Inhibitors & Feline Quality of Life with Kidney Disease

Recently, the International Renal Interest Society proposed that low but persistent concentrations of proteinuria are important in staging of chronic kidney disease (CKD) in cats. Instead of using urine protein–creatinine (UPC) ratios of > 1.0 or 0.5 to define proteinuria, they proposed the following subsets: nonproteinuric (UPC ratio < 0.2), borderline proteinuric (UPC ratio ≥ 0.2 and < 0.4), and proteinuric (UPC ratio ≥ 0.4). Monitoring of urine protein and antiproteinuric treatment strategies are being recognized as increasingly important. Angiotensin-converting enzyme (ACE) inhibitors are used to treat cats with CKD in an effort to decrease systemic and glomerular hypertension and reduce proteinuria. Benazepril is a potent, selective inhibitor of ACE. Two recently published randomized, double-blind studies have shown the drug is well tolerated in cats with CKD and may be of therapeutic benefit. In the first study, 61 cats with naturally occurring disease were randomly assigned to treatment (benazepril, 0.5–1.0 mg/d) or placebo and were followed for up to 6 months. Cats treated with benazepril had UPC ratios significantly lower than those of the placebo group at days 120 and 180. In the treated group, UPC ratio, plasma creatinine, and plasma urea concentration did not significantly change over time. In the second study, the tolerability and efficacy of treatment were assessed in 192 cats meeting study criteria. Cats had a plasma creatinine level ≥ 2 mg/dl and a specific gravity ≤ 1.25 . They received benazepril, 0.5–1.0 mg/d, or placebo and were followed for up to 3 years. UPC ratio decreased significantly regardless of initial magnitude of proteinuria. Plasma protein concentrations were higher in the treatment group than in the placebo group. Survival time did not significantly differ between the 2 groups, but treated cats had a better quality of life. *All studies funded in part by Novartis Animal Health, Inc*



COMMENTARY: The use of ACE inhibitors for proteinuria has become common in small animal patients. Although they clearly decrease urine protein loss, long-term benefits of the drugs on disease progression, survival, and clinical status of cats with CKD remain less clear. A more thorough understanding of the underlying pathologic mechanisms of CKD in cats is needed to formulate optimal treatment plans.—*Bess J. Pierce, MZS, DVM, Diplomate ABVP & ACVIM*

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