Enalapril: More Evidence for Use in Feline Cardiac Hypertrophy

Angiotensin-converting enzyme (ACE) inhibitors are frequently used to decrease blood pressure and are often the first-choice drug for the treatment of heart failure. This study evaluated the effect of an ACE inhibitor, enalapril, on hemodynamics and renal function in a pressure overload model in cats. Left ventricular hypertrophy was created by banding of the aortic arch. Four cats were used as controls and 4 were given enalapril (0.5 mg/kg PO Q 24 H) for 3 months. The clinical condition of both groups of cats did not change significantly, suggesting that they were at level I of the New York Heart Association heart failure classification. The enalapril-treated group had significantly lower systolic arterial pressure and mean arterial pressure than the treatment group. There was no significant difference in complete blood count, biochemical variables, or renal function in either group. The left ventricular free wall thickness in diastole and interventricular septal thickness in diastole decreased significantly following enalapril administration. These results suggest that in a pressure overload model enalapril inhibits cardiac hypertrophy, reduces blood pressure, and does not adversely affect renal function. Study funded in part by the Japanese Ministry of Education, Science and Culture

COMMENTARY: Although not approved for use in the cat, the ACE inhibitor enalapril is often used. A small body of research does support its use, and this paper adds to that knowledge. There is still more to be learned, but this paper suggests that it is a good choice for cats with hypertrophic cardiomyopathy. —Patricia Thomblison, DVM, MS