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The SEISICAT study: a pilot study assessing efficacy and safety of spironolactone in cats with congestive heart failure secondary to cardiomyopathy

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Abstract

Introduction

The pathophysiology of heart failure involves activation of several neurohormonal systems including the renin-angiotensin-aldosterone system. The mineralocorticoid receptor antagonist spironolactone has been shown to be beneficial in humans and dogs with heart failure. The objective of this pilot study was to investigate the efficacy and safety of spironolactone in cats with heart failure secondary to cardiomyopathyalready treated with furosemide and an angiotensin-converting enzyme inhibitor.

Animals

Twenty cats with heart failure due to cardiomyopathy.

Methods

The study was a double-blind, randomised, placebo-controlled, multicentre clinical study assessing the effect of spironolactone on survival and clinical parameters in cats with heart failure due to cardiomyopathy. The primary end point was mortality, defined as death (spontaneous or by euthanasia) due to cardiac causes.

Results

Twenty cats were enrolled: 9 in the spironolactone group and 11 in the placebo group of which 56% (5/9) and 0% (0/11) completed the 15-month period respectively. At inclusion, differences in systemic blood pressure, body condition score, electrocardiographic abnormalities and LA/Ao ratio suggested that disease may be less severe in the spironolactone group. Twenty-two percent (2/9) of cats in the spironolactone group and 82% (9/11) in the control group reached the primary end point (Fisher's exact test, $p = 0.0216$). No safety issues were identified in either group.

Conclusions

This study suggests that spironolactone is well tolerated, and preliminary results support further investigation to evaluate the efficacy of spironolactone in the treatment of cats with cardiac failure due to cardiomyopathy.