Survival Characteristics of 50 Dogs with Congestive Heart Failure Secondary to Degenerative Mitral Valve Disease Treated With Stepwise Polypharmacotherapy

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Congestive heart failure (CHF) secondary to degenerative mitral valve disease (DMVD) is the most common cardiac reason for death in dogs. Although all the available survival data from comparative trials have added a lot of useful information, they do not reflect current specialty practice. It is now believed by most specialists that the ideal therapy of CHF includes at least furosemide, ACEI and inodilators. There is currently very little evidence to underpin this. Additionally, the impact of specialist follow-up of out-patients with CHF has now been established in multiple human clinical trials. No data on this is available in veterinary medicine.

The aim of this retrospective study was to determine the survival characteristics of a population of dogs with CHF secondary to DMVD, treated with stepwise polypharmacotherapy (ACEI and furosemide and later pimobendan and other cardiac drugs) and rigorously followed by a specialist.

The case records of all of the patients diagnosed with CHF secondary to DMVD at one referral practice, treated with at least triple therapy and followed over time by the same specialist were reviewed. All dogs with other medical conditions that could influence survival were excluded from the analysis. The animals were divided in those that died for cardiac reasons (natural or euthanasia), those that died for non-cardiac reasons and those that were still alive (censored).

Dogs diagnosed between February 2003 and April 2008 were included (n=50). The breeds most commonly represented were Bichon (8), Cavalier King Charles Spaniel (6) and Chihuahua (4). Twenty-six dogs were male (9 neutered) and 24 female (15 neutered). Eleven dogs were less than 10 years of age at the time CHF was confirmed. Eight dogs weighed more than 20 kg. Seventy-eight percent of the dogs also had evidence of degenerative tricuspid valve disease (DTVD), 54% developed pulmonary arterial hypertension (PAH) at some stage, 44% ruptured a chord (CR) and 18% developed atrial fibrillation (AF). The Kaplan-Meier estimate of the median survival time of this study population was 640 days (95% CI 472-824 days). Similar estimates for dogs younger than 10 years and older dogs at time of diagnosis of CHF were respectively 371 and 705 days (p< 0.011). The median survival time for dogs that develop atrial fibrillation was 472 days as compared to 729 days for dogs without (p=0.012). There were no evidence of any effect of gender, body weight, the presence of DTVD, the development of PAH and the occurrence of CR on survival. The above findings were confirmed by a Cox proportional hazard model.

This study suggests that staged polypharmacotherapy, based on correct diagnosis and initiated following the development of radiographic evidence of CHF, tailored throughout follow-up to suit the needs of the individual patient and monitored carefully by experienced veterinarians, improves survival in dogs with CHF secondary to DMVD.

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