**β-Adrenergic Blockers as Cardioprotective Agents**

It remains to be seen whether β-blockers will improve morbidity and mortality in animals with cardiac disease, but studies in people indicate that there is sound theoretical and experimental basis to support their efficacy. Clinical trials in dogs with DCM or CVD have not shown significant clinical or neurohormonal benefits from administration of carvedilol, a third-generation β-adrenergic blocker. Dogs with experimentally induced heart failure have shown measurable improvements in cardiac performance after administration of metoprolol, but these were models of ischemic cardiomyopathy, which is an uncommon cause of DCM in dogs.

Many cardiologists are using β-adrenergic blockers in dogs with demonstrated systolic or diastolic dysfunction, and it is believed that better clinical results may be obtained if these agents are started earlier in the course of disease and gradually uptitrated. In animals with occult disease or compensated heart failure, they seem to be well tolerated when careful uptitration is followed, stopping at the highest tolerated dose that does not cause weakness, lethargy, or other clinical signs associated with hypotension or reduced cardiac output. Carvedilol and metoprolol are the most commonly used agents in this setting. Carvedilol is generally started at 0.2–0.4 mg/kg, PO, bid in dogs, and gradually uptitrated every 1–2 wk to a maximal dosage of 1.5 mg/kg, bid. Metoprolol is started at 0.5 mg/kg, PO, bid-tid in dogs, and uptitrated to 1 mg/kg, PO, bid-tid. The recommended dosage of metoprolol in cats is 2–15 mg, PO, tid. Atenolol (6.25–12.5 mg/cat, bid) may also be considered for myocardial protection in cats. There are some data associating the use of atenolol in cats with HCM and CHF with a poorer outcome, and consideration should be given to dosage reduction or withdrawal if CHF develops.

Source: <http://www.merckmanuals.com/vet/circulatory_system/heart_disease_and_heart_failure/heart_failure.html>