

Effect of Carvedilol in Dog with Pulmonary Hypertension

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Signalment: A Pomeranian (14-year-old, intact male) was referred for severe hacking cough with dyspnea and detected systolic murmur (Grade 4 of 6) by cardiac auscultation. Echocardiography showed severe mitral valve degeneration with regurgitation, and pulmonary hypertension was detected by spectral Doppler echocardiography. On fluoroscopy, severe trachea collapse (Grade 4 of 4) was also detected.

Results: The patient was diagnosed as chronic valvular disease with tracheal collapse accompanied by cor-pulmonale. This dog was prescribed carvedilol (0.3mg/kg q12hrs, PO) with other conventional cardiac medication. After administration of carvedilol, the patient showed normalized pulmonary artery pressure gradient and improved clinical signs markedly. The heart rate and blood pressure was also stabilized. Carvedilol treatment results in beneficial hemodynamic variables especially preferable to control pulmonary hypertension.

Clinical relevance: Carvedilol is nonselective beta-adrenergic blocker with selective alpha 1-adrenergic blocking activity that is useful in reducing heart rate and blood pressure. It could be useful in heart diseases as effective sympathetic modulation as well as vasodilation and afterload reduction.

Key words: beta-adrenergic blocker, carvedilol, dog, pulmonary hypertension

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