

EVALUATION OF BRONCHIAL COLLAPSE IN DOGS WITH CHRONIC VALVULAR HEART DISEASE. G Kramer<sup>1</sup>, B McKiernan<sup>2</sup>, R Burk<sup>3</sup>. 1. Atlantic Coast Veterinary Specialists, Bohemia, NY. 2. Southern Oregon Veterinary Specialty Center, Medford, OR. 3. Animal Medical Center at Cooper City, Copper City, FL.

The purpose of this study was to prospectively evaluate the degree of bronchial collapse in dogs with moderate to severe chronic valvular disease and to serve as a preliminary feasibility study for the development of bronchial stenting as a therapeutic option in this patient population.

Dogs selected for inclusion in the study had evidence of moderate to severe (3 to 4+) mitral regurgitation (MR) via echocardiography and history of coughing without radiographic evidence of pulmonary edema, pneumonia or tracheal collapse. The echocardiograms, radiographs and bronchoscopies were performed on all the dogs at Atlantic Coast Veterinary Specialists. The chest radiographs and the bronchoscopies were independently evaluated by two of the authors (Burk and McKiernan, respectively) without having specific knowledge of the clinical cases. Four dogs were evaluated in this study at the time of the abstract submission deadline.

The results are included in the table below. All dogs had collapse of the left principal bronchus (LPB), left cranial lobar bronchus (LB1) and left caudal lobar bronchus (LB2). Two dogs had partial collapse of a right-sided bronchus. Dynamic ventral compression of LPB, LB1 and LB2 was evident and appeared to be secondary to cardiac motion.

	MR	TR	PH <sup>+</sup>	LAD <sup>++</sup>	LAE <sup>+++</sup>	MBC <sup>++++</sup>	LPB*	LB1*	LB2*
Case 1	4+	2+	none	severe	severe	moderate	4+	3+	4+
Case 2	4+	0	NA	severe	severe	none	1+	2+	3+
Case 3	3+	1+	none	mild	mild	none	2+	3+	4+
Case 4	4+	4+	moderate	severe	severe	none	2+	1+	4+

<sup>+</sup> left atrial dilation (echo), <sup>+</sup> pulmonary hypertension, <sup>++</sup> left atrial enlargement (radiographic), mainstem bronchial collapse (radiographic), \*estimates of collapse (bronchoscopic)

In conclusion, there appears to be an association, in this small population of dogs studied, between bronchial collapse and chronic valvular heart disease and that cardiac motion dynamically worsens the degree of collapse. Bronchoscopy was more sensitive at detecting the presence of collapse compared to radiography. Bronchial stenting may be a possible therapeutic option in this population of dogs, but careful patient selection will be needed due to collapse of multiple airways seen in each of the dogs. The underlying pathophysiologic process that results in the bronchial collapse is unclear and requires more study.