RESUMO SIMPLES - OUTRAS ÁREAS TEMÁTICAS

INTERATRIAL SEPTAL ANEURYSM IN A DOG WITH PULMONARY ARTERIAL HYPERTENSION SECONDARY TO PNEUMONIA: CASE REPORT

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Pulmonary arterial hypertension (PAH) is defined as an abnormal and persistent increase in pressure within the pulmonary vasculature and in dogs, it is generally secondary in nature, presenting in two main forms: pre-capillary and post-capillary. Bacterial pneumonia, in turn, is among the most common conditions affecting dogs with acute or chronic respiratory disease and may be classified into five main categories: infectious pneumonia, aspiration pneumonia, foreign-body-associated pneumonia, nosocomial pneumonia, and pneumonia secondary to immune dysfunctions. Atrial septal aneurysm (ASA) is characterized as a saccular deformity or redundancy of the interatrial septum (≥10 mm from the septal plane toward the right or left atrium, or a combined right-left total excursion of 15 mm), restricted to the fossa ovalis membrane and

associated with increased mobility of the septal tissue. This report aims to describe a case of a canine patient with an interatrial septal aneurysm resulting from pulmonary hypertension secondary to pneumonia. A 12-year-old, 2.5-kg female dog was examined at the Small Animal Veterinary Hospital of the Federal Rural University of Rio de Janeiro, presenting with a one-week history of fatigue, resting tachypnea, and coughing. Clinical evaluation revealed cyanotic mucous membranes, regular cardiac auscultation with a grade V/VI systolic murmur at the tricuspid valve focus, pulmonary auscultation marked by increased expiratory sounds, dull thoracic percussion, and a systolic blood pressure of 190 mmHg. Lung ultrasound using the VetBLUE protocol demonstrated diffuse and coalescent B-lines with shred signs across all pulmonary fields in both hemithoraces. The combination of these findings was indicative of pneumonia. An electrocardiogram revealed sinus rhythm with a mean heart rate of 130 bpm. Echocardiographic examination showed marked tricuspid regurgitation associated with right atrial enlargement, severe concentric hypertrophy of both right and left ventricles, significant pulmonary regurgitation, mild aortic regurgitation, spontaneous echo contrast (“smoke sign”) in the right atrium, and an interatrial septum protruding convexly into the left atrium as a consequence of elevated right atrial pressure, findings consistent with an interatrial septal aneurysm. Together, these echocardiographic abnormalities indicated a high likelihood of pulmonary hypertension. Thoracic radiography demonstrated an alveolar pattern with broncho-centric and multifocal distribution, most evident in the caudodorsal lung fields on lateral views, consistent with bronchopneumonia. Additionally, there was enlargement of the cardiac silhouette involving the right atrium and ventricle. Given the clinical status, the patient was admitted to the critical care unit for oxygen therapy and sedation to improve respiratory comfort. Specific treatment included doxycycline, N-acetylcysteine, aminophylline, nebulization with 0.9% NaCl solution, sildenafil citrate, and clopidogrel. Valvular regurgitation arising from pulmonary arterial hypertension secondary to pneumonia, as observed in this case, alters the pressure gradients between cardiac chambers and may predispose affected animals to the development of an atrial septal aneurysm. Although uncommon in dogs, this condition increases the risk of atrial arrhythmias and thromboembolism. Therefore, detailed echocardiographic assessment is essential in patients with altered cardiac dynamics to ensure early identification of structural deformities and to enable targeted and effective therapeutic management.

Palavras-chave: respiratory disease; infection; pah; cough.