**TRANSIENT PULSUS ALTERNANS IN A MINIATURE PINSCHER WITH PULMONIC STENOSIS**

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A 9 year-old Miniature Pinscher had a right scapular fracture with associated puncture wound, cellulitis, dehydration, leukocytosis with many toxic and band neutrophils, and mildly decreased hematocrit, serum electrolytes (Na, K, Cl, Ca), and albumin. The dog had sinus rhythm at 140 beats/min, grade 5/6 left basilar systolic murmur, and subtle beat-to-beat alteration in murmur and arterial pulse intensities. Echocardiography showed severe valvular pulmonic stenosis (PS) and right ventricular (RV) hypertrophy, with dramatic beat-to-beat alteration in peak RV outflow velocity not ascribable to translational motion or arrhythmia (fig). Left ventricular (LV) outflow varied similarly but less dramatically. There were no signs of RV failure. LV function was normal.

Clinical improvement was seen the next day, after fluid, antibiotic and analgesic therapy. Murmur and pulse variability resolved, and Doppler showed uniform RV and LV outflow velocities.

Pulsus alternans is a phenomenon of beat-to-beat alteration in ventricular contractility, usually associated with severe myocardial failure, and involving cyclic change in intracellular Ca fluxes. LV pulsus alternans has occurred with dilated cardiomyopathy, severe aortic stenosis, hypertension, and hypovolemia. Right or biventricular alternans in people is reported with severe pulmonary hypertension or embolization, and critical PS with RV failure; no reports exist in dogs. Dehydration and sepsis might have induced RV alternans in this case.

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