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Looking backwards: is it time to assess veno-atrial interactions in pulmonary arterial hypertension?

Steven Pugliese¹ and Rebecca R. Vanderpool²

Affiliations: ¹Pulmonary, Allergy, and Critical Care Division, University of Pennsylvania, Philadelphia, PA, USA.
²Division of Translational and Regenerative Medicine, University of Arizona, Tucson, AZ, USA.

Correspondence: Rebecca R. Vanderpool, University of Arizona, Tucson, Translational and Regenerative Medicine, 1501 North Campbell Ave, Steele Children's Research Building, 7341, Tucson, Arizona, 85724, USA.
E-mail: vanderpoolrr@email.arizona.edu



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Vena cava backflow measured using CMR imaging is a novel marker to assess veno-atrial interactions in patients with pulmonary arterial hypertension <http://bit.ly/2TU4d9V>

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Right ventricular (RV) function is the major determinant of mortality in patients with pulmonary arterial hypertension (PAH). As a result, much of recent research has focused on right ventricular–pulmonary arterial coupling and, specifically, RV systolic function. As research on diastolic RV and right atrial function is beginning to emerge, the effect of the venous system on right ventricular function has been largely ignored. While observations regarding the effect of right ventricular function on venous return date to Aristotle (*circa* 380 BC), one of the earliest pathological descriptions came in 1873 when Kussmaul described a paradoxical rise in jugular venous pressure during inspiration in constrictive pericarditis [1–3]. This phenomenon can be explained by venous backflow in the setting of an elevated right atrial pressure and a noncompliant RV. To this day the determinants of venous backflow have yet to be worked out, but there is a strong clinical relevance, including the effects on RV workload and venous congestion mediated hepatic and renal dysfunction [4, 5].