

Title: It's PAH!, No it's HF!, No it's PAH!

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Right ventricular dysfunction (RVD) can be a barrier as right ventricular (RV) hemodynamics are complicated and we remain limited in our treatment of RV failure. We report a case series of African Americans (AA) with RVD resemblance found in severe pulmonary hypertension (PH), also known as PH phenotype, in the absence of typical PH hemodynamics. Three AA patients with progressive dyspnea and decline in functional capacity were admitted to the hospital. The impressive size and septal shift the RV on transthoracic echocardiogram prompted right heart catheterization (RHC). Aggressive management of comorbidities resulted in improvement of RV dimensions and function upon repeat TTE several months later. RV and diastolic dimensions improved on average by more than two centimeters, with improvement of TAPSE by 0.4 centimeters and tissue doppler's by two centimeters per second. All patients had improvement of 6-minute walk distances of >15% and normalization of proBNP. Imaging demonstrated severe RV dilation and dysfunction, prompting RHC for investigation of WHO group 1 PAH. Patients had overall favorable hemodynamics. With treatment of HF and HF risk factor modification, repeat imaging demonstrated significant improvement in RV dysfunction. RV response to HF and HF risk factors needs to be compared on the large scale between Caucasians and AA. Translational research on underlying genetics may address the differences in RV response to any change in pulmonary pressures. This would have serious clinical implications with regards to treatment of co-morbidities. This would allow better identification of risk for RV dysfunction in the post-cardiac surgery testing.