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Heart Failure

STIMULATION OF PULMONARY ARTERIAL ENDOTHELIUM IN DIASTOLIC HEART FAILURE INDUCED PULMONARY HYPERTENSION SIMILAR TO PULMONARY ARTERIAL HYPERTENSION

Poster Contributions
Poster Sessions, Expo North
Sunday, March 10, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Insights into Diagnosis and Treatment of Heart Failure with Preserved Ejection Fraction
Abstract Category: 15. Heart Failure: Clinical
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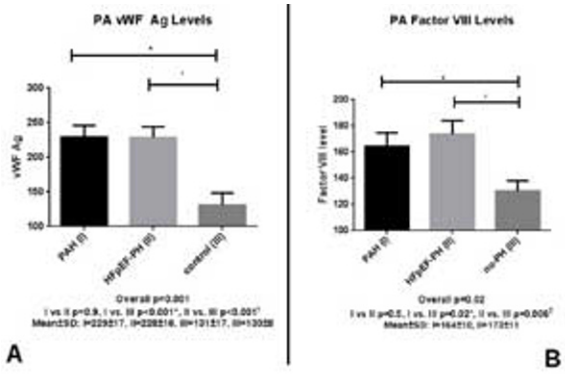
Background: Von Willebrand Factor (vWF) is secreted by the endothelium at elevated levels with endothelial dysfunction. Diastolic heart failure is the most common cause of secondary pulmonary hypertension (DHF-PH). In vitro, similar to PAH, DHF-PH has additional pre-capillary active pro-inflammatory changes. However, there is no evidence of in-vivo localized endothelial dysfunction in DHF-PH. We compared levels of pulmonary arterial (PA) vWF Ag and factor VIII (F8) in patients with both PAH and DHF-PH.

Methods: Prior to the initiation of treatment, PA levels of vWF Ag and F8 were measured during right heart cath (RHC) in consecutive patients with PAH (mPAP>25mmHg, PCWP<15mmHg, gradient diastolic PA-PCWP >5mmHg and, transpulmonary gradient [TPG] >12mmHg) and DHF-PH (clinical symptoms of CHF, echo parameters consistent with diastolic dysfunction, left ventricular ejection fraction ≥50% and PASP>35mmHg on TTE, RHC mPAP>25mmHg, gradient PA-diastolic PCWP <5mmHg and TPG ≤12mmHg). Patients with significant valvular disease or bleeding disorders were excluded.

Results: Patients with both PAH (I, n=35) and DHF-PH (II, n=37) had significantly elevated vWF Ag (figure A) and F8 levels (figure B) compared to no-PH patients (III, n=17). However, no significant difference in the above measured levels were found between I vs. II.



Conclusions: This study is the first to measure and compare in vivo levels of PA vWF Ag and F8 in HFpEF-DHF-PH and highlights the endothelial dysfunction in these two diseases.