

### 1033 Endothelin-1 and BNP Plasma Levels Predict Survival in Patients with Pulmonary Arterial Hypertension

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**Background.** Biomarkers in PAH may be useful in assessing prognosis.

**Methods.** Patients with Group I PAH (n=88) underwent measurement of plasma ET-1, Big-ET, BNP, N-terminal ANP and NE. Kaplan-Meier plots for time to combined endpoint of death or transplant were created. Multivariate analysis including neurohormones, WHO class and 6 minute walk distance was performed.

**Results.** Age  $48 \pm 14$  years, 81% female, 90% idiopathic, 5% CTD, 5% congenital, 6 min walk distance  $348 \pm 130$  m, WHO functional class I, II, III, IV: 5%, 35%, 50%, 10%, PA mean  $60 \pm 10$  mm Hg, Cardiac index  $2.2 \pm 0.8$  L/min/m<sup>2</sup>. Patients in the highest quartile of ET-1 or BNP had hazard ratios for death or transplant of 4.4 (95% CI 1.7-11.7, p = 0.003) and 2.9 (95% CI 1.35-6.4, p = 0.007) respectively. A trend was present for highest quartile of N-ANP (Hazard ratio 2.3, 95% CI 0.91-5.7, p = .08).

**Conclusions.** Elevated ET-1 or BNP plasma levels are independent risk factors for death or transplantation in PAH. Association of elevated ET-1 with adverse prognosis suggests participation of ET-1 in the progression of PAH. ET-1 levels would not be expected to be predictive of outcome in patients already treated with ET antagonists due to effects of those agents on ET-1 clearance. We confirm that BNP is predictive of outcome and add evidence to the rationale for measuring BNP and ET-1 in patients with PAH.

