

European Respiratory Society Annual Congress 2012

Abstract Number: 4573

Publication Number: 2829

Abstract Group: 4.3. Pulmonary Circulation and Pulmonary Vascular Disease

Keyword 1: Pulmonary hypertension **Keyword 2:** Surgery **Keyword 3:** Circulation

Title: The long-term prognostic value of extracted thrombus and hemodynamics and in chronic thromboembolic pulmonary hypertension

Prof. Dr Nika 29446 Skoro-Sajer nika.skoro-sajer@meduniwien.ac.at MD¹, Mr. Gerald 29447 Hlavin gerald.hlavin@meduniwien.ac.at², Dr. Patrick 29448 Nierlich patrick.nierlich@meduniwien.ac.at MD³, Dr. Roela 29449 Sadushi-Kolici roela.sadushi-kolici@meduniwien.ac.at MD¹, Prof. Dr Walter 29464 Klepetko walter.klepetko@meduniwien.ac.at³ and Prof. Dr Irene 29466 Lang irene.lang@meduniwien.ac.at¹.¹ Department of Internal Medicine II, Division of Cardiology, Vienna General Hospital, Medical University of Vienna, Austria ;² Section of Medical Statistics, Medical University of Vienna, Austria and³ Department of Cardiothoracic Surgery, Vienna General Hospital, Medical University of Vienna, Austria .

Body: Background: Chronic thromboembolic pulmonary hypertension (CTEPH) is surgically treatable by pulmonary endarterectomy (PEA). The purpose of this study was to assess the role of RV afterload parameters compared with the quantity of extracted thrombi on long-term survival in patients with CTEPH undergoing PEA. Methods and Results: We monitored steady flow parameters (pulmonary vascular resistance (PVR), steady component of afterload (SCA =mPAP-mPCWP), pulmonary vascular pressure gradient (PVG=dPAP-mPCWP)) and pulsatility parameters (pulmonary arterial compliance (PAC=stroke volume/sPAP-dPAP), pulsatile component of afterload (PCA=mPAP-dPAP)) prior to and within 3 days (immediate) after PEA in 110 consecutive patients, who were followed for 34.5 (11.9; 78.3) months. The quantity of extracted vascular obstructions were expressed as the total number and total length of small-vessel thrombus appendages, and correlated inversely with immediate postoperative PVR ($p<0.0001$, $r=-0.566$; $p<0.0001$, $r=-0.580$). Cox regression analysis revealed only steady flow parameters immediate PVR, SCA and PVG predictors of long-term survival/freedom of lung transplantation ($p<0.0001$, $p=0.02$, $p=0.04$). Patients with immediate PVR<590 dynes.s.cm⁻⁵ or SCA<26.5mmHg or PVG<21.5mmHg had a better long-term outcome (Logrank tests; $p<0.0001$, $p=0.0006$, $p<0.0001$). Conclusions: Steady flow parameters PVR, SCA and PVG assessed immediately postoperative were predictors of long-term survival in CTEPH patients undergoing PEA. PVR was the most important hemodynamic predictor of survival, and was correlated with the number of thrombus limbs extracted from the distality.