European Respiratory Society
Annual Congress 2012

Abstract Number: 2535

Publication Number: 373

Abstract Group: 4.3. Pulmonary Circulation and Pulmonary Vascular Disease

Keyword 1: Pulmonary hypertension **Keyword 2:** Epidemiology **Keyword 3:** No keyword

Title: Survival in patients with different groups of pulmonary hypertension

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Body: Background - Several markers have been suggested to be associated with severity and/or prognosis of disease in patients with pulmonary hypertension (PH). Reports on survival and its determinants in patients with pulmonary hypertension mostly focus on the subgroup of pulmonary arterial hypertension (PAH). Data on other subgroups is rare. Methods and Results - Every consecutive patient undergoing right heart catheterization with proven PH was included in the Giessen registry from 1994 to 2011. Differences in survival between the etiological groups were highly significant ($p<0.001$), with 1-, 3-, and 5-year survival rates of 88.2%, 72.2%, 59.4%, respectively in pulmonary-arterial hypertension (PAH, N=685) as compared to 79.5%, 52.7%, and 38.1%, respectively in lung disease associated PH (PH-LD, N=546). Chronic thromboembolic pulmonary hypertension (CTEPH, N=459) had the best survival rates with 89.2%, 77.4%, and 66.7%, pulmonary venous hypertension (N=307) was intermediate. Age also differed between the groups: mean age at diagnosis was 51.3 (PAH), 67.0 (PVH), 63.7 (LD-PH), 61.9 (CTEPH) years, respectively. In multivariate analysis, age, gender, NYHA functional class, uric acid, urea, brain natriuretic peptide, heart rate, sodium, six-minute walk test distance, cardiac output, and systolic blood pressure at baseline were significantly associated with survival. Conclusions - In this report we present data on long term survival and its determinants from patients with all subtypes of pulmonary hypertension. We aim to assess the utility and validity of a new prognostic score for different forms of PH based on comprehensive databases from the PH centers Giessen and Imperial College in London.