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Title: Predictors of poor outcome in chronic thromboembolic pulmonary hypertension

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Body: Background: Clinical and plasma biomarkers are essential to predict the outcome of pulmonary arterial hypertension (PAH). These markers might also be useful to evaluate the outcome of chronic thromboembolic pulmonary hypertension (CTEPH). Objective: Assess the cumulative mortality and identify predictors of the patients with CTEPH. Methods: 108 patients with CTEPH who registered in Beijing chaoyang hospital between January 2006 and October 2011 were analyzed. The primary endpoint is death, and the second endpoint is worsen of WHO functional class. Results: During the follow-up period (4-58 months), 11 patients died (10.2%), meanwhile WHO functional class of 4 patients was worsen (3.7%). The 1-,3-year survival rates were respectively 95.1% and 82.1%. BMI (HR 0.798; 95% CI,0.677 to 0.941; P=0.007), leukocyte(HR 1.346; 95% CI,1.145 to 1.582;P<0.001), ESR(HR 1.043; 95% CI,1.010 to 1.077;P=0.011), cardiac output(CO) (HR 0.484; 95% CI,0.243 to 0.962;P=0.039), pulmonary vascular resistance (PVR)(HR, 1.002; 95% CI, 1.001 to 1.003;P=0.001)were independent predictors for poor prognosis of CTEPH patients. Meanwhile 54 patients with PAH were enrolled, and the 1-,3-year survival rates of PAH patients were 78.8% and 59.4% respectively. Conclusion: Patients with CTEPH have a better survival rate than patients with PAH. BMI, inflammatory markers (leukocyte, ESR), hemodynamic parameters (CO,PVR) were associated with poor prognosis of patients with CTEPH.