

**Preoperative transcatheter occluding bronchopulmonary collateral artery can alleviate reperfusion pulmonary edema and improve early hemodynamic after pulmonary thromboendarterectomy procedure**

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**[Abstract]:**

**Objective:** our objective was to characterize if preoperative transcatheter occluding of the bronchopulmonary collateral artery (PTOBPCA) can alleviate reperfusion pulmonary edema (RPE) after pulmonary thromboendarterectomy (PTE) procedure.

**Methods:** 155 cases of chronic thromboembolic pulmonary hypertension (CTEPH) admitted into Anzhen Hospital from January 2007 to August 2011 received PTE procedure. They were retrospectively classified as control group (Group A, n=87) or BCAO group (Group B, n=68). Members from Group B received PTOBPCA, whereas members from Group A did not. The development of RPE, duration of mechanical ventilation and intensive care unit stay, and hemodynamic were compared between groups.

**Results:** there were 5 in-hospital deaths (mortality 6/87, 5.7%) in Group A, no death (mortality 0%) in Group B ( $P=0.035$ ). 9 patients (9/87, 10.3%) in Group A required ECMO as life support after the PTE procedure, one patients (1/68, 1.5%) in Group B required ECMO (chi-square test,  $P=0.026$ , chi-square test=4.980). Group B had a shorter intubation and ICU stay, lower mPAP and PVR, higher PaO<sub>2</sub> and SaO<sub>2</sub> and less medical expenditure than Group A. With a mean follow-up time of (37.1 ± 21.4) months, three patients in the Group A and two patients died, and the difference of the actuarial survival at three years after the procedure between the two groups did not reached statistically significance.

**Conclusions:** PTOBPCA can alleviate RPE, shorten ICU stay and intubation time, improve early homonymic and reduce the chance of ECMO use after PTE procedure.

**Key word:** chronic thromboembolic pulmonary hypertension (CTEPH), pulmonary thromboendarterectomy (PTE), reperfusion pulmonary edema (RPE),