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(Background)

Chronic thromboembolic pulmonary hypertension (CTEPH) is known as a serious disease with poor prognosis. Although pulmonary endarterectomy (PEA) can cure some patients, not all patients can undergo PEA because of technical limitations. Recently, we reported our initial experience with balloon pulmonary angioplasty (BPA) for 68 inoperable patients with CTEPH. In this report, exercise capacity and hemodynamics were remarkably improved with low mortality. However, predictor of the improvement of oxygenation after BPA was not yet investigated.

(Method)

211 patients (male 16, mean age 62.3) with inoperable CTEPH who underwent BPA (1015 procedures) between November 2004 and February 2014 in our hospital were enrolled. 103 patients were completed BPA procedures and 97 patients were followed up more than 6 months. We divided the patients into two groups (fully improved oxygenation group: 58 patients whose O₂ saturation was greater than 95% without oxygen inhalation, partially improved oxygenation group: 39 patients whose O₂ saturation could not exceed 95% without oxygen inhalation even after BPA) and investigated patients' characteristics, hemodynamics and respiratory function at baseline and follow up.

(Result)

Hemodynamics and respiratory functions were equally improved in both groups. Diffusion capacity of the lung both at baseline and follow up were tended to high in fully improved oxygenation group, though the differences were not significant. The significant difference was observed only in patients' age (59.01 ± 12.46 vs. 65.52 ± 9.79 years old, $p < 0.05$). Younger patients had advantage in improvement of oxygenation after BPA.

(Conclusion)

The present results indicated that patients' age was the only predictor of the improvement of oxygenation after BPA in patients with CTEPH.