

A Gradual Improvement without Functional Restenosis One Year after Percutaneous Transluminal Pulmonary Angioplasty for Chronic Thromboembolic Pulmonary Hypertension

Takumi Inami, MD; Masaharu Kataoka, MD; Haruhisa Ishiguro, MD; Hanako Kikuchi, MD; Yohei Shigeta, MD; Hideaki Yoshino, MD; Toru Satoh, MD

Affiliation: Second Department of Internal Medicine, Kyorin University School of Medicine

Objectives: Percutaneous transluminal pulmonary angioplasty (PTPA) has been demonstrated to be effective for treatment of chronic thromboembolic pulmonary hypertension (CTEPH). However, the course of improvement and functional restenosis in PTPA has not been clarified yet.

Methods: Among 103 patients with CTEPH (average age: 62 ± 11 years old, male/female: 8/95, the number of PTPA per patient: 3.6 ± 1.6 , post-endarterectomy: 6) who underwent PTPA from January the first 2009 to December 31st 2013, 38 completed the follow-up right heart catheterization both at 6 and 12 months after the final PTPA. Hemodynamic parameters including mean pulmonary arterial pressure (PAP) and pulmonary vascular resistance (PVR) at baseline and final PTPA, and at 6 and 12 months after the final PTPA were compared.

Results: PAP and PVR significantly improved in the course (baseline vs. final PTPA vs. 6 months vs. 12 months after the final PTPA; PAP: 42.7 ± 9.8 vs. 27.3 ± 7.9 vs. 21.8 ± 3.3 vs. 19.9 ± 4.0 mmHg; $p < 0.01$; PVR: 10.2 ± 5.1 vs. 5.0 ± 2.8 vs. 3.1 ± 1.3 vs. 2.9 ± 1.6 wood unit; $p < 0.01$, at 6 months vs. 12 months: no significant change).

Conclusions: Hemodynamic parameters improved gradually during course of a year and did not deteriorate one year after the angioplasty, meaning no functional restenosis.