**Summary**

Transition of pulmonary arterial hypertension (PAH)-specific drugs are considered in patients with no response to combination therapy or with side effects to these drugs in those with PAH and chronic thromboembolic pulmonary hypertension. Riociguat directly stimulates soluble guanylate cyclase independently of nitric oxide. Therefore, transition from a phosphodiesterase 5 inhibitor (PDE5i), which requires nitric oxide to exert its effects, to riociguat might be effective. The length of time of washout periods for transition is important because hemodynamic instability sometimes occurs during washout periods or during transition in no washout periods. We investigated the feasibility of transition from PDE5i to riociguat without washout periods in 6 patients with PAH and 1 with chronic thromboembolic pulmonary hypertension who had already received dual or triple combination therapy. Causes of transition were due to headache caused by a PDE5i in 3 patients and an inadequate response to combination therapy in 4 patients. Transition succeeded in all patients without hemodynamic instability. Pulmonary vascular resistance (797 ± 241 to 518 ± 230 dyne/s/cm$^{-5}$) and systemic blood pressure (121 ± 13 to 100 ± 15 mmHg) were significantly reduced immediately after transition. There were no significant differences in the tricuspid regurgitation pressure gradient and systemic blood pressure between post-transition and follow-up. Headaches caused by a PDE5i were diminished after transition to riociguat. Transition from a PDE5i to riociguat without washout periods is safe. This transition may be a

viable option for patients with headaches caused by a PDE5i or an inadequate response to combination therapy including PDE5is.

**Key words:** sildenafil, tadarafil, soluble guanylate cyclase stimulator, headache