

## **The benefit of right heart rechatheterization in drug-treated pulmonary arterial hypertension patients**

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**Background :** Fatal Pulmonary Arterial Hypertension (PAH) caused by uncorrected atrial Septal Defect. The defect in interatrial septum cause shunt from systemic flow to pulmonary blood flow resulting blood overflow in pulmonary circulation. Pulmonary hypertension is a condition when mean pulmonary artery pressure (mPAP)  $\geq$  25 mmHg at rest with mean wedge pressure and end diastolic pressure  $<$ 15mmHg. Right heart catheterization is the definitive procedure to diagnose pulmonary hypertension also the tool to choose and evaluate therapy.

**Methods :** This study follows patients in Jogjakarta Congenital Heart Disease - Pulmonary Hypertension (COHARD-PH) Registry who received conservative treatment in Sardjito General Hospital, Indonesia. All patient undergo several exam pre-treatment including electrocardiography, chest x-ray, transthoracal echocardiography (TTE), transesophageal echocardiography (TEE), and right heart catheterization (RHC). Patients then received medication with Sildenafil, Beraprost, or both, depends on clinical status. Patients hemodynamic status reevaluate with RHC after several months.

**Results :** There were 20 patients enrolled in this study, 92% of them are females. Mean treatment duration was 18.1 months, 15 patients received both Sildenafil and Beraprost, 4 patients received Sildenafil only, and 1 patient received Beraprost only. The mean of first hemodynamic results were : mean pulmonary artery pressure (mPAP)  $52.40 \pm 14.43$  mmHg, flow ratio (FR) 2.05 (0.85-225), and pulmonary arteriolar resistance index (PARI) 9.90 (1.4-96) Wood Units. Patients mostly fall into moderate PH class (11) and severe PH class (5) .On the second times of RHC results in: mPAP  $53.90 \pm 17.18$  mmHg, FR 2.72 (1.12-504). and PARI 19.70 (1.9-8125) wood units. In the end of study period 2 patients are successively undergo closure by device and 1 patient passed away.

**Conclusion :** Right heart rechatheterization should be considered to be undergone to pulmonary arterial hypertension patients who received conservative drug therapy.