New Therapeutic Strategies for Patients with Atrial Septal Defect and Severe Pulmonary Arterial Hypertension (PAH): Combination of PAH-Specific Medical Therapy and Catheter Intervention

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Background:
Therapeutic strategy for atrial septal defect (ASD) patients with severe pulmonary artery hypertension (PAH) still remains controversial. Recent advances in medical therapy for PAH and catheter intervention may provide new therapeutic approaches in these patients. Purpose of this study was to assess the efficacy of combination therapy (transcatheter atrial septal defect (ASD) closure and pulmonary arterial hypertension (PAH)-specific drugs therapy) in ASD patients with PAH.

Methods:
Thirty-seven consecutive ASD patients with PAH who underwent transcatheter closure were enrolled (median age, 65 years). PAH was defined as a mean pulmonary artery pressure (PAP) ≥25 mm Hg at cardiac catheterization. Systolic PAP estimated by echocardiography was evaluated at baseline and follow-up (median, 25 months).

Results:
As shown in Figure, systolic PAP improved significantly at follow-up examination (median, 57 to 35 mm Hg; p < 0.001) compared with baseline examination. Reduction of systolic PAP was significantly greater in patients with PAH-specific drugs therapy (n = 8) than in those without drugs therapy (n = 29) (median, 47 vs. 18 mm Hg; p < 0.001).

Conclusions:
Even in patients severe PAH, combination of transcatheter closure and disease-targeted therapy can contribute the hemodynamic improvement and expand the therapeutic possibilities in ASD patients with PAH.