Title:

OUTCOMES OF SECUNDUM ASD CLOSURE
BY DIFFERENT BRANDS OF DOUBLE DISC DEVICE

Abstract: (Your abstract must use Normal style and must fit into the box. Do not enter author details)

Background: In Thailand, three brands of double disc nitinol devices are now available: Amplatzer Septal Occluder,ASO; Cocoon Septal Occluder,CSO and Occlutech Septal Occluder,OSO. The aim of this study was to evaluate safety and efficacy in a mid-term follow-up among different brands of double disc device for transcatheter ASD closure in adults.

Method: 148 cases were enrolled in the study. Inclusion criteria were those with significant intracardiac shunt, symptoms related to right heart failure or pulmonary arterial hypertension (PAH). Patients with ASD diameter > 35 mm, reverse atrial shunt, systemic PAH not responding to reactivity testing or contraindication for antiplatelet or anticoagulant therapy were excluded from the study. Patients' survival and clinical events occurrence were determined from reviews of medical records or direct patient contact. Major procedural complication included all events leading to death, need for cardiac surgery, life-threatening hemodynamic decompensation and permanent lesion resulting from the procedure.

Results: Majority of cases were female (77%). Mean pulmonary artery pressure (mPAP) was 21.7 $\pm$ 9.7 mmHg. Mean age was 40.0 $\pm$ 15.4 yr. Atrial fibrillation occurred in 9 cases (6%). 57 of cases (37%) had deficient aortic rim. ASO was implanted in 60, CSO 52 and OSO 36 cases. There was no significant difference among age, sex, mPAP and ASD diameter in each group. Procedural success was 93, 94 and 100% in ASO, CSO and OSO group. Median diameter of device implanted in ASO, CSO and OSO group was 28, 28 and 24 mm respectively. Mean follow up time was 31.3, 21.8 and 19.4 mo. in ASO, CSO and OSO group. Residual shunt in day1 was 41.7, 42.1 and 42.9% of ASO, CSO and OSO group. There was no residual shunt in all groups 1 month after implantation. Device embolization occurred in 3 cases (1 in each group). Two patients had massive pericardial effusion (1 in ASO, 1 in CSO) requiring surgical treatment. One patient of CSO group with AF developed stroke a month after implantation. There was no mortality in all groups.

Conclusion: In mid term follow up, all three brands of double disc device showed favorable outcomes without significant complications.

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