A COMPARATIVE STUDY OF CARDI-O-FIX SEPTAL OCCLUDER VERSUS AMPLATZER SEPTAL OCCLUDER IN PERCUTANEOUS CLOSURE OF SECUNDUM ATRIAL SEPTAL DEFECTS

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Background: We sought to investigate the safety and efficacy of Cardio-O-Fix septal occluder (CSO) in percutaneous closure of atrial septal defects (ASD) as compared to the Amplatzer septal occluder (ASO).

Methods: A consecutive of 351 patients received transcatheter ASD closure with CSO or ASO from July 2004 to October 2010 were studied. The ASDs were divided into simple- (isolated defects<26mm) or complex-types (isolated defect ≥26mm, double or multi-fenestrated defects). The procedures were guided by fluoroscopy and transthoracic or transesophageal echocardiography. Clinical and echocardiographic follow-ups were arranged before discharge, at 1 month and then every 6-month after implantation.

Results: During the study period, 185 (125 males, aged 18.5±15.6 years) and 166 (103 males, aged 21.0±15.7 years) patients attempted CSO and ASO implants, respectively. The CSO group had similar ASD and device sizes, prevalence of complex lesions (17 vs. 16%, p=0.796), procedural times and success rates (97 vs. 96%, p=0.635) as compared to the ASO group. Acute residual shunts were less prevalent in CSO than ASO group and most shunts closed spontaneously at 6-month follow-ups. The average equipment cost per patient was lower in CSO group (US$ 4,100 vs. US$ 5,900, p<0.001). The prevalence of device embolization and atrial arrhythmia (all <2%) were similar in both patient groups.

Conclusion: Transcatheter ASD occlusion with CSO is safe and effective and it appeared to be an attractive alternative to ASO in closing simple-type ASD because of its relatively low cost.