INTRA-ATRIAL REENTRY TACHYCARDIA ABLATION IN ADULTS WITH CONGENITAL DISEASE - CURATIVE OR JUST A SUCCESSFUL PROCEDURE?

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: Morbidity and Mortality in Adults with Congenital Heart Disease
Abstract Category: Adult Congenital Heart Disease
Presentation Number: 1118-398

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Background: The frequency of atrial arrhythmias (AA) increases with time following repair of congenital cardiac defects (CHD). The most common and clinically significant AA is intra-atrial reentry tachycardia (IART). Little is known regarding the occurrence of other AA following IART ablation.

Methods: We reviewed our combined institutional experience for IART ablation in adult patients post repair of CHD to assess whether IART ablation was curative. Attempts were made to ablate all inducible or spontaneous sustained AA with cycle length > 180 msec.

Results: Twenty-eight patients ranging in age from 16 to 57 years (mean age = 34 ± 12 years) underwent 29 ablation procedures. CHD consisted of single ventricle (6), tetralogy of Fallot (4), partial or total anomalous pulmonary venous return (4), d- transposition of the great arteries (2), atrial septal defect (8), atrio-ventricular septal defect (3), and Ebstein’s (1). Number of IART circuits ranged from 1-3 (median = 2). IART was isthmus dependent in 14 and atypical in 14 patients. Twenty-six of 29 (90%) procedures were successful (defined as lack of inducible IART). Procedure failures (3) were secondary to a supra-annular prosthetic TV valve (1), a patch overlying the TV (1), and unknown (1). Four recurrences (15%) occurred post-ablation between 17 days and 3.5 years; 1 patient had repeat successful IART ablation. Mean post ablation follow-up duration was 44 ± 37 months. Sinus node dysfunction was observed prior to ablation (15) and in the post-ablation period in 16 (57 %) patients. AV node dysfunction was noted pre-ablation in (9) and post-ablation in 10 (36 %) patients. Sixteen (57 %) patients had either pacemakers (11) or defibrillators (5). Following ablation, 11 (39 %) patients were on anti-arrhythmic medication for atrial tachycardia (2), atrial fibrillation (3), IART (5), and ventricular arrhythmia (1).

Conclusions: Our results confirm a high success rate of IART ablation in adults with CHD in the current era. Despite ablation success, IART in adult patients with CHD is frequently associated with additional arrhythmias - Sinus or AV node dysfunction and other AA; these patients should be warned of the probable need for adjunctive arrhythmia therapies.