1041 Beyond Radio Frequency: New Ablation Techniques

Sunday, March 30, 2003, Noon-2:00 p.m.
McCormick Place, Hall A
Presentation Hour: 1:00 p.m.-2:00 p.m.

1042-1 Treatment of Supraventricular Tachyarrhythmias With the CryoCor Cryoablation System: Worldwide Results

Luz-Maria Rodriguez, J. Christoph Geller, Hung-Fat Tse, Carl Timmermans, Sven Reek, Kathy Lau-Fan Lee, Gregory M. Ayers, Chu-Pak Lau, Helmut U. Klein, Harry J. Crijns, Academic Hospital Maastricht and Cardiovascular Research Institute, Maastricht, The Netherlands

Background: Cryoablation has been used during cardiac surgery for the treatment of arrhythmias. Recently, with the advent of newer cryogenic technology, it has been possible to develop endocardial catheters that deliver this form of thermal energy. Methods: There were 103 pts enrolled at four clinical sites in this multi-center trial. Of these, 43 had atrial fibrillation (AF) and were treated with the CryoCor Cryoablation System (CryoCor, Inc.) to electrically isolate the pulmonary veins using segmental ablation (PVA), while 60 pts had ablation targets that included right atrial sites (RAS) and were treated with ablation using conventional approaches dependent on the arrhythmia. Of the RAS pts, 43 had atrial flutter, 6 had Wolf-Parkinson-White syndrome, 7 had atrioventricular nodal re-entry tachycardia, 2 had a right atrial tachycardia, and 2 pts underwent atrioventricular junctional ablation for permanent AF. There were 78 males and 25 females enrolled, with the mean age 51 ± 13 years.

Results: There was 98% acute efficacy for all pts (98% for PVA and RAS as individual groups). With a mean of 8 months follow-up, 75% of PVA pts showed improvement after cryoablation, with 50% having no AF episodes documented on transtelephonic monitoring. Forty-two (42) of the 60 RAS pts had reached 3-month follow-up with a chronic success rate of 98% (2 pts had recurrence, 1 right lateral WPW, 1 right-sided AF). Both pts were retreated with cryoablation and at 6 months follow-up were recurrence-free. Two pts in the RAS developed a new arrhythmia, AF in both cases. There were 6 serious adverse events that occurred in 3 pts who were treated with PVA and 3 pts treated with RAS (three pulmonary vein-related events [one PVA and two RAS], a stroke, an AV fistula in the groin, and syncope). Comparison of spiral CT scans done at baseline with those at 3 months showed no stenosis in the PVA group.

Conclusion: Cardiac cryoablation is safe and effective for the treatment of supraventricular tachyarrhythmias in man.