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Radiofrequency Ablation of Left Ventricular Outflow Tract Ventricular Arrhythmias. The Tel-Aviv Medical Center Experience

Oholi Tovia-Brodie, Aharon Glick, Yoav Michowitz, Raphael Rosso, Bernard Belhassen
Cardiology, Tel-Aviv Sourasky Medical Center, Israel

Aim:
Left ventricular outflow tract (LVOT) arrhythmias are increasingly recognized. We aim to report the results of RF ablation of these arrhythmias in our laboratory.

Methods:
The study included 29 consecutive pts with LVOT arrhythmias who underwent RF ablation between years 2000-2012. A left retrograde arterial approach was used in all pts and a pericardial approach was also performed in 1. Identification of the arrhythmia site of origin was based on data from mapping activation, pace-mapping or both. RF energy (max temp 55deg) was delivered through standard 4-mm tip ablation catheters. A 3-D mapping system (NAVx) was used in1 pt.

Results:
There were 18 (62%) male and 11 (38%) female, aged 55$\pm$16.3 years. Most pts (59%) were symptomatic. All suffered from drug-refractory high grade ventricular arrhythmias (VA's) including multiple VPBs (86%), bigeminy (52%), non-sustained VT (48%), and sustained VT (14%). LV dysfunction (EF$\leq$35%) was observed in 7 (24%) pts. Twelve (41%) pts had undergone a previous ablation procedure. The left coronary cusp (LCC) was the most common site of origin of LVOT arrhythmias (21 pts; 72%). Other locations included: the right coronary cusp (RCC), the junction of the RCC-LCC commissures and the endocardial-LVOT (2 pts each), the aortic-mitral continuity and the anterior interventricular great vein (1 pt each). Acute successful ablation was achieved in 20 (69%) pts. The procedure failed in 7 (24%) pts. The result of the procedure was unclear in 2 pts. Transient abolition of the arrhythmia was achieved in 5 of 7 (71%) of pts in whom the procedure failed. Two patients (7 %) experienced a vascular complication.

Conclusions:
In our experience, LVOT arrhythmias mostly originate from the LCC. RF ablation is moderately effective in this type of arrhythmias and is associated with a low rate of complications, in concordance with results of the literature.