Surgery and Supraventricular Arrhythmias


Introduction: Ebstein’s anomaly is associated with symptomatic arrhythmias, particularly accessory pathway mediated reciprocating tachycardia (APRMT), AV node reentry tachycardia (AVNRT) and atrial flutter/fibrillation (AFF). This study evaluated the management and long-term outcome of patients with Ebstein’s anomaly and these arrhythmias.

Patients and Methods: Between 1990 and 2001, 131 patients (pts) with Ebstein’s anomaly and arrhythmias were evaluated at the Mayo Clinic. Of these pts, 107 had an electrophysiology (EP) study. Based on the mechanism of arrhythmia by history, ECG and EP study, the patients were divided into three groups: (A) 49 with APRMT, mean age 18.4 ± 13.1 yrs; (B) 7 with AVNRT, mean 19.7 ± 14.5 yrs; and (C) 54 AFF, mean 35.4 ± 6.4 yrs.

Results: Forty-nine patients underwent successful surgical intervention for accessory pathway (AP) (pts surgical division, 11 cryoablation, and 11 combined procedures). Ninety percent of pts were followed a mean of 48 ± 36 months (range 3 to 136 months). There was no recurrent APRMT. Four of 6 pts underwent successful radiofrequency ablation of AP without complication or death. Of 7 pts with AVNRT, 4 underwent successful pericardial cryoablation for AVNRT. Two of the 4 pts were followed for 72 months without recurrent arrhythmia related to AVNRT. Thirty-eight pts underwent successful surgical intervention for AFF (50 night atrial Maze procedure and 8 cryoablation of the isthmus). Eighty-nine percent of pts were followed a mean of 37 ± 27 months (range 9 to 92 months) and 10 pts (40%) had recurrent AFF.

Conclusion: Electrophysiologic study has an important role in diagnosis and management of pts with Ebstein’s anomaly and supraventricular tachyarrhythmias, especially for APRMT and AVNRT. Surgical intervention for APRMT and AVNRT has an excellent success rate. For AFF, while successful, is less effective in reducing the recurrence of this arrhythmia. These pts may require adjunctive medical therapy to prevent recurrence of AFF.