

Pacing to Enable Antiarrhythmic Treatment of Paroxysmal Atrial Fibrillation in Sick Sinus Syndrome – Justified or Futile?

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Background: In some patients (pts) with Sick Sinus Syndrome (SSS) and very symptomatic Paroxysmal Atrial Fibrillation (PAF), pacemakers (PM) are implanted to enable continuation of antiarrhythmic therapy (AARx). Information is scarce about natural course of these pts following PM implantation (I), mainly regarding maintenance of sinus rhythm and PM use over time.

Aim: We sought to explore the natural history of pts with SSS paced to enable effective AARx for symptomatic PAF.

Methods: Baseline and follow up data of 188 subjects with PAF and SSS implanted and followed at our institution (1992 to 2007) with DDD PM in order to enable AARx, were retrospectively analyzed. Major end point was time to development of permanent AF. The predictive value of several baseline parameters for development of permanent AF was also analyzed

Results: 188 subjects were followed for 51±34 months (range 0-168 months) following PM implantation. 52 (28%) developed permanent AF 37±31 months following implantation (range 0-135 months). 70 patients died. Of pts who developed permanent AF 46% became PM dependent. Predictors of development of permanent AF included the use of class 1A anti arrhythmic drugs (n= 27, P=0.05), Angiotensin Receptor Blockers (ARBs) (n= 42, P=0.036) and electrical cardioversions during the year before PMI (n= 31, P=0.009). None of these variables had a predictive value strong enough to be used in decision making on PMI. Time to death was shorter in pts who did not develop permanent AF (P value= 0.003).

Conclusions: Our data suggest that in the majority of pts with symptomatic PAF and SSS, judged to need rhythm control, PMI to enable AARx is justified, as the majority maintain sinus rhythm, time to development of permanent AF is long and is difficult to predict, and many of those developing permanent AF still use their PMs. Patients with permanent AF lived longer. The significance and mechanism of this observations remains to be studied.