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The optimal pacing strategy in sinus sick syndrome

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In patients with sinus sick syndrome (SSS) the usual pacing method is biventricular pacing (DDD mode). Although this method assures atrio-ventricular synchronicity (atrial contraction followed by ventricular contraction), it carries several disadvantages: 1. it induces interventricular contraction dys-synchronicity (the right ventricle contract firstly, being the first stimulated, and the left ventricle follows to contract step by step following the depolarization that propagates from the right ventricle through the myocardium), and 2. a higher incidence of atrial fibrillation. The SAVE PACe study, sponsored by one of the largest pacemaker manufacturers, evaluated the utility of a newpacing algorhythm (called MVP) in patients with SSS, against usual biventricular pacing algorhythm. The MVP algorhythm allows a significant reduction of unnecessary ventricular pacing, preserving normal atrio-ventricular conduction. One thoudsand and sixty five patients were included in the study. They were randomized 1:1 to the two treatment groups. The MVP pacing system was associated with a far less ventricular pacing (9.1%) compared with usual biventricular pacing (99%). This was associated with a 60% reduction in new atrial fibrillation in the MVP group (7.9% vs. 12.1%, $P < 0.009$). In conclusion, MVP biventricular pacing algorhythm is associated with a profound reduction in unnecessary ventricular pacing and a significant reduction of new atrial fibrillation. ❑

Comment on the paper:

Sweeney MO, Bank AJ, Nsah E, et al, for the Search AV Extension and Managed Ventricular Pacing for Promoting Atrioventricular Conduction (SAVE PACe) Trial. – Minimizing Ventricular Pacing to Reduce Atrial Fibrillation in Sinus-Node Disease. *N Engl J Med* 2007; 357:1000-1008