ATRIAL LEAD IMPLANTATION IS ASSOCIATED WITH CONVERSION TO SINUS RHYTHM AND MAINTENANCE OF SINUS RHYTHM IN PATIENTS WITH LONG-STANDING ATRIAL FIBRILLATION UNDERGOING ATRIOVENTRICULAR NODE ABLATION AND BIVENTRICULAR PACEMAKER IMPLANTATION

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Background: Patients with heart failure (HF) and long-standing atrial fibrillation (AF) who undergo atrioventricular node ablation with biventricular pacing (AVN+BiV) generally do not receive atrial leads (A-leads) since the atrium is refractory to pacing during AF. We have noted spontaneous conversion to sinus rhythm (SR) following AVN+BiV in a number of such patients and have therefore been implanting A-leads in some. We examined the rates of conversion to and maintenance of SR in such patients with particular reference to the presence of an A-lead.

Methods: Retrospective chart analysis was performed in 36 patients with AF and HF who were treated by AVN+BiV. A-lead placement had been performed at the discretion of the implanting physician.

Results: Mean follow-up was 17.1 ± 8.3 months. Fourteen patients (39%), converted to SR spontaneously or during defibrillation threshold testing or ICD shock. 13/14 (93%) patients who achieved SR were noted to have an A-lead while 8/22 (36%) had an A-lead in the group which failed to achieve SR (Figure). Ten of the converters maintained SR for greater than 6 months, nine of whom had an A-lead.

Conclusions: Presence of an A-lead was associated with conversion to and maintenance of SR for at least 6 months. This effect may be due to restoration of AV synchrony and/or the effect of atrial pacing on atrial electrophysiology after cardioversion. A-lead implantation may encourage SR restoration in patients with AF undergoing AVN+BiV and merits consideration in all such cases.