Abstract: **P1151**

**Rate responsive pacing and atrial high rate episodes in CRT patients. Lowering heart rate is key**

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**On behalf:** Home Monitoring Expert Alliance

**Topic(s):**
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**Background:** The role of atrial rate-responsive (RR) pacing in cardiac resynchronization therapy (CRT) is unclear due to the favorable effect of rate lowering in systolic heart failure. Atrial high rate episode (AHRE) onset in CRT recipients is particularly worrisome since they cause loss of CRT, beyond representing a stroke risk factor.

**Purpose:** We investigated the effect of atrial RR on the incidence of AHREs.

**Methods:** Daily remote monitoring transmissions from 836 CRT recipients were analyzed. AHREs were classified by duration: =15 minutes, =5 hours, and =24 hours. Variables possibly associated to AHREs were included in time-dependent proportional-hazard models, averaging over 30-day periods and adjusting for main baseline variables.

**Results:** After a median follow-up of 24.5 (12.2-42.9) months, 507 (60.6%) patients experienced at least one 15-minute AHRE. RR function was programmed in 166 (19.8%) patients and was associated with an increased AHRE occurrence rate with hazard ratio (HR) ranging from 1.45 to 1.78 for the 3 cutoffs of episode duration. The negative effect of RR function was not observed in the subset of patients with low mean heart rate (<68 bpm). Higher mean heart rates increased AHRE risk (HR:1.02, p=0.01), while CRT amount decreased it (HR:0.98, p<0.01). The extent of atrial pacing did not predict AHRE occurrence.

**Conclusions:** RR pacing in CRT recipients is associated with increased AHRE occurrence, especially when an average heart rate >68 bpm is attained. In CRT recipients, VDD mode at low resting rate should be preferred, and RR pacing considered in the event of severe sinus bradycardia with reduced heart rate variability.
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