PROGRESSION FROM NEW ONSET TO ESTABLISHED PERSISTENT ATRIAL FIBRILLATION: CORRELATING CLINICAL CLASSIFICATIONS WITH IMPLANTABLE DEVICE DATALOG INSIGHTS

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Introduction: Atrial fibrillation (AF) burden is being increasingly used as a clinical trial endpoint but its relationship to the clinical classification & progression of AF is unknown.

Methods: 330 patients with paroxysmal AF & bradycardia who were implanted with a dual chamber pacemaker that recorded the cumulative daily atrial premature beat (APB) & tachyarrhythmia (AT/AF) burden. AF progression to persistent AF (PRAF) including new onset & recurrent PRAF episodes was examined. Established PRAF was defined as PRAF that did not terminate spontaneously.

Results: 78 pts (24%) progressed to PRAF at a mean interval of 147 ± 149 days during an average follow-up of 401 ± 123 days. Median duration of new onset initial PRAF events was 17 (range 7-363) days. 67% had a second PRAF event with a median duration of 13 (7-404) days. Median AF burden prior to the first PRAF was 3.5 hrs/day & second PRAF was 15.3 hrs/day (p<0.05). Self terminating PRAF was observed in 39 pts & established PRAF in 18 pts. Median APB frequency & AF burden prior to the last self terminating episode of PRAF & established PRAF (Figure) did not differ (p=0.88).

Conclusions: 1. AT/AF burden shows changing patterns with marked increase after initial PRAF recurrence but does not predict development of established PRAF. 2. New onset PRAF rapidly progresses from self terminating episodes to established PRAF in many pts. 3. Use of AT/AF burden as a trial endpoint in PRAF may require careful randomization to ensure parity in AF progression risk.