**NON-INVASIVE ASSESSMENT OF DRONEDARONE EFFECTS ON ATRIAL ELECTROPHYSIOLOGY DURING SINUS RHYTHM AND ATRIAL FIBRILLATION**

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Background: Dronedarone (Drone) used for atrial fibrillation (AF) has only moderate efficacy in preventing atrial arrhythmias and is frequently associated with bradyarrhythmias. This study attempted to non-invasively explore Drone effects on AV nodal and atrial electrophysiology in AF patients during sinus rhythm (SR) or AF. Methods: In 72 patients (30 males, mean age 67 ± 9 years), ECG recordings were made under resting conditions during AF (n=33) or sinus rhythm (SR, n=39) at baseline and after 3-5 days of Drone (2 x 400 mg/d p.o.).

Results: During SR, PR interval was prolonged from 177 ± 34 to 194 ± 52 ms (p=.02) and PWD was prolonged from 152 ± 25 to 162 ± 28 ms (p=.011). During AF, VR was reduced from 93 ± 21 bpm to 81 ± 16 (p=.004) and atrial fibrillatory rate was reduced from 405 ± 73 fpm to 370 ± 40 fpm (p=.009). The relative changes were more pronounced for PR interval (9 ± 18%) compared with PWD prolongation (7 ± 13%; p<.05). Similarly, changes in VR (-11 ± 17%) were more pronounced than AFR changes (-7 ± 9 %, p<.05).

Conclusions: Dronedarone exhibits stronger effects on the AV node than on atrial electrophysiology which may explain the modest antiarrhythmic efficacy and the increased risk for bradyarrhythmias. Conduction slowing expressed by PR and PWD prolongation during SR as well as VR reduction during AF is the clinically dominant effect.