Empiric Quinidine for Asymptomatic Brugada Syndrome – Preliminary Results of an International Registry

Arnon Adler¹, Louise Olde Nordkamp², Lia Crotti³, Peter Schwartz³, Silvie Castelletti³, Rainer Schimpf⁴, Christian Veltmann⁵, Wataru Shimizu⁶, Charles Antzelevitch⁷, Bernard Belhassen¹, Tan Hanno², Wilde Arthur², Viskin Sami¹

¹Department of Cardiology, Tel Aviv Medical Center, Israel
²Heart Failure Research Centre, Department of Cardiology, Academic Medical Center, Netherlands
³Department of Cardiology, University of Pavia and IRCCS Fondazione Policlinico San Matteo, Italy
⁴1st Department of Medicine-Cardiology, University Medical Centre Mannheim, Heidelberg University, Germany
⁵Department of Cardiology, Hannover Medical School, Germany
⁶Department of Cardiovascular Medicine, National Cerebral and Cardiovascular Center, Japan
⁷Masonic Medical Research Laboratory, USA

Background
Common practice for asymptomatic Brugada Syndrome (BrS) has included risk stratification with electrophysiological studies (EPS) and defibrillator implantation when the latter are positive. However, several multicenter studies show that EPS has limited value for predicting spontaneous ventricular fibrillation.

Methods
Patients with a type 1 Brugada ECG, who have no arrhythmia-related symptoms and no heart disease, are included in the Registry. They receive quinidine-therapy or no-therapy depending on physician’s/patient's preference. EPS are not recommended.

Results
137 patients from the Netherlands (51), Italy (41), Israel (23), Germany (14) and Japan (8) have been recruited; 93 (71%) are male. Age at presentation is 43±12 (11-79) years. Symptoms include palpitations (19%), chest pain (9%) and vagal syncope (19%); 56 patients have a family history of BrS or sudden death before age 50. The type 1 ECG pattern was spontaneous in 49 patients (including spontaneous on "high-leads" in 7 and fever-induced in 10) and drug-induced in 88. Disease causing mutations were found in 23% and genetic variants of unknown significance in 3%. Twenty patients received empiric quinidine therapy. Of them, 4 had presented with syncope (believed to be vasovagal) and 4 were asymptomatic but had familial history of sudden death or BrS. 9 patients had a spontaneous type 1 ECG pattern. Five (25%) patients discontinued quinidine because of asymptomatic QT prolongation (2 patients), diarrhea, asymptomatic abnormal liver function tests and patient's preference (1 patient each). Follow-up >4 months (1.8 ± 0.9 years) is available for 59 patients. The only serious adverse event was syncope (leading to defibrillator implantation) in 1 untreated patient.

Conclusions
In our Prospective Registry of asymptomatic patients with BrS, most physicians and patients opt for no-therapy. Long term quinidine therapy is well tolerated by 75%. The risk of an arrhythmic event proved to be low.