

Efficacy and limitations of quinidine therapy in patients with Brugada Syndrome

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Background: Quinidine at high-dose is used in patients with Brugada Syndrome (BrS), but its efficacy to prevent life-threatening arrhythmic events (LAE) in BrS is unproven and its use is limited by side effects.

Objective: We assessed whether low-dose quinidine in BrS patients reduces: 1) the occurrence of a first LAE; 2) the arrhythmic burden in the high-risk group of cardiac arrest survivors.

Methods: We first compared the clinical course of 53 BrS patients treated with quinidine to that of 441 untreated controls, matched by sex, age, and symptoms. Furthermore, we calculated the annual incidence of LAEs off- and on-quinidine in 123 BrS patients who had survived a cardiac arrest.

Results: First, we compared the clinical course of 53 BrS patients treated with quinidine (i.e. "cases": 89% males, median age 40 years) to that of 441 untreated, clinically-matched BrS patients (i.e. "controls": 91% males, median age 41 years) present in our database of patients with inherited arrhythmias. Cases received quinidine (median dose of 450 mg per day) for

5.0±3.7 years. Quinidine was interrupted in only 3/53 cases (6%) for side effects and it conferred a nonsignificant reduction of the risk of a first LAE in cases versus controls (HR 0.74, 95% CI 0.22–2.48, P=0.62).

Secondly, we calculated the annual recurrence of LAE off- and on-quinidine in 123 BrS cardiac arrest survivors, 27 of whom were treated with quinidine for 7.0±3.5 years. The annual rate of recurrent LAEs decreased significantly from 14.7% while off-quinidine to 3.9% while on-quinidine (P=0.03). Notably, recurrent life-threatening arrhythmic events were recorded in 4/27 (15%) symptomatic patients while on-quinidine.

Conclusion: We demonstrated for the first time in the long-term that low-dose quinidine reduces the recurrence of life-threatening arrhythmias in symptomatic BrS patients, with few side effects. Remarkably, about one-fifth of symptomatic patients experience life-threatening arrhythmias while on-treatment, suggesting that quinidine cannot replace implantable defibrillators in high-risk subjects.