THE EFFECT OF ATRIAL RHYTHM ON THE QTC INTERVAL: IMPLICATIONS FOR DOFETILIDE DOSE TITRATION

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Background: Dofetilide (D), which blocks Ikr, is used in patients with atrial fibrillation (AF). However, due to QTc prolongation and risk of torsade de pointes, hospitalization is required for D initiation. QTc intervals may be more challenging to measure during ongoing AF. Thus, we sought to determine the relationship between QTc intervals during AF and sinus rhythm (SR) in the same patient to determine whether QTc intervals obtained during AF can be used reliably to titrate D dosing.

Methods: We studied pts who were in AF at the time of admission for D initiation. We compared the QTc (Bazett’s formula) interval on the last ECG (lead II) in AF (RR intervals averaged over 6 seconds) to the first ECG in SR.

Results: The cohort had 38 pts (60 ± 10 yrs, 84% males) with AF for 71 ± 75 mos; 9 (24%) patients had an EF < 50%. Spontaneous cardioversion (CV) occurred in 28 (74 %) pts after 2.9 ± 1.7 doses of D; 10 (26%) underwent electrical CV. The QTc interval assessed immediately post-CV was significantly shorter than one assessed during AF (Figure).

Conclusions: Dofetilide dose titration is critically dependent on accurate assessment of the QTc interval. These data suggest that QTc intervals measured in AF are significantly longer than those measured in SR. As a result, it may be prudent to consider electrical CV in patients with AF to assess the QTc interval before considering a reduction in D dosing, as lower doses are known to compromise drug efficacy.