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Risk Factors for Adverse Events During Outpatient Antiarrhythmic Drug Initiation: Implications for Establishing Protocols

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Background

- Atrial fibrillation (AF) management guidelines highlight the importance of early rhythm control initiation
- Effective antiarrhythmic drugs (AAD) like sotalol and dofetilide require inpatient monitoring due to risks of QT prolongation and ventricular arrhythmias (VA), such as Torsades de Pointes (TdP)
- Despite interest in outpatient initiation to improve treatment access and reduce hospitalization, adverse events (AE) are not well understood

Objective: Assess AAD-induced AEs

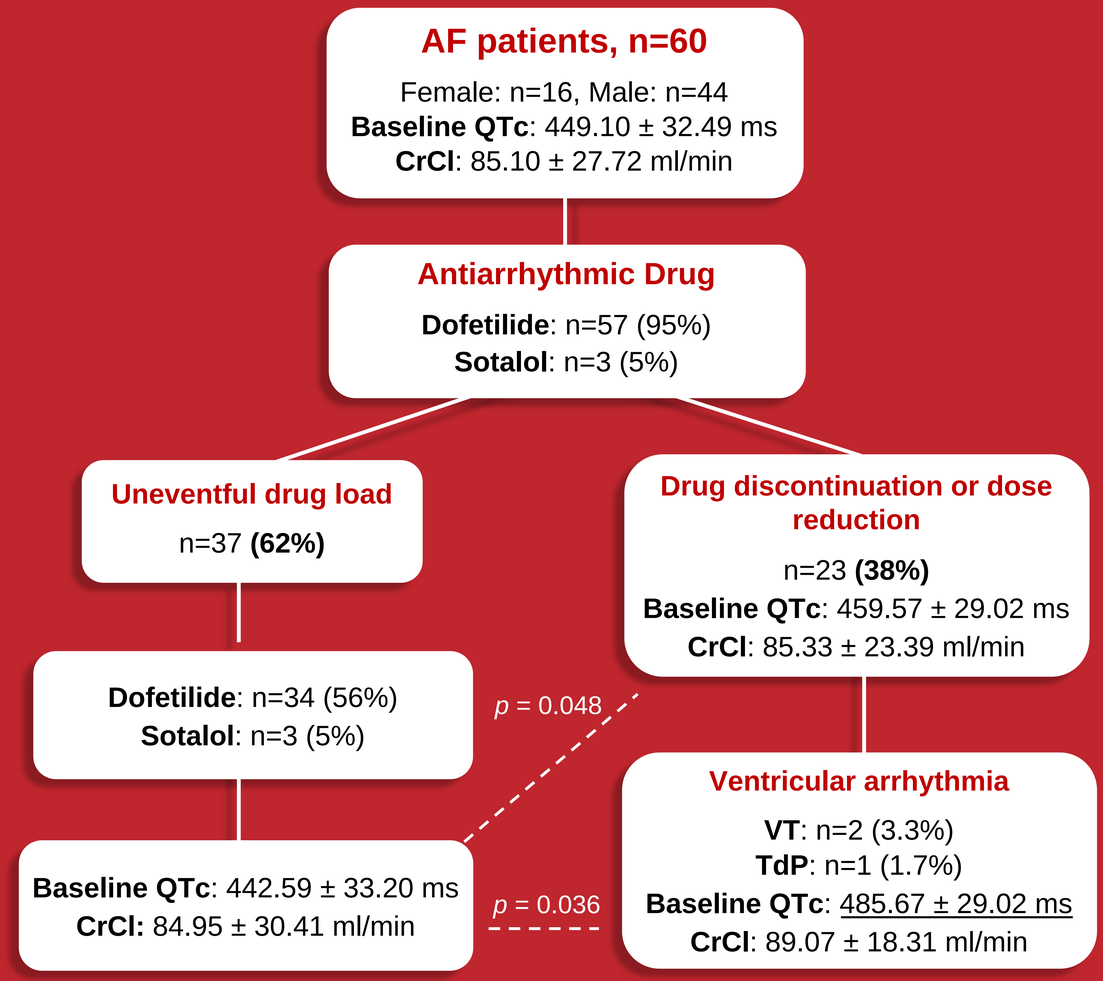
Methods

Data collected from AF patients admitted for AAD initiation at a large academic center: Jul 2022 - Apr 2023

Demographics, AF characteristics, and QTc measurements data were extracted

AEs included dose changes or discontinuation from prolonged QTc or VA

Adverse events (*QTc prolongation and TdP*) were associated with patients who had baseline QTc > **500 ms,** or when drug dosing ***deviated*** *from manufacturer recommended labeling*.



Results

Overall Patient Status:

AF patients (n=60) were admitted for AAD loading with 71.67% (n=43) having AF
- Initiated 57 with dofetilide, 3 with sotalol
- Twenty-seven (45%) met baseline QTc criteria (mean of 449.10 ± 32.49 ms)

Mean CHA2DS2-VASc score was 2.64 ± 1.17
Mean CrCl was 85.10 ± 27.72 ml/min

Patients with AEs (n=23):
- 5 were female
- 16 had congestive heart failure
- 15 had baseline QTc (459.57 ± 29.02ms) *contraindicated* for dofetilide (> 440 ms)
- **5 had baseline QTc > 500 ms**

Ventricular Arrythmias (n=3):
- **All 3/3 were contraindicated to start AAD based on baseline QTc**
- Two had dose reductions due to ventricular ectopy
- One required AAD discontinuation due to TdP
- Most significant QTc difference between uneventful and ventricular arrhythmia groups (p = 0.036)

What does this mean?

- Analysis of inpatient AAD loading **supports *clear QTc thresholds* associated with uneventful drug loads versus adverse events**, which is important for guiding outpatient protocols
- **Adherence to manufacturer guidelines** is crucial for safe outpatient protocol development

Disclosures

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