Atrial Fibrillation (AF) - Treatment

# Antiarrhythmic Medication for Atrial Fibrillation (AIM-AF) study: A physician survey of sotalol use and patient monitoring in the EU and USA

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**Introduction:** In the recent 2020 European Society of Cardiology (ESC) guidelines, sotalol was downgraded from a Class IA to a IIbA recommendation and advised not to be prescribed in patients with specific co-morbidities. All patients given sotalol should also be closely monitored for proarrhythmic risk factors. To date, American guidelines have not changed. Our study sought to understand the use of sotalol in AF patients and monitoring compliance across the USA and in the EU, with regards to the recent ESC guideline change.

**Method:** An online physician survey of cardiologists, cardiac electrophysiologists (EPs) and interventional EPs (N = 569) was conducted in the USA, Germany, Italy and the UK. All respondents were actively treating ≥10 AF patients who received drug therapy and/or who had received or were referred for ablation. This survey included topics on AF types and antiarrhythmic drug (AAD) treatment practices in those with AF +/- co-morbidities (including left ventricular hypertrophy [LVH], LV heart failure, and sinus node dysfunction or renal impairment).

**Results:** Sotalol was prescribed across all patient sub-groups, with high use in those with hypertension (49% of physicians) and revascularised coronary artery disease (44%). Sotalol use was consistently higher among US respondents than EU clinicians across co-morbidity categories (heart failure with reduced ejection fraction: 25% vs 14% [guideline deviation]; hypertension: 53% vs 44%; valve disease: 33% vs 23%; recent myocardial infarction [MI]: 44% vs 22%; old MI: 52% vs 31%, respectively). Use was also generally higher among EPs compared with cardiologists, but remained low in patients with minimal or no structural heart disease across all groups. Many respondents prescribed sotalol in those with LVH (35%) or renal impairment (22%), despite guidelines advising against this due to proarrhythmia risk. This contrasts with expressed respondent concerns, as 43% cited ventricular proarrythmia risk as a reason for not using sotalol. Although respondents noted concern over such risks, as per the new guidelines, routine monitoring for these factors was not performed as follows: electrocardiograms (ECG) (19% [US: 23%; EU: 15%]), renal function assessment (42% [US: 36%; EU: 50%]) or electrolyte monitoring (48% [US: 49%; EU: 46%]). Respondents reported sotalol is typically initiated in hospital (45% of patients) or in outpatients with intensive ECG monitoring (37%), but is also being started in non-monitored outpatients (19%).

**Conclusions:** Although sotalol use among EU clinicians was lower compared with the USA, which may reflect recent ESC guideline changes, the extent of monitoring practices that would indicate avoidance in those with proarrhythmic risk factors was insufficient. The lack of routine monitoring for specific factors, such as renal impairment or electrolytes, and unmonitored outpatient initiation highlights an ongoing need for further education on maximising safety when using AADs.

Abstract Figure.

Figure: (a) Proportion of respondents who do not conduct routine ECG, renal or electrolyte investigations (at least annually) in patients who are receiving sotalol; (b) Proportion of patients who are initiated on a sotalol regimen in different clinical settings