

Safety of Inpatient Dofetilide Initiation per Cardiology Services: A Retrospective Review

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Abstract

Background Dofetilide is an antiarrhythmic medication that has the potential to cause life threatening arrhythmias, such as Torsade de pointes. The 2014 ACC/AHA/HRS guidelines for the management of patients with atrial fibrillation state that patients need to meet certain criteria to be initiated on dofetilide. Patients who are not initiated on this therapy according to the guideline criteria are likely to be at higher risk of adverse reactions. **Methods** This is a single center, retrospective chart review of patients who were initiated on dofetilide from July 2016-December 2019. Patients included in the study were initiated on dofetilide as a new antiarrhythmic and monitored inpatient for three days. The primary outcome was a composite of incidence of cardiac arrhythmias, cardiac arrest, cardiac death, and cardiac related hospital readmission. **Results** There were 224 patients included in the analysis: 190 patients who were initiated on dofetilide inappropriately and 34 that were initiated appropriately. The primary outcome (composite of cardiac arrhythmia, cardiac arrest, cardiac death, and hospital readmission) was statistically significant with more patients experiencing an outcome in the group initiated inappropriately. **Discussion** Patients are placed at a higher risk of adverse reactions when this potentially dangerous antiarrhythmic medication is not used according to the protocol set forth by the guidelines. **Conclusion** Practitioners should use caution when prescribing dofetilide. Other antiarrhythmic medications or non-pharmacologic options should be considered due to the incidence of these dangerous adverse reactions.

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Table 1: Baseline Characteristics

	Not Appropriate	Appropriate	
Patient Characteristic	(n=190)	(n=34)	P-value
Age (Years)			0.311
Mean (SD)	71.3 (10.32)	69.4 (9.27)	
Gender - n (%)			0.470
Female	91 (47.9)	14 (41.2)	
Male	99 (52.1)	20 (58.8)	
BMI (kg/m²)			0.904
Mean (SD)	32.5 (9.13)	32.3 (7.50)	
Diagnosis - n (%)			0.619
Atrial fibrillation	126 (66.3)	25 (73.5)	
Atrial fibrillation/Atrial flutter	63 (33.2)	9 (26.5)	
Atrial flutter	1 (0.5)	0	
Cardiac History - n (%)			
Hypertension	168 (88.4)	33 (97.1)	0.215
Hyperlipidemia	141 (74.2)	23 (67.6)	0.426
Heart Failure	116 (61.1)	23 (67.6)	0.466
Coronary Artery Disease	86 (45.3)	14 (41.2)	0.659
CrCl (Baseline)			0.943
Mean (SD)	65.9 (26.80)	66.3 (28.46)	