

Evaluation of a pharmacist-run antiarrhythmic clinic in an ambulatory practice

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Abstract

Objective: To describe the impact of a pharmacist-run antiarrhythmic clinic in an outpatient practice.

Setting: Blanchard Valley Medical Associates (BVMA) in Findlay, OH.

Practice description: BVMA is a 15-physician private practice with five pharmacists on staff who run several disease management clinics.

Practice innovation: Patients receiving amiodarone or sotalol are referred to a pharmacist-run antiarrhythmic clinic within an outpatient physicians' office. The pharmacist is responsible for coordinating, monitoring, and reviewing results with patients.

Evaluation: A retrospective chart review was conducted to compare adherence to monitoring protocols between patients referred to the pharmacist-run clinic and patients managed solely by physicians, and to evaluate the type and frequency of pharmacist-initiated interventions. Patients had received antiarrhythmic treatment for at least 6 months before the beginning of the retrospective review.

Results: A total of 130 patient charts were reviewed. Adherence for each recommended testing parameter for patients on amiodarone and sotalol was significantly higher among patients managed by a pharmacist, compared with usual care. A total of 62 adverse events were detected, and 39 interventions were made by the pharmacist group.

Conclusion: Patients with pharmacist monitoring of outpatient antiarrhythmic medications had greater adherence to recommended testing protocols compared with usual care.

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Antiarrhythmic medications play a critical role in the treatment of cardiac arrhythmias such as atrial fibrillation, atrial flutter, and ventricular tachycardia. Vaughan–Williams Class III antiarrhythmic agents, such as amiodarone and sotalol, are effective, yet require careful use to avoid serious adverse drug events.¹ For example, sotalol requires renal dosage adjustments, and amiodarone carries the risk of thyroid dysfunction. Both agents increase the risk for QT interval prolongation, which can cause proarrhythmic adverse effects. Periodic monitoring with laboratory draws and other testing is needed to prevent any adverse events and to ensure the safe and effective use of these medications.^{2–4} Standardized monitoring protocols based on established guidelines exist for amiodarone (e.g., North American Society of Pacing and Electrophysiology guideline for amiodarone monitoring); however, no formal guidelines exist for

monitoring sotalol.¹

Studies that have examined adherence to recommended monitoring protocols in patients receiving amiodarone have shown that usual care (management by a physician) is commonly not completed in accordance with recommended guidelines.^{1,4–6} Pharmacist-managed clinics for monitoring antiarrhythmic medications have increased adherence to monitoring protocols and increased the identification of adverse events and drug interactions.^{1,6–8} Anticoagulation clinics have been managed by pharmacists across the United States for many years. Monitoring of antiarrhythmic drug therapy has become a natural extension for the pharmacist's role and can provide integral value to patients, especially in a multidisciplinary collaborative environment. Further, many patients cared for in anticoagulation clinics are being treated with concomitant antiarrhythmic medications because of diseases such as atrial fibrillation, which allows for a single patient population to gain additional benefits from an integrated pharmacy service.

Published literature indicates that pharmacist monitoring of antiarrhythmic medications improves adherence to recommended testing protocols. In a retrospective chart review (n = 134) by Snider and colleagues, adherence to protocols at baseline and after enrollment in an antiarrhythmic clinic was assessed over a 9-month period. Before referral to the clinic, 59% of patients had completed all recommended testing; after the initial visit to the clinic, 98.5% of patients had completed all recommended testing.¹ In a retrospective examination followed by prospective follow-up (n = 60) by Sanoski and colleagues, the clinical outcomes resulting from the development and implementation of a multidisciplinary amiodarone clinic were assessed over 16 months. Before referral to the amiodarone clinic, 23% of patients had completed all recommended testing; the percentage of patients who had completed testing increased significantly to 90% after enrollment in the clinic.⁶

These studies illustrate that antiarrhythmic monitoring is not commonly completed in accordance with the recommended guidelines, providing a gap in care that pharmacists can fill. Antiarrhythmic medications require close monitoring and prompt responses to prevent adverse drug events. Previous studies have been completed in institutional clinics, but information on outpatient management is needed as these medications are commonly used in such settings. Moreover, characterizing deficiencies in usual management of antiarrhythmic medications provides pharmacists information to identify care issues and facilitate proper management in a variety of settings.

Objective

The objective of this study was to describe the impact of a pharmacist-run antiarrhythmic clinic in a physician group practice in Findlay, OH.

Key Points

Background:

- Antiarrhythmic agents, such as amiodarone and sotalol, are effective in treatment of cardiac arrhythmias yet require routine testing to avoid serious adverse drug events and interactions.
- Studies of adherence to monitoring protocols in patients receiving these medications have shown that usual care (management by a physician) is often not consistent with the recommended guidelines.
- Pharmacist-managed clinics for antiarrhythmic medications have increased adherence to monitoring protocols and identification of adverse events and drug interactions.

Findings:

- The current study, completed in the novel setting of a multidisciplinary physicians' practice, demonstrated a statistically significant increase in adherence to monitoring protocols for amiodarone and sotalol in patients managed by pharmacists compared with patients managed by usual care.
- The results from this study show value for pharmacists and their abilities to assist physicians in monitoring antiarrhythmic medications. With increasing focus on pharmacist-provided patient care, descriptions of novel roles for pharmacists help support recognition of the value of such services.
- This study also illustrates deficiencies in the usual management of antiarrhythmic medications; issues can be identified and addressed by pharmacists in any setting through patient counseling, education, and referral.

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