Evaluation of Patients Transitioning from Direct Oral Anticoagulants (DOAC) to Warfarin

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1. Background

   The American College of Chest Physicians (CHEST) guidelines recommend anticoagulation with direct oral anticoagulants (DOAC) over vitamin K antagonists for a myriad of disease states including venous thromboembolism (VTE) without an associated cancer diagnosis and atrial fibrillation without moderate-to-severe mitral stenosis or a mechanical heart valve. Despite these recommendations, many patients are unable to remain on DOAC therapy and are transitioned back to warfarin for management of their condition. This project aims to identify common barriers to DOAC therapy in patients who have received anticoagulation through the health system. Results from this quality improvement project will be used to develop institutional policies and protocols.

2. Methods

   This is a single center, observational cohort, of patients transitioning from DOAC to warfarin therapy between March 1, 2016 and November 30, 2019. Patients were identified using reports for DOAC (apixaban, rivaroxaban, edoxaban, and dabigatran) and warfarin electronic prescription orders through the health system. Patients were included if they were 18 years of age or older and received at least one dose of a DOAC and subsequently switched to warfarin therapy. Prisoners, pregnant women, patients changed to warfarin for the watchman procedure, and patients receiving anticoagulation for pre-specified orthopedic procedures were excluded. The primary outcomes are the number of patients transitioning during the specified time frame and the clinical reason(s) for the transition. Secondary outcomes include appropriateness of treatment regimens, actual body weight, and clinically significant drug interactions in treatment failures. The goal sample size is 150 patients and descriptive statistics will be used.

3. Results

   Of the 184 patients identified, 73 were included. The top three reasons patients were switched from DOAC to warfarin were; cost in 29 patients (39.7%), treatment failure in 15 patients (20.5%) and other in 9 patients (12%). Some of the reasons in the other category included elevated INR, side effects, and allergy. Possible causes of treatment failures include inappropriate dosing in 1 patient (1.4%), clotting disorder in 3 patients (4.1%), missed doses in 5 patients (6.8%), and weight > 120 kg in 6 patients (8.2%).

4. Conclusion

   The anticoagulation task force will utilize this information to recommend appropriate DOAC prescribing. Improving quality of alerts to acknowledge contraindications at the time of ordering will be useful for providers to detect and consider possible reasons for DOAC failures. Educating patients on available patient assistance programs is expected to minimize transitions due to cost. Providing proper counseling in layman terminology

may decrease treatment failures due to missed doses. This review showed the issues the health system could work to correct are; underlying cost issues at therapy initiation, correct DOAC dosing, not using DOAC therapy in patients with clotting disorders and proper patient counseling about consequences of missed doses.