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Retrospective Utilization Review of Dabigatran and Rivaroxaban in Patients with Atrial Fibrillation

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Introduction

Use of novel oral anticoagulants (NOACs) based on evidence-based recommendations is vital to strike the balance between stroke risk and bleeding risk.

Objectives

This study aimed to promote the optimal use of NOACs by reviewing prescriptions and identifying problems in real-life practice.

Methodology

A retrospective review was conducted in a hospital setting using electronic patient record. Patients with atrial fibrillation who were prescribed dabigatran or rivaroxaban from Jan 1, 2014 to Dec 31, 2014 for stroke prevention were identified using Clinical Data Analysis and Reporting System. Data obtained were compared with international guidelines and manufacturers' recommendations. Rates of adherence to recommendations regarding renal dosage adjustment, drug-drug interactions, and transition of anticoagulants were reviewed. Efficacy and safety outcomes were assessed in terms of incidence rates of thromboembolic events and bleeding events.

Result

In this study, 85 patients on dabigatran and 94 patients on rivaroxaban were included. Three patients on dabigatran (3.5%) and 50 patients on rivaroxaban (53.2%) required renal dosage adjustment. Among these, one patient on dabigatran and 20 patients on rivaroxaban were prescribed adjusted dose in accordance with international guidelines. Five drug-drug interactions (2.79%) were identified which involved concomitant use with carbamazepine or phenytoin. Switching approaches were documented in 12 out of 45 transitions of anticoagulants. Of which, four transitions were found to adhere to recommendations. For efficacy and safety outcomes, 11 thromboembolic events (6.6% per patient year) occurred in eight patients were found

in dabigatran group, of whom four had documented compliance problems or had withheld the drug for planned procedure. Only one thromboembolic event was found in rivaroxaban group and it was found that the patient had not resumed the drug after withheld for planned procedure. Rates of any bleeding events were 10.8% per patient year (18 events) for dabigatran and 17.7% per patient year (20 events) for rivaroxaban, which were comparable to international clinical trials results. This study compared local clinical practice with evidence-based recommendations. To promote safe and effective use of NOACs, various approaches can be considered including provision of clinical decision support and development of drug reference table. Pharmacist may also collaborate with doctors to promote appropriate use of NOACs.