RURAL-URBAN DISPARITIES IN WARFARIN TREATMENT AND OUTCOMES IN PATIENTS WITH ATRIAL FIBRILLATION

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Background: Warfarin is an effective agent in the prevention of stroke in patients with atrial fibrillation (AF), yet it requires close monitoring. Rural patients often have decreased access to health care, and may be good candidates for new oral anticoagulants that require less monitoring. However, it is unknown whether there is a difference in warfarin treatment and outcomes between urban and rural settings.

Methods: We compared warfarin utilization patterns, and stroke and bleeding outcomes in rural and urban settings in a population-based cohort study of patients aged 65 years or older admitted to hospital with a diagnosis of AF in Quebec, Canada, 1999-2007. We used linkage between hospital discharge databases, physicians and prescription drug claims. Patients’ postal codes were used to differentiate between rural and urban locations. Rural locations were areas where there are no letter carriers (i.e. residents go to a post office or postal box to pick-up their mail).

Results: The cohort consisted of 19,488 rural (21.9%) and 69,374 urban (78.1%) patients, with similar median age (79 years) and similar rates of comorbidities. Mean CHADS2 score was lower in rural patients (1.87 vs. 1.93, p<0.01). Warfarin prescriptions dispensed within 7 days post-discharge were generally low (50.9% in rural and 47.3% in urban patients), increased with the increment of CHADS2 score, and were higher in rural locations, independent of age and comorbidities (adjusted OR 1.16, 95% CI: 1.12, 1.20). Mean initial prescription dose was slightly lower among rural patients (4.2 vs. 4.6 mg, p<0.01). In multivariable Cox regression analysis, the risk for stroke was higher in rural locations (adjusted HR: 1.07, 95% CI: 1.00, 1.14), with no additional bleeding risk, even after adjusting for warfarin use.

Conclusions: Although filled warfarin prescription rates were higher in rural patients compare to urban patients, rural patients have a slightly higher risk for stroke. It is possible that physicians in rural settings prescribe warfarin more conservatively with cautious dosing regimens due to patients’ decreased access to health care facilities, therefore rural patients may benefit from access to the new anticoagulants.