Factors associated with new oral anticoagulant versus vitamin K antagonist use in atrial fibrillation: Insights from the Stroke Prevention and Rhythm Interventions in Atrial Fibrillation (SPRINT-AF) registry

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BACKGROUND

- Stroke prevention with oral anticoagulation (OAC) is an important treatment goal for patients with atrial fibrillation (AF), particularly in those at elevated risk.
- Novel oral anticoagulants (NOACs) have revolutionized OAC use in the current era. Presently, 3 NOAC agents are available in Canada for AF stroke prevention (Dabigatran, Rivaroxaban, Apixaban).
- Currently, little is known with regards to how clinical, patient-, and physician-factors influence the use of vitamin K antagonist (VKA) vs. NOAC for AF stroke prevention in contemporary Canadian clinical practice.

Overview of study objectives: SPRINT-AF (phase 1)

- PRIMARY
  - To determine how Canadian physicians assess stroke risk in adults with AF and make therapeutic decisions with respect to oral anticoagulation.
  - To assess how new oral anticoagulants are incorporated into clinical practice.
  - To evaluate regional differences in care.
  - To compare management strategies between primary care physicians and cardiovascular specialists.

- SECONDARY
  - To document of AF (based on a 12-lead electrocardiogram (ECG), rhythm strip, or from device interrogation) within the past 36 months.
  - The patient must have been assessed by the participating physician within 12 months from the date of enrollment.
  - Age ≥18 years.

Inclusion criteria

- Documentation of AF (defined as: mitral valve or significant valvular heart disease (e.g. venous thromboembolism, hypercoagulable disorders)
- Presence of prosthetic heart valve or significant valvular heart disease (e.g. venous thromboembolism, hypercoagulable disorders)
- Active malignancy.
- Life expectancy <12 months.
- An existing clinical indication for OAC treatment other than AF (e.g. venous thromboembolism, hypercoagulable disorders)
- Prior participation in an OAC randomized trial.

Exclusion criteria

- Presence of prosthetic heart valve or significant valvular heart disease (e.g. venous thromboembolism, hypercoagulable disorders)
- Active malignancy.
- Life expectancy <12 months.
- An existing clinical indication for OAC treatment other than AF (e.g. venous thromboembolism, hypercoagulable disorders)

Study Design:

- Phase 1 of SPRINT-AF was a multicenter, cross-sectional, retrospective study involving 101 clinical practices in 10 Canadian provinces.
- Subjects were recruited from December 1, 2012 to July 31, 2013.
- Eligibility criteria to qualify for formulary coverage.
- Subjects were included in the provincial formulary coverage plans in 2013.

Methods

- An existing clinical indication for OAC treatment other than AF
- The reported OR denotes the ratio of the odds of warfarin use vs. NOAC use (VKA / NOAC).
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- The SPRINT AF registry was supported by an investigator initiated grant to the Canadian Cardiovascular Research Network by Bayer Canada Inc. Bayer Canada Inc. was not involved in the development or the execution of any component of this registry.

Table 1. Baseline demographics of patients treated with VKA vs. NOAC.

Table 2. Decision influencing choice of VKA vs. NOAC.

Table 3. Unadjusted and adjusted odds ratio for factors associated with VKA vs. NOAC use.

Summary and Clinical Implications

- In this contemporary national registry, NOAC agents are prescribed in about 50% of the enrolled subjects.
- Improved side effect profile, as perceived by the patient, was strongly associated with NOAC use (vs. VKA) (OR 0.12, 95% CI: 0.07 to 0.10, p < 0.001). Lower cost was strongly associated with VKA use (vs. NOAC) (OR 4.72, 95% CI: 3.23 to 6.90, p < 0.001). These findings suggested that patient-based preferences were important factors in the choice of OAC.

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