DSEN ABSTRACT

Comparative Safety and Effectiveness of Direct Oral Anticoagulants and Warfarin in Patients with Atrial Fibrillation: A Multicentre Cohort Study (Q16-13)

A study conducted by the Canadian Network for Observational Drug Effect Studies (CNODES)

Summary

- DOACs and warfarin provide similar effectiveness for ischemic stroke prevention for patients with NVAF in Canada.
- However, DOACs carry a lower risk of major bleeding and all-cause mortality compared with warfarin.

Key messages

- This large pan-Canadian study provides key data on the relative benefits and harms of DOACs as compared with warfarin for the treatment of patients with non-valvular atrial fibrillation.
- These data can assist in informing physicians prescribing these medications along with other evidence and patient preferences.

Project Lead & Team

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Link to publication

- Durand et al.CMAJ Open. 2020. doi: 10.9778/cmajo.20200055

What is the issue?

- Both vitamin K antagonists (mostly warfarin) and direct oral anticoagulants (DOAC: dabigatran, rivaroxaban, apixaban and edoxaban) are used for anticoagulation therapy for stroke prevention in patients with non-valvular atrial fibrillation (NVAF).
- The use of DOACs is increasing due to fewer drug-drug and drug-food interactions and less need for monitoring.

What was the aim of the study?

- This study, conducted by the Canadian Network for Observational Drug Effect Studies (CNODES), evaluated the safety and effectiveness (clinical benefits and harms) of DOACs in patients with NVAF compared to warfarin.

How was the study conducted?

- CNODES conducted a retrospective propensity score-matched, cohort study using administrative healthcare records on 255,851 patients newly prescribed anticoagulants, identified from seven Canadian provinces.
- Patients with NVAF newly prescribed DOACs (dabigatran, rivaroxaban or apixaban) were matched to those newly prescribed warfarin.
- The primary outcome was ischemic stroke or systemic embolization; secondary outcomes included major bleeding, all-cause mortality, myocardial infarction, and a composite outcome of all strokes, major bleeding and all-cause mortality.
- Hazard Ratios (HR) and 95% confidence intervals (CI) were estimated and pooled across sites using meta-analysis.

What did the study find?

- The study cohort included 128,273 new users of DOACs matched to 128,273 new users of warfarin, followed for an average of 2 years.
- Comparing DOACs with warfarin showed:
  - A similar risk of ischemic stroke (HR 1.02; 95% CI: 0.87 to 1.20),
  - A lower risk of major bleeding (HR 0.81; 95% CI:0.69 to 0.97),
  - A lower risk of the composite outcome of all strokes, major bleeding and all-cause mortality (HR 0.81; 95% CI: 0.74 to 0.89) and
  - A lower risk of all-cause mortality (HR 0.81; 95% CI:0.78 to 0.8).
- This large pan-Canadian study further demonstrates the ability of CNODES to analyze a large amount of anonymous patient data to contribute to the understanding of a drug's risks and benefits after they have been marketed.
- The results of this study, the most comprehensive of its kind in Canada, are consistent with previous research.

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CIHR IRSC Canadian Institutes of Health Research / Instituts de recherche en santé du Canada

CNODES CANADIAN NETWORK FOR OBSERVATIONAL DRUG EFFECT STUDIES

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