Effectiveness and Safety of Direct Oral Anticoagulants Versus Warfarin in Patients with Atrial Fibrillation and Cancer: A Target Trial Emulation from SEER-Medicare Database

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INTRODUCTION

- Direct oral anticoagulants (DOACs) are preferred over warfarin in patients with atrial fibrillation (AFib). However, their safety and effectiveness in patients with AFib and cancer are inconclusive.
- In this study, we implemented a target trial framework to compare the effectiveness and safety profiles of DOACs and warfarin among newly diagnosed AFib patients with cancer.

METHODS

- Study design and data source: retrospective, population-based cohort study using the SEER-Medicare database 2011-2019
- Study components of emulation are described in Table 1

![Figure 1](image1)

- Study design and timeline

  - Confounder: a set of 37 time-fixed baseline covariates and 7 time-varying covariates.
  - Statistical analysis:
    - Inverse probability treatment weights and inverse probability censoring weights were used to adjust imbalanced patient and disease characteristics and loss to follow-up between the two groups.
    - Weighted pooled logistic regression were used to estimate treatment effect with hazard ratios (HRs) and 95% confidence interval (95% CIs).
    - Subgroup analyses: cancer type (breast, lung, prostate), cancer status at baseline (active, history), cancer stage (local, regional, and distant), and tumor grade (I, II, and III).
    - Sensitivity analyses: (1) 6-month grace period, (2) including individuals with all levels of baseline CHA2DS2-VASc score, (3) 36-month follow-up, (4) removing patients with metastatic cancer at baseline, (5) removing patients with thrombocytopenia, (6) truncated stabilized weights at 95th percentile.

![Figure 2](image2)

- Study sample flowchart

![Figure 3](image3)

- Weighted survival curves for ITT analysis

![Figure 4](image4)

- Weighted survival curves for PP analysis

![Figure 5](image5)

- Observational analog of intention-to-treat and per-protocol effect

ADDITIONAL INFORMATION

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CONCLUSION

DOACs are safe and effective alternatives to warfarin in the management of patients with AFib and cancer.