

REAL WORLD EVIDENCE OF RECURRENT VENOUS THROMBOEMBOLISM IN ELDERLY PATIENTS: DIFFERENCES BY PHARMACOLOGIC PROPHYLAXIS TREATMENT

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OBJECTIVES

To examine recurrent venous thromboembolism (rVTE) in patient cohorts receiving direct oral anticoagulants (DOACs) or heparin.

METHODS

The TNX Platform, a US-based network of linked claims and electronic medical records (EMR), was used to identify patients receiving prophylactic DOACs or heparin after the first VTE event (index event) using ICD and RxNorm codes. The cohort definition is described in Figure 1. A propensity score model with over 57 unique baseline characteristics identified two matched cohorts, using nearest-neighbor-greedy matching. Model characteristics included demographics, history of malignancies, history of cardiovascular disease, risk factors, or medications, and surgery. Any rVTE events were stratified into deep vein thrombosis (DVT) and pulmonary embolism (PE). Risk differences (RDs), 95% confidence intervals (CIs), and Kaplan-Meier (KM) curves measured 1- and 6-month recurrence after the index event.

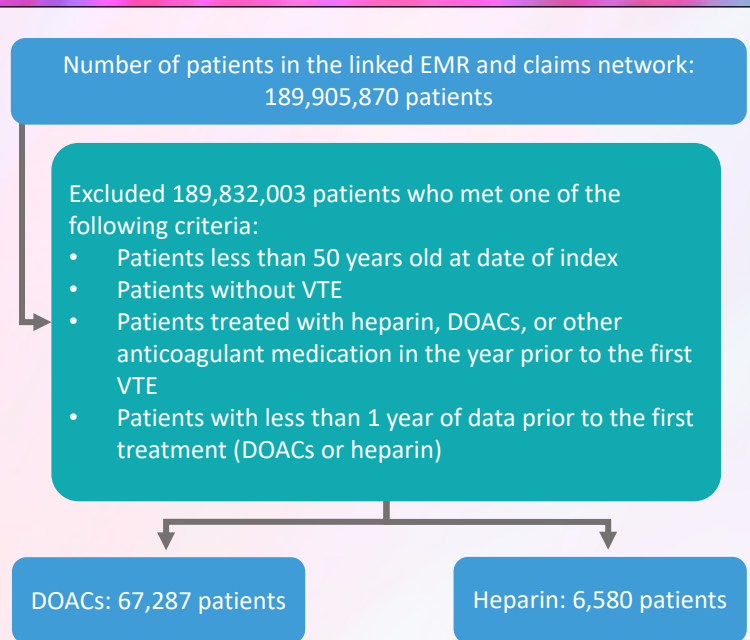


Figure 1. Patient flow diagram

RESULTS

After matching, the standardized mean difference for all baseline characteristics was less than 10%. In the 1-month following treatment, patients treated with DOACs experienced 2.4% fewer rVTE events and 4.3% fewer PE events. When measuring recurrence over 6 months, patients treated with DOACs experienced 1.6% fewer rVTE events. KM curves showed DOAC-treated patients experience fewer rVTE events overall until about 1-2 months after the index event, at which point patients who receive heparin respond more positively.

	DOACs	Heparin	Risk Difference
Total N (matched samples)	6,383	6,383	--
Age (mean +/- standard deviation)	68.6 +/- 9.9	68.0 +/- 9.3	--
Female (%)	54.3	54.3	--
White (%)	6.6	6.6	--
Black (%)	1.7	1.5	--
Hispanic (%)	0.6	0.6	--
Outcomes: 1-month after index			
Any rVTE (%)	38.9	41.3	-2.4*
DVT (%)	28.7	27.9	0.8
PE (%)	15.9	20.2	-4.3*
Outcomes: 6-month after index			
Any rVTE (%)	58.0	51.5	6.5*
DVT (%)	43.5	36.5	7.0*
PE (%)	23.7	25.3	-1.6*

*p-value<0.05

Table 1. Demographics and outcomes in matched sample

CONCLUSIONS

Results suggest that DOACs perform better than heparin in the first months following the index event, but this does not remain constant over time. Studies showing DOACs to be superior to heparin should closely consider length of observation. Further analysis is required to examine changes in treatment and confounders over time.

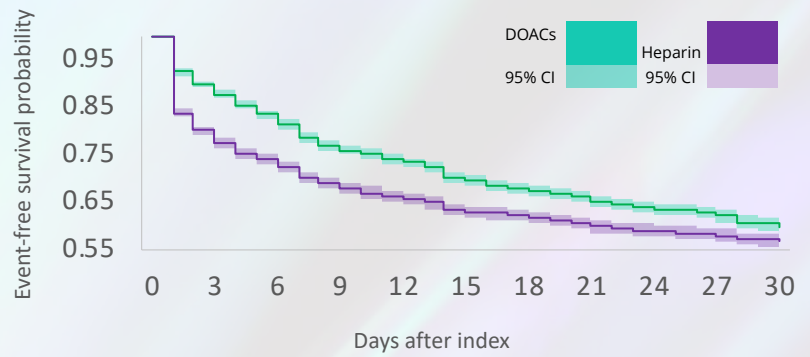


Figure 2. Any rVTE incidence (1 month follow up)

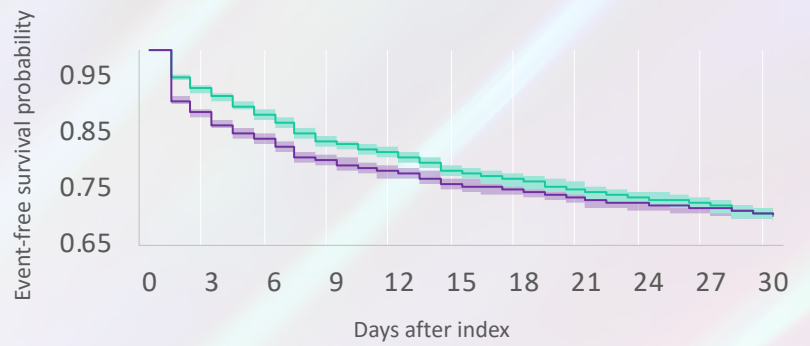


Figure 3. PE incidence (1 month follow up)

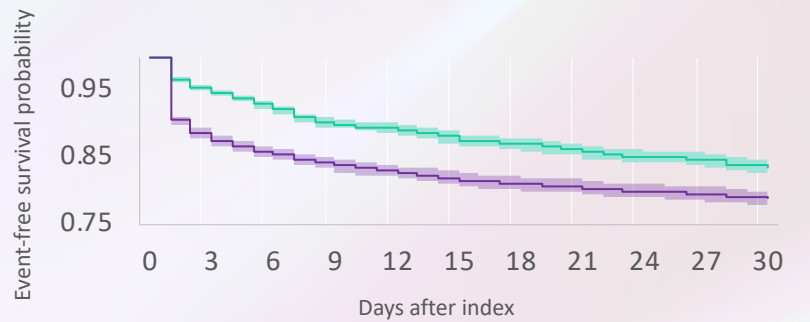


Figure 4. DVT incidence (1 month follow up)

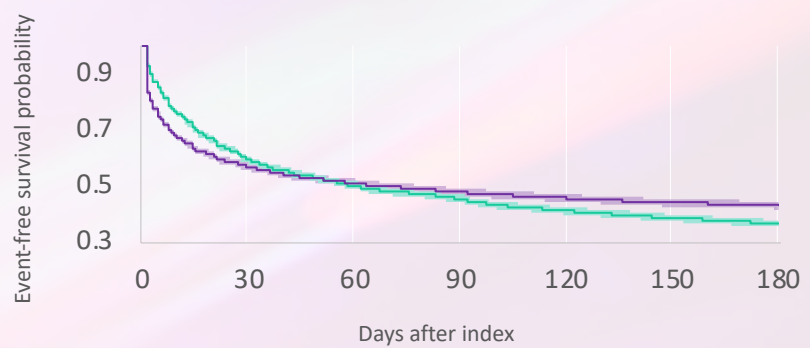


Figure 5. Any rVTE incidence (6 month follow up)

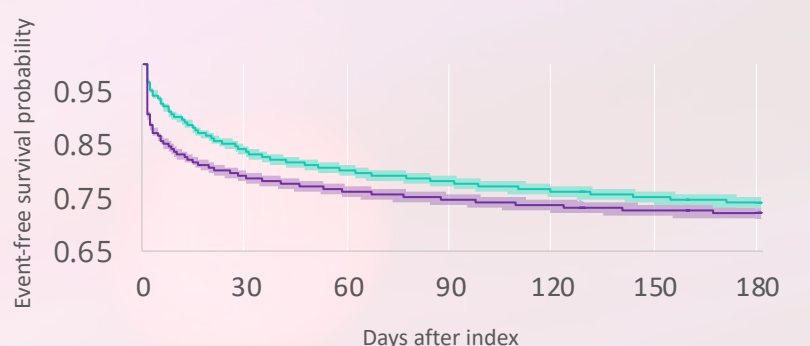


Figure 6. PE incidence (6 month follow up)

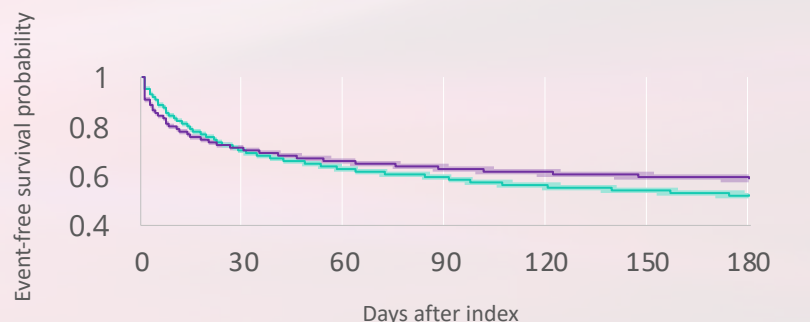


Figure 6. DVT incidence (6 month follow up)