**Title (in sentence case):**

A ten-year review of the impact of the transition from warfarin to direct oral anticoagulant – Has venous thromboembolism treatment become safer?

**Aim:**

The introduction of direct oral anticoagulants (DOAC) has resulted in a paradigm shift in the management of venous thromboembolism (VTE). We evaluate the impact of the transition to DOAC, over the last decade, on overall VTE clinical outcomes including in first unprovoked major VTEs.

**Method:**

A retrospective analysis of all VTE admissions in non-cancer patients from January 2011 to December 2020 at Northern Health, Victoria, Australia. “Warfarin era” included events that occurred between January 2011 and December 2014 and “DOAC era” from January 2015.

**Results:**

There were 2687 cases involving 2508 patients (45.9% males; median age 63 years). 98% were symptomatic and 1261 events (47%) were unprovoked. 1003 events occurred during the warfarin era (79% warfarin, 6% DOAC) and 1684 during the DOAC era (22% warfarin, 66% DOAC). While recurrent thrombosis within 12 months from index event was comparable, there were fewer recurrence beyond 12 months in the DOAC era compared to warfarin era (HR 0.482, 95% CI: 0.329-0.706, p<0.001). Clinically significant bleeding events were lower in the DOAC era (HR 0.628, 95% CI: 0.407-0.970, p=0.036). A subanalysis of first unprovoked major VTE events (n=602) demonstrated a significant reduction in recurrent VTE beyond 12 months from the index event in the DOAC era (HR 0.354, 95% CI: 0.147-0.854, p=0.021) with no difference in clinically significantly bleeding rates (HR 1.711, 95% CI 0.753-3.885, p=0.199) between the eras.

**Conclusion:**

Treatment outcomes for VTE have improved over time with reduced rate of thrombotic and clinically significant bleeding complications in the DOAC era.