Effectiveness and safety of oral anticoagulation with non-vitamin K antagonists compared to well-managed vitamin K antagonists in naïve patients with non-valvular atrial fibrillation: Propensity score matched cohort study

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BACKGROUND: The global real-life impact of non-vitamin K antagonist oral anticoagulants (NOACs) introduction in the healthcare system in a setting of well-managed vitamin K antagonist (VKA) therapy has not been specifically addressed.

METHODS: We did a population-based retrospective cohort study in naïve patients initiating oral anticoagulants for stroke prevention in atrial fibrillation in a region with a well-managed VKA therapy. NOAC and VKA cohorts were identified using Anatomical Therapeutic Chemical (ATC) codes, while excluding other indications for anticoagulation therapy using ICD-9CM codes. Propensity score was conducted using two different approaches: stratification and 1:1 matching. Event-rates were assessed using both an intention to treat (ITT) and as treated analyses.

RESULTS: Of the 137,800 selected patients, 40,411 (6923 treated with NOACs and 33,488 with VKAs) were identified (June 2013-December 2015). Overall ischaemic stroke and major bleeding risk did not significantly differ between the groups both in the ITT and as treated analyses. Noteworthy, intracranial bleeding risk was lower with NOACs (stratified model HR=0.69; 95%CI 0.48-0.99; 1:1 matched model HR=0.73; 95%CI 0.47-1.13) reaching statistical significance in the as treated analysis in both stratified and 1:1 matched models (HR=0.51; 95%CI 0.32-0.80 and HR=0.52; 95%CI 0.30-0.90, respectively).

CONCLUSION: Despite well-managed anticoagulation with VKAs, NOACs' introduction has a positive global impact in the public healthcare system in terms of effectiveness and safety especially by lowering intracranial bleeding.

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