Ischemic stroke and major bleeding while on direct oral anticoagulants in naïve patients with atrial fibrillation: impact of resumption or discontinuation of anticoagulant treatment. A population-based study

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Aims

We assessed the cumulative incidence of recurrent stroke, major bleeding and all-cause mortality associated with restarting antithrombotic treatment, in patients experiencing an anticoagulation-related event (stroke or major bleeding), occurred during anticoagulation therapy for AF.

Methods and results

We performed a retrospective population-based analysis on linked claims data of patients resident in the Veneto Region, treated with DOACs for AF and discharged (2013-2020) from the hospital for stroke, intracranial haemorrhage (ICH), and major bleeding. To adjust for competing risk of death and reduce confounding, we started the follow up after a 120-days blanking period, counting events in patients resuming oral anticoagulation versus those that did not. Risks of all-cause mortality, ischemic stroke (IS)intracranial haemorrhage (ICH), and other major bleeding events (MB) were estimated with multivariable Cox proportional hazard models and propensity score to adjust for differences in baseline characteristics. Overall, 1029 patients (mean age 77 years) were included in the final cohort: 23% experienced an IS, 18% an ICH, and 59% MB. Of these, 77% resumed anticoagulation. The cumulative incidence of events was significantly lower in patients resuming therapy. In the multivariable analysis considering age, sex and propensity score as covariates, resumption of anticoagulation significantly reduced the risk of a cumulative event (HR 0.45, 95%CI 0.35-0.57, $p < 0.01$). Stratifying for the index event, among patients with IS (92% resumed therapy), we observed a risk reduction of 81%; in patients with ICH (64% resumed therapy), we observed a risk reduction of 64% and for patients with MB (76% resuming therapy), we observed a risk reduction of 49%.

Conclusions

In patients with AF who experienced an anticoagulation-related event, resuming oral anticoagulation was associated with better outcomes for all-cause mortality and subsequent events as compared with patients who did not resume treatment.

Keywords: Anticoagulants; Atrial fibrillation; Haemorrhage; Ischemic stroke; Recurrence.