Direct Oral Anticoagulants for Extended Thromboprophylaxis in Acutely Ill Medical Patients

Background

Acutely ill hospitalized medical patients are at high risk of venous thromboembolism (VTE) with the risk persisting even after hospital discharge. In order to gain further insight, we conducted a meta-analysis to evaluate the safety and efficacy of extended- versus short-duration thromboprophylaxis in these patients.

Methods

PubMed, MEDLINE, Scopus and the Cochrane Central Register of Controlled Trials were searched from the inception of these databases till September 2018. Randomized clinical trials (RCTs) that compared the efficacy and safety of direct oral anticoagulants (DOACs) administered for an extended period with subcutaneous enoxaparin administered for a standard period, followed by placebo or placebo alone were included. The main summary estimate was random effects odds ratios (ORs) with 95% confidence intervals (CIs).

Results

Four RCTs randomized more than 17,000 patients to each study group. Compared to control group, the DOACs reduced the risk of composite efficacy outcome of asymptomatic proximal DVT, symptomatic VTE and VTE-related death (OR: 0.76, [0.66, 0.86]). Excluding patients with asymptomatic proximal DVT from primary outcome yielded similar results (OR: 0.68, [0.55, 0.85]). However, Subgroup analyses only revealed significant decrease in symptomatic VTE with DOACs (OR: 0.62 [0.47, 0.82], $p < 0.01$). The safety outcomes of major bleeding and non-major clinically relevant bleeding occurred in 0.5% and 2.2% of the patients in DOAC group as compared to 0.3% and 1.2% of patients in the control group (OR for major bleeding: 1.97 [1.26, 3.08], $p < 0.01$; OR for non-major clinically relevant bleeding: 1.85 [1.30, 2.61], $P < 0.01$)

Conclusion

In acutely ill medical patients, DOAC reduced the risk of venous thrombosis as compared to enoxaparin or placebo. Overall, the bleeding risk was low but more events were noted in the DOAC group.