Abstract

Introduction: Cancer is associated with a higher risk of venous thromboembolic events compared to the general population. About one-fifth of patients diagnosed with venous thromboembolic events have underlying cancer. The guidelines recommend both low molecular weight heparin and direct oral anticoagulants for the prevention and treatment of venous thromboembolic events. Further evidence is required to adequately characterize the exact role of direct oral anticoagulants.

Methods: A systematic review of the literature was done by searching the databases of Medline, Cochrane Central Register of Controlled Trials (CENTRAL), and ClinicalTrials.gov. The analysis included only randomized controlled trials enrolling adult patients with cancer and venous thromboembolic events comparing low molecular weight heparin versus direct oral anticoagulants. Duration of follow-up of at least 6 months was considered as a minimum. The studies had to assess the risk of thromboembolic recurrence rate, all-cause mortality, and risk of bleeding.

Results: The final search results led to the inclusion of five randomized controlled trials. The analysis showed a similar risk of recurrence of venous thrombotic events (RR 0.71, 95% CI 0.44-1.17; $p = 0.18$), mortality risk (RR 1.02, 95% CI 0.88-1.17; $p = 0.8$), and major bleeding (RR 1.05, 95% CI 0.69-1.62; $p = 0.81$) between the two treatment groups.

Conclusion: The use of direct oral anticoagulants is a feasible and practical option in ambulatory cancer patients with venous thromboembolic events. The efficacy and safety are similar to that of low molecular weight heparin.

Keywords: Direct oral anticoagulants, cancer, neoplasm, thromboembolism, pulmonary embolism, deep venous thrombosis, low molecular weight heparin.