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Uptodate Review of Antithrombotic Therapy for Hemodialysis Patients With Atrial Fibrillation

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Atrial fibrillation (AF) is very prevalent and increasing in patient undergoing dialysis, with a prevalence of 13-27%. Antithrombotic therapy such as warfarin and direct-acting oral anticoagulants (DOACs) is recommended in patients with AF to reduce the risk of thromboembolic events and stroke, but hemodialysis patients are at increased risk of bleeding. The net benefit and risks of anticoagulation is controversial in these patients. The current guidelines recommend CHA2DS2-VASc and HAS-BLED scores for stroke and bleeding risk stratification in AF patients, but these scoring models are not valid in dialysis patients. Moreover, there is conflicting data about benefits and risks of anticoagulation therapy in patients with end-stage renal disease (ESRD) and AF. In a meta-analysis including 15 studies with 47480 dialysis patients with AF, warfarin use was associated with no change in the risk of ischemic stroke, but significantly higher hemorrhagic stroke and with no significant difference in the major bleeding risk and mortality. In the general population, DOACs are the preferred anticoagulation therapy in nonvalvular AF due to the reduced bleeding risk and non-inferior risk reduction in ischemic stroke compared to warfarin.

However, most randomized controlled trial about the benefits of NOACs excluded patients with ESRD. Edoxaban has not been evaluated in ESRD patients and dabigatran is not approved in these patients due to an increased risk of bleeding and death compared with warfarin. In a meta-analysis, dabigatran and rivaroxaban were associated with significantly increased risk of major bleeding compared with apixaban or no anticoagulant. Apixaban had a significantly lower risk of stroke, death and major bleeding compared with warfarin, but no significant difference was observed for efficacy outcomes when compared with no anticoagulation. Unfortunately, anticoagulation therapy in hemodialysis patient with AF did not consistent results in the improved outcomes. The efficacy and safety of anticoagulation therapy in hemodialysis patients with AF warrants more validation in randomized clinical trials.