

## Anticoagulation in AF and heart failure

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The incidence and prevalence of heart failure (HF) continues to grow around the world. It is estimated that the prevalence will increase around 50% from 2012 to 2030. Atrial fibrillation (AF) is very common in the HF population and the prevalence is estimated at 13-40% in patients with HF. The relationship between AF and HF is complex with both conditions acting as a risk factor and an outcome for the other. It has been reported that HF is associated with increased risk of stroke in the presence of AF. Assessment of stroke risk is conducted by using risk scores like the CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>VASC, both of which include HF.

Warfarin has maintained a mainstream of medical treatment in HF patients with AF for many years. But the need to balance the risks of thromboembolism and bleeding is complicated by the fact that risk factors for stroke and for bleeding are frequently overlapping especially in the HF population. Evidence suggests that risk of bleeding significantly increased with the severity of HF in patients taking warfarin.

Recently, novel oral anticoagulants (NOAC) has been proved safety and effective in patients with non-valvular AF. These clinical trials all included a substantial amount of patients with HF. Subgroup and meta-analyses data from these trials have demonstrated that NOACs, compared to warfarin, significantly reduced the risk of stroke, major and intracranial bleeding.

In HF patients with AF, anticoagulant therapy should be individualized based on shared decision making after discussion of the absolute and relative risks of stroke and bleeding and the patient's values and preferences.