

## **The risk of stroke and peripheral embolization in paroxysmal and persistent or permanent atrial fibrillation : Taiwan experience**

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Atrial fibrillation (AF), the most common type of sustained cardiac arrhythmia, is an independent predictor for stroke. However, it is not uncommon for patients with AF to carry other stroke risk factors including old age, hypertension, diabetes, hyperlipidemia and heart diseases (coronary artery disease, congestive heart failure, valvular heart diseases and others). These co-morbidities contribute to increase stroke risk beyond AF. To prevent stroke in AF patients, antithrombotic medications are efficacious in reducing stroke risk with anticoagulation being substantially more effective than antiplatelet therapy. Adverse side effects associated with antithrombotic therapy for stroke prevention in AF patients, particularly bleeding complications caused by oral anticoagulation, led to the development of stroke risk stratification schemes to prioritize AF patients for thromboprophylactic therapy.

A common scheme for stratifying stroke risk in AF patients is CHADS<sub>2</sub> (recent Congestive heart failure, Hypertension, Age  $\geq 75$  years, Diabetes mellitus, previous Stroke/transient ischemic attack (doubled risk weight)) score. This scoring system has been assessed for its classification of a large proportion of patients in the “intermediate risk” category with the need to refine selected thromboembolic risk factors. To complement CHADS<sub>2</sub> scoring, CHA<sub>2</sub>DS<sub>2</sub>-VASc (recent Congestive heart failure, Hypertension, Age  $\geq 75$  years, Diabetes mellitus, previous Stroke/transient ischemic attack, Vascular disease, Age 65–74 years, Sex category (female sex) and previous stroke (doubled risk weight)) has been proposed to identify AF patients with truly low risk for stroke.

However, AF patients with no CHA<sub>2</sub>DS<sub>2</sub>-VASc risk factors, not recommended for antithrombotic therapy, are frequently patients of younger age. Considering the longer post-stroke life span and greater socioeconomic burden with stroke at younger age, the merit for more rigorous stroke prevention measure for young AF patients appears overlooked by CHADS<sub>2</sub> and CHA<sub>2</sub>DS<sub>2</sub>-VASc. With the availability of new oral anticoagulants, a recent Markov decision analysis model suggests that treatment with these drugs should even be considered in patients with a stroke risk of 0.9% per year.

Therefore, it is important to reassess the stroke risk in younger AF patients with no CHA<sub>2</sub>DS<sub>2</sub>-VASc risk factors, who are not recommended for thromboprophylactic therapy by current guidelines. In this presentation, the contemporary data on the risk of stroke in Taiwan AF patients will be discussed with particular emphasis on the risk of first-ever stroke in younger AF patients who lack conventional risk factors according to the CHA<sub>2</sub>DS<sub>2</sub>-VASc schema. This presentation aims to provide information derived from clinical practice in the real world to emphasize the importance of AF as a stroke risk factor in AF patients in Taiwan.