

Hypertension and Atrial Fibrillation

Professor Dr Athanasios J. Manolis

Director Cardiology Department, Asklepeion General Hospital, Athens, Greece

Summary

Hypertension is the most common cardiovascular disorder and atrial fibrillation is the most common clinically significant arrhythmia. Both these conditions frequently coexist and their prevalence increases rapidly with aging. There are different risk factors and clinical conditions predisposing to the development of atrial fibrillation, but due to its high prevalence, hypertension is still the main risk factor for the development of atrial fibrillation. Several pathophysiologic mechanisms (such as structural changes, neurohormonal activation, fibrosis, atherosclerosis, etc.) have been advocated to explain the onset of atrial fibrillation. The presence of atrial fibrillation per se increases the risk of stroke but its coexistence with high blood pressure leads to an abrupt increase of cardiovascular complications. Different risk models are available for the risk stratification and the prevention of thromboembolism in patients with atrial fibrillation. In all of them hypertension is present and is an important risk factor. Antihypertensive treatment may contribute to reduce this risk, and it seems some classes are superior to others in the prevention of new-onset atrial fibrillation and prevention of stroke. Old-fashioned warfarin became standard of care outperforming antiplatelets in every trial but novel classes of anticoagulants that overcome many of warfarin's drawbacks have been introduced and are already guideline-recommended regimens. The new oral anticoagulants are direct thrombin (dabigatran) and factor Xa inhibitors (rivaroxaban, apixaban, edoxaban) and many trials examining their use in AF have published or are in final phase (RE-LY, ROCKET-AF, AVERROES, ARISTOTLE, and ENGAGE-AF). In all the above trials new antithrombotics were more effective in reducing stroke with less hemorrhagic events. All the new guidelines suggest the use of new anticoagulants as preferred treatment for the prevention of stroke in patients with atrial fibrillation and $CHA_2DS_2-VASc >1$.