Novel anticoagulants in secondary stroke prevention after TIA or minor stroke in patients with atrial fibrillation

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In patients with atrial fibrillation (AF) oral anticoagulation with vitamin K antagonists (warfarin, phenprocoumon) is effective both for primary and secondary stroke prevention yielding a 60-70% relative reduction in stroke risk compared with placebo, as well as a mortality reduction of 26 percent. Vitamin-K antagonists have a number of well documented shortcomings. Recently the results of randomised trials for three new oral anticoagulants (NO-ACs) that do not exhibit the limitations of vitamin K antagonists have been published. These include direct factor Xa inhibitors (rivaroxaban and apixaban) and a direct thrombin-inhibitor (dabigatran). The studies (RE-LY, ROCKET-AF, ARISTOTLE) provide promising results for the new agents, including higher efficacy and a significantly lower incidence of intracranial bleeds compared with warfarin. The new drugs show similar results in secondary as well as in primary stroke prevention in patients with AF. In the AVERROES trial apixaban was demonstrated to be clearly superior to aspirin and had the same rate of major bleeding complications. Meta-analyses show that the novel anticoagulants are superior to warfarin for the reduction of stroke, major bleeding and intracranial bleeds. New anticoagulants add to the therapeutic options for patients with AF, and offer a number of advantages over warfarin, for both the clinician and patient, including a favourable bleeding profile and convenience of use. Aspirin is no longer an option in secondary stroke prevention in patients with atrial fibrillation. Consideration of these new anticoagulants will improve clinical decision making.

Patients who take NOACs cannot be treated with rt-PA in case of acute ischemic stroke. If patients did not take dabigatran >48 hours before stroke onset or in whom the aPTT is normal can be treated with rt-PA. A big advantage of the NOACs is the quick onset of action. In contrast to vitamin-K antagonists NOACs are effective within 24 hours which shortens the stay on the stroke unit or the hospital in patients with newly diagnosed AF. Patients with recent strokes were excluded from the randomised trials. Therefore recommendations on when to start a NOAC after a TIA or stroke are not evidence based. The recommendation is to start NOACs after 1 day in patients with TIA, after 3 days in patients with mild stroke, after 6 days in patients with moderate stroke and after 12 days in patients with severe strokes. In the last patient group a repeat CT needs to be performed to rule out significant haemorrhagic transformation of the initial ischemic stroke.