Subtherapeutic Warfarin Is Not Associated With Increased Hemorrhage Rates in Ischemic Strokes Treated With Tissue Plasminogen Activator

The most significant complication after intravenous tissue plasminogen activator in patients with acute ischemic stroke is intracerebral hemorrhage. Patients on anticoagulants may have an increased risk of hemorrhagic conversion of stroke. Current guidelines allow for use of intravenous tissue plasminogen activator in patients on anticoagulants when the international normalized ratio is <1.7. The aim of the study by Vergouwen et al was to investigate the risk of secondary hemorrhage in a large, multicenter cohort of patients with acute ischemic stroke taking warfarin and treated with tissue plasminogen activator. In this cohort of 1739 patients, 125 were taking warfarin before admission and the international normalized ratio was <1.7. They found that preadmission warfarin was not associated with any secondary intracerebral hemorrhage, symptomatic intracerebral hemorrhage, or gastrointestinal hemorrhage. Interestingly, in the multivariate analysis, preadmission warfarin use was independently associated with a decreased risk of poor functional outcome. These results are in contrast to a recent study by Prabhakaran et al, which showed a 10-fold increased risk of symptomatic intracerebral hemorrhage among patients taking warfarin. The study by Vergouwen and colleagues suggests that intravenous tissue plasminogen activator is safe in patients taking warfarin with an international normalized ratio of <1.7. See p 1041.

Increases in Cerebral Atherosclerosis According to CHADS2 Scores in Patients With Stroke With Nonvalvular Atrial Fibrillation

The CHADS2 score is used to risk stratify patients with nonvalvular atrial fibrillation who are eligible for anticoagulation. High CHADS2 scores are associated with increased risk of stroke. Most of the components of the CHADS2 score are also risk factors for atherosclerosis. The aim of this study by Kim and colleagues was to investigate whether there are differences in the presence and burden of concomitant cerebral atherosclerosis. In their study, 29.6% of patients were found to have atherosclerosis (≥50%) in ≥1 arteries at any cerebral arterial bed. Among these, isolated intracranial stenosis (47.6%) was the most commonly involved location. The number of arteries with atherosclerosis increased as the CHADS2 score increased (P<0.001). In multivariate analysis, high risk based on CHADS2 score independently predicted concomitant cerebral atherosclerosis and the presence of proximal stenosis at the symptomatic artery. This study showed that cerebral atherosclerosis is common in patients with higher CHADS2 scores and that these patients also have higher risks of atherothrombotic stroke as well as cardioembolic stroke. These results point to the importance of stroke prevention and controlling vascular risk factors to reduce the risk of ischemic stroke, even in patients with cardioembolic stroke secondary to atrial fibrillation. See p 930.

Knowledge of Ischemic Stroke Risk Factors and Warning Signs After a Health Education Program by Medical Students

This study, conducted by medical students in Mexico, evaluated the knowledge of stroke risk factors and warning signs. Subjects were first surveyed to determine their knowledge of risk factors and warning signs. Then, subjects attended a medical education program over 6 months and received printed materials and warning signs and risk factors. At the end of the education, the subjects were then evaluated by the same survey to evaluate their knowledge. Initially, 57.1% of subjects mentioned at least 1 risk factor and 37.6% of subjects mentioned at least 1 warning sign. These both later increased to 65.9% and 48.1%, respectively. The demographic factors associated with having a better understanding of stroke risk factors and warning signs were educational level, employment, family history of cerebral infarction, obesity, and having received information in the last 6 months. This educational program was cost-effective and had a positive impact on the knowledge of stroke risk factors and warning signs. This study highlights the importance and continued need for stroke education. See p 897.
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