IMPACT OF GENOTYPE-GUIDED WARFARIN DOSING DURING INITIATION OF THERAPY AMONG ACUTE STROKE PATIENTS

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Background: Patients with cardioembolic stroke and the stroke consequent to a specific condition require immediate anticoagulation for secondary stroke prevention. Despite the novel anticoagulants, warfarin is a widely prescribed first-line treatment for most causes of embolic stoke but there are few data about the impact of *CYP2C9* and *VKORC1* genes on anticoagulant control among acute stroke patients. The aim of our study was to determine whether genotype-guided warfarin dosing can improve anticoagulant control and warfarin dosing in comparison with fixed dosing among stroke patients with indications for anticoagulation.
Methods: The prospective case-control study was conducted in hospital settings during 6 months among 210 acute stroke patients with indications for anticoagulation. Patients were assigned to the *CYP2C9,**2,*3 and *VKORC11173*C T genotype-guided dosing group (PhG, N=106), among which we introduced a loading-dose strategy of warfarin and to the control/fixed dosing group (NPhG, N=104). In both groups we studied time needed to reach target INR≥2 values, time to reach stable maintenance dose and percent of time spent in therapeutic/ supratherapeutic (INR3.1) range.
Results: PhG achieved target INR≥2 earlier as compared to NPhG (4.4 vs. 5.2 days; p=0.005), had larger proportion of time spent in therapeutic INR range (76.6% vs 67.1% of time) and spent less time overanticoagulated (0.4 vs. 1.7 days in NPhG). PhG reached stable maintenance dose earlier (10 vs. 13.9 days; p=0.0049).
Conclusion: Our data show that loading-strategy of genotype-guided warfarin dosing instead of fixed dosing reduce the time required for stabilization among acute stroke patients.