

Title: Genotype based warfarin dosing versus conventional dosing strategies

Name: Kannan Sridharan
Arabian Gulf University, Manama, Bahrain.

A systematic review and network meta-analysis of randomized clinical trials that had compared genotype-based dosing of warfarin with conventional strategies was carried out. We included only those trials that had used International Warfarin Pharmacogenomics Consortium (IWPC) algorithm for determing warfarin doses in the genotype arm. Time to first therapeutic international normalized ratio (INR) was the primary outcome; and time to first stable INR, percent time spent in therapeutic range, number of patients with either excessive anti-coagulation (INR > 4) or with bleeding episodes were the secondary outcome measures. Heterogeneity between the studies were assessed using I^2 test; Fixed-effects model was used in mild and random-effects in moderate-to-severe heterogeneity. Mean difference (MD) [95% confidence intervals] was the effect estimate for numerical outcomes and odds ratio (OR) [95% confidence intervals] for the categorical outcomes. Four studies were included and the pooled estimates were in favor of time taken for achieving the first stable INR (MD: -3.7 days; 95% CI: -4.3, -3.1 days) and number of patients with bleeding (OR: 0.7; 95% CI: 0.6, 0.95). No significant differences were observed between the arms with respect to time to first therapeutic INR (MD: -0.78; 95% CI: -2.89, 1.32), percent time spent in therapeutic range (MD: -1; 95% CI: -11.5, 9.5) and number of patients with excessive anticoagulation (OR: 0.8; 95% CI:0.6, 1). The strength of evidence was assessed using Grading of Recommendations, Assessment, Development and Evaluation (GRADE) Working Group approach and the quality was observed to be very low. Hence, we conclude that the current evidence is not robust to support the use of genotype-based warfarin dosing strategies.

Biography

Dr. Kannan Sridharan is a Clinical Pharmacologist by education and is presently working as Associate Professor in the Department of Pharmacology and Toxicology, Arabian Gulf University. He has authored around 100 papers in various international journals and has bagged several awards in the conferences for best paper presentations.

Presenting author details

Full name: Dr. Kannan Sridharan
Contact number: +973-33453123
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