Factors Influencing Warfarin Response in Hospitalized Patients

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Abstract:

The objective of this study was to investigate the influence of simultaneous factors that potentially keep patients far from achieving target INR range at discharge in hospitalized patients. Prospective cross-sectional observational study conducted at the Cardiology Department and Intensive Care Unit (ICU) of the Assiut University Hospitals. One-hundred and twenty patients were enrolled in the study from July 2013 to January 2014. Outcome measures were discharge INRs, bleeding and thromboembolic episodes. Bivariate analysis and multinomial logistic regression were conducted to determine independent risk factors that can keep patients outside target INR range. Patients who were newly initiated warfarin on hospital admission were given low initiation dose (2.8 mg ± 0.9). They were more likely to have INR values below 1.5 during hospital stay, 13 (27.7%) patients compared with 9 (12.3%) previously treated patients, respectively (p= .034). We found that the best predictors of achieving below target INR range relative to within target INR range were; shorter hospital stay periods (OR, 0.82 for every day increase [95% CI, 0.72–0.94]), being a male patient (OR, 2.86 [95% CI, 1.05–7.69]), concurrent infection (OR, 0.21 [95% CI, 0.07–0.59]) and new initiation of warfarin therapy on hospital admission (OR, 3.73 [95% CI,1.28–10.9]). Gender, new initiation of warfarin therapy on hospital admission, shorter hospital stay periods and concurrent infection can have a significant effect on discharge INRs. Initiation of warfarin without giving loading doses increases the risk of having INRs below 1.5 during hospital stay and increases the likelihood of a patient to be discharged with INR below target range. Following warfarin dosing nomograms and careful monitoring of the effect of various factors on warfarin response should be greatly considered.

Keywords:

Warfarin; Anticoagulation therapy; INR; Hospitalized patients

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