To assess the prevalence of genetic variation in warfarin metabolism and its effects on maintenance dose in patients requiring oral anticoagulation

Pankaj Batra, Rajiv Agarwal
Batra Hospital and Medical Research Centre, New Delhi, India

Background: The study was conducted to assess the prevalence of genetic variation in warfarin metabolism and its effect on maintenance dose in patients requiring oral anti-coagulation.

Methods: Among the patients finally selected for the study, further evaluation done as per the following protocol: Genetic testing for warfarin metabolism was done by collecting 3ml of blood in EDTA vials for CYP2C9 polymorphisms. Simultaneously patients were started on warfarin (7.5 mg) and then its dose adjusted with frequent INR initially till it achieves therapeutic levels. According to genetic composition patients will be categorized into three groups - namely extensive metaboliser, intermediate metaboliser & low metaboliser. Analysis of time required to achieve target INR and stable maintenance dose done among the above mentioned groups and analysis of bleeding or thromboembolic episodes, if any, done among the above mentioned groups.

Results: In this study 70% patients were normal metabolizers for warfarin, 16.7% patients were intermediate metabolizers and only 13.3% patients were poor metabolizers. In this study it was seen that mean maintenance dose of warfarin to achieve therapeutic INR in patients with normal metabolism was 6 mg and mean time required to achieve therapeutic INR in patients with normal metabolism was 5.19 days, whereas mean maintenance dose to achieve therapeutic INR in patients with intermediate metabolism was 4.7 mg and mean time required to achieve therapeutic INR in patients with intermediate metabolism was 8.8 days. It was seen that in patients with poor metabolism mean maintenance dose to achieve therapeutic INR was 2.75mg and the mean time required to achieve therapeutic INR was 15.5 days.

Conclusion: This study shows that patient with genetic mutation in CYP2C9 required low maintenance dose of warfarin and increased time to achieve therapeutic INR depending on the degree of mutation.

Do individual components of the Wilkins’ score predict the outcomes of PTMC better than the total Wilkins score? – An analysis from a tertiary care centre

P.K. Dash, B. Barooah, Prayaag Kini, R. Vrayani
Sri Sathya Sai Institute of Higher Medical Sciences, Whitefield, Bangalore, India

Introduction: Though the Wilkins’ score is the most commonly used scoring system for predicting success of balloon mitral valvotomy, it has important practical shortcomings such as inability to include unicommissural v/s bicommissural involvement, influence of rhythm, involvement of underlying myocardium due to fibrosis, no account of underlying PAH, degree of interatrial septal bulge etc. This study was conducted to compare the influence of individual parameters that comprise Wilkins’ score to know whether one or more parameters of the score were more predictive for PTMC outcomes than the composite score put together.

Methods: 100 patients of rheumatic mitral valve stenosis in sinus rhythm who underwent balloon mitral valvotomy were studied for outcomes of the procedure. The composite Wilkins’ score was calculated for each patient as per protocol pre-PTMC, and the outcomes of the procedure were studied comparing the total Wilkins’ score and the individual parameters that comprised the Wilkins’ score( M/S/T/C). Patients in AF were excluded because AF itself is a well-documented negative predictor of successful PTMC outcomes. Successful PTMC was defined as gain in MVA to more than twice the pre PTMC area, or absolute more than 1.5 sq cm, with no more than one grade increase in MR and no complications. Post PTMC MR was classified as either Commisural or Leaflet tear and quantified as per standard ASE criteria, and post-PTMC pericardial tamponade was also recorded.

Results: Over a 15-month data among the serially recruited 100 patients (M=47:F=53), the average Wilkins’ score was 9.72+/-.1.3. The average post –PTMC MVA was 1.7±0.5 cmsq. 24 patients