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Tocotrienol, a vitamin E isomer in preventing atrial fibrillation post-coronary artery bypass grafting surgery: A preliminary result**Ahmad Farouk Musa***Jeffrey Cheah School of Medicine and Health Sciences, Monash University, Malaysia*

Introduction: Post-operative atrial fibrillation (POAF) is a commonly encountered arrhythmia after cardiac surgery with an incidence of about 35%. It is associated with poor outcome, increased resource utilization, morbidity, and mortality. Recent theories point to two main factors initiating the pathogenesis of POAF: systemic inflammation and oxidative stress. Thus it is hypothesized that a potent anti-oxidant and anti-inflammatory agent, tocotrienol, an isomer of Vitamin E, could prevent POAF.

Aims: The primary aim of this study is to determine whether tocotrienol-rich capsule, Tocovid, would reduce the incidence of POAF. It also aims to investigate the difference in mortality and morbidity, and the duration of ICU, HDU and hospital stay.

Methods: This study was planned as a prospective, randomized, controlled trial with parallel groups. The control group received placebo containing palm superolein and the treatment group received Tocovid capsules. We look at primarily the incidence of POAF in the two-arms and secondarily, the length of hospital stay (LoHS) after surgery, and the health-related quality of life (HRQoL).

Results: The recruitment started in January 2019 but the preliminary results have not been unblinded since the study is still ongoing. Two-hundred-and-two patients have been recruited out of a target sample size of 250. About 75% have completed the study, 6.4% were either lost during follow-up or withdrawn, and 4% of them died. The mean age group was 61.44 ± 7.30 with no statistical difference between them with males having preponderance for AF. The incidence rate of POAF was 24.36% and the mean time developing POAF was 55.38 ± 29.9 hours post-CABG. Obesity is not a predictive factor. There was also no statistically significant difference when comparing left atrial size, NYHA group, ejection fraction and the premorbid history except smoking where the current or ex-smoker group developed a lower incidence

of POAF. The mean cross-clamp time was 71 ± 34 minutes, and the mean bypass time was 95 ± 46 minutes but there was no statistical difference. There was a three-fold increase in death in patients with POAF ($p=0.008$), an increase in the duration of ICU stay ($p=0.01$), total duration of hospital stay ($p=0.04$), and reintubation ($p=0.045$).

Conclusion: Though the incidence rate of POAF was lower, nevertheless, this current study is still ongoing and the results will definitely change. What is more interesting is whether our prophylactic intervention using Tocovid, a tocotrienol-rich compound, could reduce the incidence of AF in the study arm.

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