Body Mass Index Related to Thromboembolism Complications in Patients with Valvular Heart Surgery and Warfarin Interruption

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Background: Warfarin therapy is crucial to prevent thromboembolism in patients with valvular heart disease. Those patients with previous stroke, CHADS2 score of 5-6, previous history of thromboembolism, or severe thrombophilia are considered high-risk to have post-valvular heart surgery thromboembolism events. An interruption of warfarin therapy prior to valvular heart surgery may increase risk of thromboembolism events in high-risk group.

Objective: This study aimed to evaluate prevalence and risk factors for thromboembolism events in high-risk patients who underwent valvular heart surgery with warfarin interruption.

Methods: This study was a retrospective cohort study conducted at Srinagarind Hospital, Khon Kaen University, Thailand. The study period was during January-December 2015. The inclusion criteria were 1) adult patients with high risk for thromboembolism, 2) those undergoing valvular heart surgery and 3) individuals who stopped taking warfarin prior to the surgery for three to five days. The main outcome was an evidence of any thromboembolism events at 30 days after valvular heart surgery. Prevalence and risk factors were analyzed.

Results: There were 416 patients who underwent valvular heart surgery during the study period. Of those, 52 patients were high-risk group. The thromboembolism events occurred in 26 patients (50.0%). The means (SD) age and body mass index of those with and without thromboembolism were 49.7 (3.0) vs 52.5 (3.1) years (p-value = 0.518) and 20.2 (0.4) vs 20.9 (1.0) kg/m2 (p-value = 0.519), respectively. Male sex accounted for 34.6% and 53.9% in both groups, respectively (p-value = 0.163). Those with thromboembolism events stopped taking warfarin before valvular surgery longer than those without thromboembolism events (4.1 vs 2.7 days; p-value = 0.228), similar to time to restart warfarin after valvular surgery (1.4 vs 1.0 day; p-value = 0.086). Only body mass index was an independent predictor for thromboembolism events with adjusted odds ratio of 0.65 (95% confidence interval of 0.45, 0.94).

Conclusion: Prevalence of thromboembolism in high-risk patients who underwent valvular heart surgery was high. Body mass index may be associated with the 30-day post surgery thromboembolism events.

Keywords: Prevalence, Predictors, Valvular heart disease, Warfarin, Stroke, Pulmonary emboli