Author's Reply

The Risk Factors for Thromboembolism in Nonvalvular Atrial Fibrillation and CHADS2 Scoring in Japan

We appreciate the comments of Drs Aihara and Guyatt on our study¹ but before replying to them, we would like to correct an erratum in our study. The p-value for the difference in event rates among 3 groups with different risk levels who had not been given warfarin (Non-warfarin group) should be 0.053 instead of 0.048 after 1 point was given to those with hypertrophic cardiomyopathy (Table 3¹). Therefore, the difference is of marginal significance.

As Drs Aihara and Guyatt pointed out, the event rate of patients with a CHADS2 score of 0 who had been treated with warfarin was 3.9%/year, and was unexpectedly higher than that of those with a CHADS2 score of 1 or 2. As we mentioned in our previous study² cardiomyopathy emerged as an independent risk factor for thromboembolism in our patients with nonvalvular atrial fibrillation (NVAF), and hypertrophic cardiomyopathy was found in 5% of our cohort of patients¹. A previous study disclosed that patients with hypertrophic cardiomyopathy could be at elevated risk for thromboembolism³ which could lead to an increase in the event rate of the apparently low-risk group treated with warfarin in our study. Thus we modified the CHADS2 score by giving 1 point to those having hypertrophic cardiomyopathy and reanalyzed the data¹. Importantly, the study itself was post hoc in nature and the data should be interpreted cautiously, as we have already mentioned¹.

A correction for continuity is recommended when the chi-square test is employed for comparison of the data given in a 2×2 table. However, this correction for continuity is not worthwhile making when calculating χ^2 with degrees of freedom of 2 or more⁴ as with our data shown in Table 2¹. We therefore employed the chi-square test without correction for continuity to analyze the data.

Our post hoc analyses have several limitations as mentioned previously¹ but clearly indicate patients with NVAF

who are at high embolic risk (eg, their CHADS2 score is 3 or more) would have thromboembolic event rates of 4–5%/year or more when they are not anticoagulated with warfarin, or when the intensity of anticoagulation is not kept within the optimal range. These event rates are not acceptable in the clinical setting for prevention of thromboembolism in patients with NVAF. We do not want to insist on the use of CHADS2 score as a risk stratification scheme, but rather emphasize that patients with NVAF who are at high risk for thromboembolism as estimated, for instance, by CHADS2 score or other risk stratification schemes⁵ need anticoagulation with warfarin, and the intensity of anticoagulation should be kept within the optimal range!⁶

References

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