中文題目：睡眠呼吸中止症病人應用CHADS$_2$分數以預測周邊動脈疾病的發生

英文題目：CHADS$_2$ Score Predicts the Risk of Peripheral Arterial Disease in Patients with Sleep Apnea

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PURPOSE: The association between sleep apnea(SA) and peripheral artery disease(PAD) had been reported in the literature. However, the causative association had not been proved. Further, there is no clinical tool for predicting PAD events easily in SA patients. This study was designed to investigate the association between the two diseases and the usefulness of CHADS$_2$ and CHA$_2$DS$_2$ASc score to predict subsequent PAD in SA patients.

METHOD: The dataset was a cohort of 1 million subjects randomly sampled from individuals enrolled in the NHI system in 2005. Patients aged 18~90 years with a diagnosis of SA were enrolled as the suspected SA group and were further purified as the probable SA group with a consistent polysomnographic result, whereas those having PAD prior to SA diagnosis were excluded. Each group of SA patients has a comparative control group picked randomly in the same dataset. Occurrence of PAD was recorded as the main endpoint and the hazard ratio of PAD occurrence of both groups compared to control were calculated. In another part, patients of both groups were stratified by using CHADS$_2$ score and CHA$_2$DS$_2$ASc score respectively to detect the predictability of PAD.

RESULT: 10702 and 4242 patients were identified as suspected and probable SA group, respectively. The cumulative incidence of PAD was similar between study and control groups (p=0.2648 in study arm A, and p=0.8120 in study arm B), and SA was not considered as an independent risk factor by using multivariable Cox proportional hazards regression analyses (adjusted HR: 0.90 [0.79-1.02] in study arm A and 0.81 [0.65-1.03] in study arm B). A sensitivity analysis using propensity score-matched cohort showed concordant results. While stratified by either CHADS$_2$ or CHA$_2$DS$_2$ASc score, the patients with more scores predict the more possibility of PAD occurrence.

CONCLUSION: Our study showed that the association between SA and PAD was not evident

in Taiwanese population. Besides, SA alone is not an independent predictive factor for PAD after adjusted other confounding factors, e.g. age, sex, etc. $CHADS_2$ and CHA_2DS_2ASc score are usefully predictive for subsequent PAD in SA patients. Aggressive risk modification must be applied to prevent subsequent PAD in SA patients with increased $CHADS_2$ or CHA_2DS_2ASc score.