Different implication in dementia between patients with atrial flutter and atrial fibrillation: a national cohort study

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Importance

Atrial fibrillation (AF) has been reported with increasing the risk of stroke and dementia. Atrial flutter (AFL) is also a risk of stroke with different discrepancies in clinical outcome. Little is known about the difference in the risk of dementia between AF and AFL.

Objective: To investigate if the risk of dementia is difference between AF and AFL.

Methods: The patients with newly diagnosed AF and AFL during 2001–2013 was retrieved from Taiwan's National Health Insurance Research Database. Patients with missing information, aged <20 years, history of valvular surgery, rheumatic heart disease, hyperthyroidism, and history of dementia were excluded. Propensity score matching (PSM) between AF and AFL was performed, which included patient comorbidities, past medical history, medications, and index date stratified by age. Primary outcome was defined as dementia at follow-up.

Results: A total of 232,425 AF and 7,569 AFL were eligible for analysis. After 4:1 PSM, we included 30,276 AF (aged 67.3 ± 15.7 years) and 100,065 AFL (aged 67.4 ± 16.0 years) for analysis. The risk of dementia was higher in AF patients compared with AFL patients (subdistribution HR (SHR)=1.52, 95% CI 1.39 - 1.66; p <0.0001) before PSM and still higher in AF patients (SHR = 1.14, 95% CI 1.04 to 1.25; p = 0.0064). The risk was higher in AF patients without previous stroke after PSM and there was no difference between AF and AFL patients with previous stroke history.

Conclusions and relevance

Our finding supports that risk of dementia is higher in AF patients than AFL patients. However, the risk of dementia between patients with AF and AFL varies depending on whether there is a previous stroke history.