

## Editorial



# Regional and Socioeconomic Inequality of Atrial Fibrillation with Regular Hospital Visit

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### Conflict of Interest

The authors have no financial conflicts of interest.

► See the article “Prevalence of Non-valvular Atrial Fibrillation Based on Geographical Distribution and Socioeconomic Status in the Entire Korean Population” in volume 48 page on 622.

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in the general population.<sup>1,2)</sup> In Korea, AF prevalence progressively increased by 2.10-fold from 0.51% in 2004 to 1.4% in 2013.<sup>1)</sup> The trend of AF incidence was stable with 10-year overall incidence of 1.77 per 1,000 person-years. The prevalence of Korean AF was similar to the recent prevalence rates ranging from 1.07% to 1.6% in Asia (1.07% in the year 2011 in Taiwan, 1.5% in Singapore, and 1.6% in the year 2006 in Japan).<sup>3-5)</sup> The prevalence of Korean AF is expected to be 5.81% (2,290,591 AF patients) in 2060. The prevalence of Taiwan AF is estimated to be 4.01% in 2050.<sup>3)</sup> Although the prevalence of AF is increasing steeply in Asia, it is still lower than that of western populations. Because AF is becoming an important public health burden, regional and socioeconomic inequality of AF pattern and treatment is also important.

In this study, Lee et al.,<sup>6)</sup> evaluated the prevalence of AF with regular hospital visit (AF-RHV). The annual incidence of AF-RHV was calculated as the number of patients with newly diagnosed AF for each year divided by the total person-years at risk among all individuals of that year who did not have AF during the last 3-year period. This study shows that, compared with urban regions, suburban/rural regions had higher prevalence of AF-RHV and comorbidities related to AF. This finding is explained by the fact that there are many elderly people in rural area.

The oral anticoagulation therapy (OAC) rate of total AF in Korean Nationwide cohort is still very low with about 18%, and the usage rate of aspirin is above 35%.<sup>1)</sup> However, the OAC rate of Korean AF was similar to the recent OAC rates of Taiwan with same Nationwide cohort. Li et al.,<sup>7)</sup> reported that the overall guideline adherence rate was only 13% and even lower among patients with a high CHA<sub>2</sub>DS<sub>2</sub>-VASc score in this non-selected nationwide AF registry. Moreover, guideline-adherent antithrombotic management was associated with a 38% lower risk of mortality. In this study, among AF-RHV patients with a CHA<sub>2</sub>DS<sub>2</sub>-VASc score  $\geq 2$ , OAC utilization was lower in the suburban/rural regions than that observed in the urban regions (48.2% vs. 51.8%, respectively,  $p < 0.001$ ).<sup>6)</sup> The analysis of prospective, multicenter study performed in tertiary hospitals in Korea (Comparison study of Drugs for symptom control and complication prEvention of Atrial Fibrillation [CODE-AF] registry) shows the optimistic future of stroke prevention of AF. The current OAC rate of AF patients with high stroke risk (CHA<sub>2</sub>DS<sub>2</sub>-VASc score  $\geq 2$ ) was about 83%.<sup>8)</sup> However, the recent improvement

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of OAC rate in tertiary hospitals in Korea is related with increased use of non-vitamin K antagonist oral anticoagulant (NOAC), because the usage rate of NOAC was above 50%, but that of warfarin was still low with 20%. The low OAC rate in suburban regions in this study might be explained by several factors. The cost of NOAC is still high for suburban even after the reimbursement of NOAC. Second, the education of NOAC is not enough for primary and secondary hospital physician. Finally, the importance of stroke prevention of AF, and even arrhythmia has not well known in Korea.

AF increases the risk of mortality and morbidity resulting from stroke, congestive heart failure, and impaired quality of life, explaining its enormous socioeconomic and healthcare implications. Consequently, the healthcare burden associated with AF is growing considerably, and is mainly driven by hospitalizations. In Korea, the total hospital cost per year (256%) and mean medical cost per patient/year (22%) showed a consistent increase for the 10-year follow-up.<sup>1)</sup> The total costs of AF care accounted for 0.8% of the National Health Service budget in Korea in 2015.<sup>9)</sup> This study clearly suggests that we also have to more focus to resolve the inequality in AF treatment.

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