Temporal trends of emergency department visits of patients with atrial fibrillation in Korea: a nationwide population-based study

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Introduction: The prevalence of atrial fibrillation (AF) is increasing, followed by an increase in the healthcare burden of AF. We aimed to describe the prevalence, patients' characteristics, causes, and outcomes of emergency department (ED) visit in Korean patients with AF over ten years.

Methods: We conducted a repeated cross-sectional analysis of ED visit in patients with non-valvular AF using the Korean National Health Insurance Service database between 2006 and 2017. Among patients with prevalent AF, we identified patients who had 1 or more ED each year. The prevalence of ED visits among total patients with AF was evaluated, and patients' baseline characteristics, cause of visit, clinical outcomes including hospitalization, 30-day, and 90-day mortality were also analyzed.

Result: During a 10-year period, the total number of patients with AF increased significantly (40,425 to 99,763). However, 30% of total patients with AF visited the ED at least once in a year, and there was no temporal change during the study period (Figure). One-third (35%) of patients visited ED more than 2 times in a year. Among total ED visited patients with AF, 80% were hospitalized after ED visit. Mean age and CHA2DS2-VAS score became higher (mean age, 67.5±13.9 years in 2006 and 73.0±12.6 years in 2017; mean CHA2DS2-VASc 3.1±1.6 in 2006 and 3.8±1.7 in 2017). Although the increased in the number of high-risk patients with AF, a 30-day and 90-day mortality after ED visit decreased over time (30-day mortality, 10.4% in 2006 and 7.6% in 2017; 90-day mortality, 16.3% in 2006 and 12.0% in 2017). The proportion of patients treated with oral anticoagulants among patients visited ED was continuously increasing from 13.1% to 30.6% over time. Ischemic stroke was the first common cause of ED visits.

Conclusion: Total number of patients with AF who visited the ED gradually increased from 2006 to 2017, which was about 30% in total Korea AF population. Mortality associated with ED visit decreased substantially, and anticoagulation therapy also increased substantially in these patients.