

# Impact of the type and burden of atrial fibrillation (AF) on stroke occurrence in patients with AF

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**Background/Aims:** The relationship between atrial fibrillation (AF) type and stroke occurrence is still controversial. We investigated the effect of the AF type on stroke risks in patients with non-valvular AF. **Methods:** In the prospective, multicenter COmparison study of Drugs for symptom control and complication prEvention of Atrial Fibrillation registry, we identified 8,883 patients with non-valvular AF (mean age, 67.0 years; 36% were women) with eligible follow-up visits. We compared the AF burden and stroke risk among patients with paroxysmal ( $n=5,808$ ), persistent ( $n=2,806$ ), and permanent AF ( $n=269$ ). **Results:** The patients with persistent and permanent AF were older and had higher Congestive heart failure/left ventricular dysfunction, Hypertension, Age of 75 years (doubled), Diabetes, Stroke (doubled), Vascular disease, 65-74 years of Age, and Sex category (female) (CHA2DS2-VASc) scores and anticoagulation rates than those with paroxysmal AF. The burden of atrial premature beats on 24-h Holter monitoring was significantly lower in paroxysmal AF (median, 3.0%; interquartile range [IQR], 2.0-9.0%;  $p<0.001$ ) and persistent AF (median, 4.0%; IQR, 2.0-9.0%;  $p=0.001$ ) than in permanent AF (median, 22.2%; IQR, 6.5-50.3%). During a median follow-up period of 1.38 years (IQR, 0.96-1.67), a total of 82 (0.92%) patients experienced ischemic stroke with incidence rates of 0.51, 1.04, and 1.69 events per 100 person-years for paroxysmal, persistent, and permanent AF, respectively. The risk of ischemic stroke was higher in persistent AF with an adjusted hazard ratio (aHR) of 1.92 (95% confidence interval [CI], 1.22-3.04;  $p=0.005$ ) and permanent AF with an aHR of 2.93 (95% CI, 1.22-7.01;  $p=0.01$ ) than in paroxysmal AF. **Conclusions:** Persistent and permanent AF were associated with an increased risk of stroke compared with paroxysmal AF. These results suggest that the AF type and arrhythmic burden might be related to the risk of ischemic stroke and should be considered in the stroke prevention in AF.

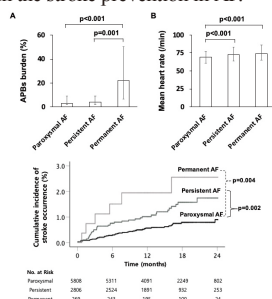


Table 2. Annual incidence rate and Cox proportional HR of stroke occurrence in the patients with different types of AF<sup>a</sup>

	Paroxysmal AF <sup>a</sup> (n=5,808)	Persistent AF <sup>a</sup> (n=2,806)	Permanent AF <sup>a</sup> (n=269)
Stroke events <sup>a</sup>	39 <sup>a</sup>	37 <sup>a</sup>	6 <sup>a</sup>
Stroke events/100 person-years <sup>a</sup>	0.51 <sup>a</sup>	1.04 <sup>a</sup>	1.69 <sup>a</sup>
HR (95% CI), p-value <sup>a</sup>			
Unadjusted <sup>a</sup>	1.00 (Reference)	2.04 (1.30-3.19), 0.002 <sup>a</sup>	3.32 (1.41-7.85), 0.006 <sup>a</sup>
Clinical variable-adjusted <sup>a</sup>	1.00 (Reference)	1.92 (1.22-3.04), 0.005 <sup>a</sup>	2.93 (1.22-7.01), 0.01 <sup>a</sup>

<sup>a</sup>Adjusted for age, sex, prior stroke/transient ischemic attack, hypertension, diabetes, dyslipidemia, congestive heart failure, previous myocardial infarction, and anticoagulant, antiplatelet, and statin use<sup>a</sup>  
AF, atrial fibrillation; CI, confidence interval; HR, hazard ratio<sup>a</sup>