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Is it safe to withdraw oral anticoagulation after successful cavotricuspid isthmus ablation regardless of the CHA2DS2-VASc?

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Background: CavoTricuspid Isthmus (CTI) ablation is well established as the definite treatment for Typical Atrial Flutter (TAF). Nevertheless, special concern arises about the management of oral anticoagulation (OAC) after ablation because of the incidence of new onset Atrial Fibrillation (nAFib) in those patients.

Purpose: To analyse the incidence of nAFib and stroke after effective CTI ablation. To identify predictors for the incidence of nAFib or atrial flutter, in order to more safely select those patients who would benefit from OAC discontinuation.

Method: Prospective analysis of a series of consecutive patients after successful CTI ablation from 2006 to 2014 followed until 2017, in our institution.

Results: Among the initial 258 patients included, we analysed 71 cases (mean age 67±10 years; 31% women) with a CHA2DS2-VASc score ≥1 for men and ≥2 for women (mean 3.3±1.5) and no records of AFib or any other indication for anticoagulation rather than TAF, so OAC had been ended one month after ablation. Of them, 73% were hypertensive, 29% obese, 5% alcohol abusers, 18% diabetics, 28% had coronary artery disease, 8% obstructive sleep apnoea syndrome, 14% chronic obstructive pulmonary disease, 1.4% stroke, and 14% congestive heart failure. The mean HAS-BLED score was 1.7±1.1. During the follow-up (mean of 79±33 months; from 12 to 138 months), 22 developed nAFib (31%) and 5 atypical atrial flutter (7%), with no predictors observed; in all cases OAC was initiated. TAF recurred in 4 patients (6%) and after re-ablation OAC was removed again in all but in one patient because of atypical flutter previously diagnosed. Three suffered stroke (4%), having a median CHA2DS2-VASc score of 3 (IQR2–75:1–3). None of them were on anticoagulation at the moment of the event, and in only one case nAFib was diagnosed. OAC discontinuation resulted in a 0.38% annual stroke rate and 66% of the patients did not require anticoagulation at the end of the follow-up.

Conclusions: The incidence of nAFib after CTI ablation in our series was similar to published results in literature. In this setting, OAC discontinuation strategy was safe, with a marginal risk of stroke, regardless of the CHA2DS2-VASc score.

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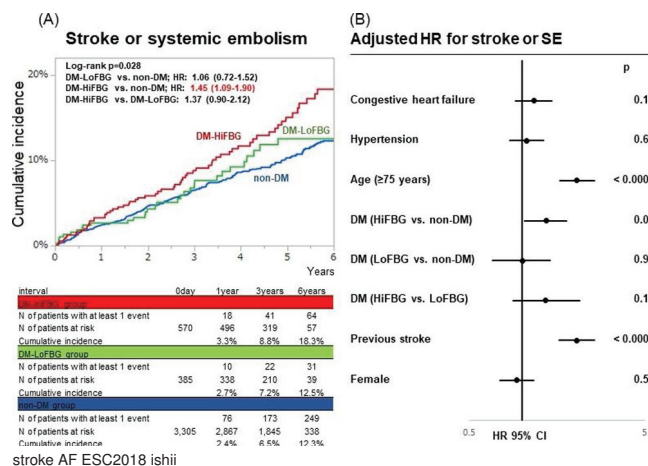
Relationship between diabetes mellitus and a risk of stroke or systemic embolism in patients with atrial fibrillation: the Fushimi AF registry

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Purpose: Atrial fibrillation (AF) is the most common arrhythmia in the elderly and is associated with stroke. Diabetes mellitus (DM) is considered a major risk factor of stroke and systemic embolism (SE) in patients with AF, and is one of the components of CHA2DS2-VASc score. The purpose of this study was to investigate the relationship between DM and incidence of stroke or SE in Japanese AF patients.

Methods: The Fushimi AF Registry, a community-based prospective survey, was designed to enroll all of the AF patients in Fushimi-ku, Kyoto. Fushimi-ku is densely populated with a total population of 283,000, and is assumed to represent a typical urban community in Japan. At present, we have enrolled 4,875 patients from March 2011 to November 2017. Follow-up data were available for 4,325 patients, and the median follow-up period was 1,303 days.

Results: Of 4,325 patients, 1,020 patients were diagnosed as DM (23.6% of total, the mean age 73.7 years, female 33.7%), and 3,305 patients were without DM (76.4% of total, the mean age 73.6 years, female 42.4%). DM patients, compared with non-DM patients, had more co-morbidities (hypertension, dyslipidemia, coronary artery disease, and vascular disease), and thus had higher CHADS2 score (DM vs. non-DM: 2.96 vs. 1.75; $p<0.01$) and CHA2DS2-VASc score (4.32 vs. 3.08; $p<0.01$). During the follow-up period, the incidence of stroke or SE was significantly higher in DM group than in non-DM group (2.88 vs. 2.23 per 100 person-years, log-rank $p=0.031$). When we divided the DM group by baseline fasting blood glucose (FBG) level ≥ 126 mg/dl ($n=570$; DM-HiFBG) or <126 mg/dl ($n=385$; DM-LoFBG), DM-HiFBG group was significantly associated with a higher incidence of stroke or SE compared with the non-DM group (hazard ratio (HR) 1.45, 95% CI 1.09–1.90) (Figure. A). In contrast, when we divided the DM group by baseline HbA1c level ($\geq 7.0\%$ vs. $<7.0\%$), or by the use of insulin (insulin-users vs. non-users), the risk of stroke or SE in high HbA1c level ($\geq 7.0\%$) group or insulin-users group was not different compared with non-DM group; HR 1.34, 95% CI 0.89–1.94 for HbA1c ($\geq 7.0\%$), HR 0.99, 95% CI 0.49–1.77 for insulin use. Cox proportional hazard analysis including clinically relevant factors such as congestive heart failure, hypertension, age (≥ 75 years), DM (HiFBG vs. LoFBG vs. non-DM), previous stroke, vascular disease and female revealed that DM-HiFBG was an independent determinant of stroke or SE compared with non-DM group (HR 1.37, 95% CI 1.03–1.80 $p=0.03$) (Figure. B).



Conclusion: High FBG was an independent risk factor of stroke or SE in AF patients.

Funding Acknowledgements: research funding from Boehringer Ingelheim, Bayer Healthcare, Pfizer, Bristol-Myers Squibb, Astellas Pharma, AstraZeneca, Daiichi Sankyo, Novartis Pha

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Long-term noninvasive eeg monitoring in atrial fibrillation detection in patients after cryptogenic stroke

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Objectives: Etiology of stroke CMP remains unclear after standard diagnostic work-up in ~30% of patients. This prospective study aimed at investigating the diagnostic yield of successively applied ECG Holter and episodic loop recorder (ELR) with automatic arrhythmia detection and transtelephonic data transmission in patients with recent cryptogenic stroke.

Methods: The study included 271 patients (46% females, age 60±16 years, CHA2DS2-VASc 2.5±1.8; NIHSS 4.2±3.7) with stroke of unclear etiology within the last 14 days, without intracardiac thrombus on TEE, and with sinus rhythm on ECG telemetry during hospitalization. After discharge, ECG Holter was applied for 7 days, and in the absence of atrial fibrillation (AF) it was followed by 4-week ECG monitoring with ELR ($n=187$; positive Holter - 14, drop-off - 70). During the index hospitalization, biochemical markers (D-dimers, NT-proBNP) and brain magnetic resonance (BMR) were performed in 178 patients.

Results: Holter: During 5.4±1.6 monitoring days, AF episodes lasting 11.2±15.4 hours were detected in 14 (5%) patients after 3.3±1.4 days. ELR: During 26.2±6.8 days of monitoring, 118000 EKG recordings (645±1265 / patients) were sent, and AF episodes lasting 3.6±5.3 hours were detected in 21 (11%) patients after 8.9±6.1 days. Median levels of D-dimers were significantly higher in patients with AF (255 ng/ml) compared to patients with sinus rhythm (SR) (129 ng/ml). Median levels of NT-proBNP did not significantly differ between the groups (AF 227 ng/l vs. SR 182 ng/l). More patients with AF / frequent PACs had older ischemic changes on BMR compared to patients with SR (82.9% vs. 61.5%, $p=0.003$).

Conclusion: AF was found in 35 (13%) patients with recent cryptogenic stroke. In all patients, the arrhythmia was detected during the first four weeks of ECG monitoring. Patients with AF detected had higher D-dimer levels and more older ischemic changes on BMR.

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Sex differences in influence of atrial fibrillation on mortality of patients with ischemic stroke

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Background and purpose: Mortality for ischemic Stroke (IS) may be estimated by predictive models based on predictors such as age, sex, Body Mass Index (BMI) and history of atrial fibrillation (AF). However, sex-specific influences on