

### P4308 | BEDSIDE Pre- and post-stroke antithrombotic therapy in atrial fibrillation patients - a Danish nation-wide registry-based study

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**Background:** Atrial fibrillation (AF) is a major risk factor for ischemic stroke and anticoagulation therapy (vitamin K antagonists (VKA) and non-vitamin K oral anticoagulants (NOACs)) is recommended for primary and secondary stroke prophylaxis in high-risk AF patients. However, little is known regarding pre- and post-stroke antithrombotic treatment pattern in prevalent AF patients presenting with ischemic stroke.

**Methods:** Using Danish nationwide registries all prevalent atrial fibrillation patients (1978–2016) in Denmark with a pre-stroke CHA2DS2-VASc >1 who presented with an ischemic stroke from January 2004 to September 2016 were identified. Antithrombotic therapy 180 days prior to stroke hospitalisation was assessed. In those who survived until 90 days after discharge post-stroke antithrombotic therapy was assessed.

**Results:** 25,789 patients comprised the study population; 8779 (34.0%) received anticoagulation therapy with VKA or a NOAC (with or without antiplatelet agent), 10,338 (40.1%) received antiplatelet therapy alone, and 6672 (25.9%) did not receive any antithrombotic treatment prior to their stroke diagnosis. Those who did not receive anticoagulation therapy prior to their stroke diagnosis were in general older than those receiving anticoagulation therapy (median age 81 years, interquartile range (IQR) 72–87 and median age 79 years, IQR 72–84, respectively) and had similar risk scores for stroke as those treated with anticoagulation therapy (mean CHA2DS2-VASc 3.5, standard deviation (std) 1.1 and mean CHA2DS2-VASc 3.6, std 1.1, respectively). Post-stroke, 10,280 (51.1%) were not treated with anticoagulants.

**Conclusion:** In AF patients with a CHA2DS2-VASc score >1 who presented with an ischemic stroke, 66.0% did not receive anticoagulant therapy prior to their stroke hospital admission as recommended by guidelines, while 51.1% did not receive anticoagulant therapy after discharge. Our findings suggest a substantial opportunity for improving primary and secondary stroke prophylaxis in AF patients.

### P4309 | BEDSIDE Characteristics and outcomes in atrial fibrillation patients with previous thromboembolism and major bleeding: From the Fushimi AF Registry

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**Background:** Atrial fibrillation (AF) increases the risks of thromboembolism and death. Of the various risk factors, previous thromboembolism is the most powerful risk factor for subsequent ischemic stroke. Secondary prevention with oral anticoagulant (OAC) is crucial for AF patients with previous thromboembolism. Meanwhile, previous major bleeding is considered as a risk factor for recurrent major bleeding. Thus, it is difficult to make a decision as to OAC prescription in patients with history of both thromboembolism and major bleeding. We investigated clinical demographics, therapies and outcomes in AF patients with previous thromboembolism and major bleeding.

**Methods:** The Fushimi AF Registry, a community-based prospective survey, was designed to enroll all of the AF patients in Fushimi-ku, Kyoto, which is a typical urban district of Japan with a population of 283,000. Follow-up data including prescription status were available for 4,066 patients. We extracted and investigated 832 AF patients (20.5%) who had history of stroke or systemic embolism (SE) at baseline.

**Results:** Of 832 AF patients with previous stroke/SE, 106 patients (12.7%) had major bleeding episode at baseline. We compared patients with major bleeding to those without major bleeding in patients who had previous stroke/SE. Patients with major bleeding were more often female (47.2% vs. 36.9%;  $p=0.04$ ) than those without major bleeding. Mean age and body weight were comparable (77.7 vs. 76.6 years of age;  $p=0.26$ ) (56.1 vs. 57.3 kg;  $p=0.38$ ). Most of major comorbidities were comparable, such as heart failure (31.1% vs. 27.4%;  $p=0.42$ ), hypertension (65.1% vs. 65.3%;  $p=0.97$ ), diabetes (20.8% vs. 25.9%;  $p=0.26$ ), coronary artery disease (18.9% vs. 16.0%;  $p=0.45$ ) and chronic kidney disease (34.9% vs. 39.4%;  $p=0.79$ ). The CHA2DS2-VASc score was comparable (5.4 vs. 5.2;  $p=0.18$ ), but HAS-BLED score was higher in patients with major bleeding (4.3 vs. 3.3;  $p<0.01$ ). Patients with major bleeding were less frequently prescribed OAC (57.6% vs. 70.2%;  $p<0.01$ ) and antiplatelet drugs (APD) (30.2% vs. 40.5%;  $p=0.04$ ). During 1,087 days of median follow-up period, recurrence of stroke/SE occurred in 13 patients with major bleeding (4.9/100 person-years) and 83 patients without major bleeding (4.0/100 person-years), with an adjusted hazard ratio (HR) for patients with major bleeding of 1.21 (95% confidence interval [CI], 0.64–2.11;  $p=0.53$ ), adjusting by OAC and APD. During follow-up period, major bleeding occurred in 11 patients with previous major bleeding (4.2/100 person-

years) and 48 patients without previous major bleeding (2.3/100 person-years), with an adjusted HR for patients with previous major bleeding of 2.08 (95% CI, 1.01–3.90;  $p=0.046$ ), adjusting by OAC and APD.

**Conclusion:** We identified that patients with previous major bleeding episode were at high risk of recurrent major bleeding in Japanese AF patients with previous thromboembolism.

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### P4310 | BEDSIDE Impact of patent foramen ovale on the prevalence of recent ischemic stroke in patients with acute pulmonary embolism: the EPIC FOP prospective multicenter study

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**Background:** The link between ischemic stroke and patent foramen ovale (PFO) remains a subject of debate. Small studies highlight a concomitant silent stroke in patients with PFO and acute pulmonary embolism as compare to patient without PFO, suggesting a paradoxical embolism.

**Aims:** This survey would like to evaluate the prevalence of recent ischemic stroke in patients with symptomatic acute pulmonary embolism (PE) whether PFO is detected or not.

**Methods:** All consecutive patients with symptomatic documented PE were included in the present multicenter prospective study. In those patients cerebral magnetic resonance imaging (MRI) were systematically performed within 15 days. A recent ischemic stroke was confirmed by hypersignal on diffusion-weighted imaging and restricted apparent diffusion coefficient on cerebral MRI. PFO was detected with contrast by trans-thoracic echocardiography and by transcranial Doppler (TCD) as well. The prevalence of ischemic stroke was compared between PE patients with and without PFO.

**Results:** Overall, 374 patients were included. Contrast transthoracic echocardiography (TTE) was conclusive in 324 patients and showed PFO in 43 patients. A shunt was detected by TCD in 94.1% in PFO group versus 37.3% in no PFO group. PE severity score (s-PESI) was not different between PFO and non-PFO groups (0.74 vs. 0.61;  $p=0.32$ , respectively), while the prevalence of ischemic stroke (whatever symptomatic or not) was clearly higher in the PFO group (21.4% vs. 5.5%;  $p=0.0016$ , respectively). In addition, the detection of right to left shunt by TCD was associated with a higher rate of stroke (14% vs. 3.6%;  $p=0.0007$ , respectively)

**Conclusion:** In acute pulmonary embolism, the rate of cerebral embolic events is higher: 1) in patients with PFO as compared without PFO detected by TTE, 2) and in patients with shunt using TCD. This finding supports the hypothesis of paradoxical embolism being an important mechanism of ischemic stroke. Duration of anticoagulation or closure of PFO should be evaluated in this specific population.

### P4311 | BEDSIDE Use of left atrial strain for risk stratification in atrial fibrillation with low clinical thromboembolic risk

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**Background:** The CHA2DS2-VASC score is the cornerstone of evaluation of thromboembolic risk in atrial fibrillation (AF), but the management of a CHA2DS2-VASC score of 1 remains uncertain. Abnormal left atrial (LA) volume and function can be assessed using echo and strain imaging. We investigated if LA strain could be used to risk stratify patients with AF with low clinical thromboembolic risk.

**Methods:** 249 participants with paroxysmal or persistent AF with low thromboembolic risk (CHA2DS2-VASC score = 1) were followed up for stroke or systemic embolic events (median follow up 33 months). All participants had baseline echocardiography and LA strain was measured using R-R gating using off-line software (Image Arena, Tomtec, Germany). All strokes were diagnosed following neurologist review with CT or MRI imaging. Participants were grouped based on cut-off values for LA strain (39% for reservoir strain, 22% for conduit strain and 18% for pump strain). Percentage of paroxysmal/persistent AF and stroke/systemic embolic events were compared between normal and abnormal LA strain groups.

**Results:** There were a total of 5 strokes/embolic events in the cohort (2.3%). Of the events 4 had persistent AF and 1 had paroxysmal AF. LA strain was able to be measured in 211/249 patients. All events occurred in patients with abnormal LA reservoir and conduit strain, but 3/5 events occurred in patients with normal LA pump strain (Table). Those with reduced LA strain had higher rates of persistent AF (55% vs. 14%,  $p<0.001$  for reservoir), (43% vs. 16%,  $p=0.01$  for conduit)