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## Project details

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Award amount: €50,000

After a first Atrial Fibrillation-related stroke, oral anti coagulant therapy dramatically reduces the risk of recurrence. Detection of paroxysmal AF is challenging. We propose a score (STAF+) for the targeting of paroxysmal atrial fibrillation in secondary prevention of stroke.

Atrial fibrillation (AF) is the most potent dangerous single risk factor for stroke, whatever the type of AF, permanent or paroxysmal. After a first AF-related stroke, oral anti coagulant therapy dramatically reduces the risk of recurrence (61%). Therefore, proof or exclusion of atrial fibrillation is one of the main tasks in patient care in stroke units. Unfortunately, in spite of strong suspicion, this is not achieved in many cases because AF is often paroxysmal and/or asymptomatic, which makes an optimal secondary prevention in these patients impossible. Prolonged monitoring of stroke patients, over longer period of several days, weeks or months can improve the detection rate of paroxysmal atrial fibrillation. However, these diagnostic methods are expensive, not available in routine, and cannot be proposed to each patient. Therefore, an additional selection of patients with an increased risk for paroxysmal AF who should undergo further surveillance and investigations would be of great help. Some factors predicting the risk of AF have been identified. Our team developed and validated a clinico radiological score called STAF (Score for the Targeting Atrial Fibrillation), able to identify, with an increased pre test probability, patients with high risk for paroxysmal atrial fibrillation. STAF is calculated from the sum of the points for 4 items (possible total score from 0 to 8): age> 62 years (2 points), clinical severity measured with NIHSS score ≥ 8 (1 point), left atrial dilatation (2 points), absence of extra- or intra-cranial stenosis ≥50% or clinico-radiological lacunar syndromes (3 points). In a prospective validating study, STAF ≥ 5 identified patients with AF with a sensitivity of 91% and a specificity of 77%. We propose now to improve the diagnostic performance of this score adding electrical and biological markers parameters to STAF. For this purpose, all consecutive ischemic stroke patients admitted in our stroke unit will undergo complete work-up, including: 1) Clinical evaluation performed by a neurologist 2) Cerebral imaging (CT or MRI), 3)Vascular imaging (CTA or MRA), 4) Biological parameters (i.e; Brain Natriuretic Peptide, D-dimer), 5) 12-lead ECG, 7 days ECG telemetry monitoring, trans-thoracic echocardiography. ECG data will be analyzed using an automatic mathematical algorithm giving a risk level to detect paroxysmal AF. This analyze includes some dynamic ECG parameters such as consecutive R-R intervals, premature atrial complexes. Our hypothesis is that, after statistical analysis, the new score STAF+ had a better predictive value than STAF. STAF+ could help clinicians in identifying patients at high risk for paroxysmal atrial fibrillation. It acts as the first link in a chain of paroxysmal AF detection efforts. It brings high sensitivity to ECG monitoring methods which have the specificity necessary for the prescription on oral anticoagulation. STAF+ rationalizes the non routine use of long lasting ECG monitoring by increasing the pre test probability of diagnostic. It thus improves the cost benefit ratio. STAF+ could represent for stroke physicians a screening solution in secondary prevention of stroke and could be used in a clinical setting to improve AF detection.

# Audience

## Type

- AF Patients
- Healthcare professionals
- Stroke patients

## Location

France, Europe