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Country:	Germany
Titel of the project:	Continuous Cardiac ECG for patients with unknown stroke etiology

Project details

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Award amount: €100,000

In 1/3 the cause of stroke remains undetermined. Especially in patients with only mild or short-lasting stroke symptoms atrial fibrillation is a treatable cause of stroke and anticoagulation will prevent more serious events. For detection we will use a mobile ECG-recorder to improve detection rate, compared to standard-ECG, in unexplained stroke.

We are a stroke center in Germany and treat over 1200 stroke patients a year on our Comprehensive Stroke Center (Head and Director: Prof. Dr. Hennerici). Although extensive diagnostic procedures, with ECG, ultrasound sonography, brain imaging and more - in nearly 300 cases per year the etiology remains undetermined. Our plan is to study patients with unknown etiology of stroke at hospital discharge and to give them a mobile ECG Loop recorder device to analyze heart rate and to detect atrial fibrillation over 4 weeks. The advantage of our system is that no implantation of the device under the skin is necessary and the accept rate to use the system is good. After 4 weeks our partners from cardiology (Director Prof. Dr. Borggrefe) will analyze the recordings for atrial fibrillation events and we will be able to choose the best therapeutical strategy for the patient, maybe anticoagulation if atrial fibrillation was detected. Inclusion criteria: age 18-100 years old, patient is independent from help (Barthel score >80), stroke is evident by clinical symptoms and brain imaging (also TIA could be included), stroke etiology at discharge is unclear, NIHSS <10 Exclusion criteria: cognitive impairment (Mini-Mental State Examination <25/30), contraindications for - or deny of anticoagulation, contraindications for long-lasting ECG (like skin diseases, regulatory guidelines for his working place, like “ no electrical devices” etc.) Protocoll: We will identify patients on our stroke unit and they receive the mobile ECG monitoring device for 4 weeks. Patients will be seen after 4 weeks, when ECG system will be analyzed in cooperation with our cardiology department and further treatment will be decided. A second visit will be after 12 months to see clinical deficit and improvement. With a new brain image we will also try to identify so called silent new brain infarctions. In addition we will explore if other reasons for a stroke were identified during the year. Primary outcome: number of identified patients with atrial fibrillation by usage of our ECG monitoring device for 4 weeks. Secondary outcome: number of stroke events in ECG monitoring group. We expect to include 10 patients per month in our study and compare them to control patients fulfilling all inclusion criteria but not receiving the ECG recorder. Maybe also in control patients atrial fibrillation will be detected by other strategies during the one-year survey. The study will be performed by a stroke doctor (Mrs. Dr. T. Sauer) and a senior physician/ leader of the stroke team (PD Dr. M. Fatar) both from the neurology department, as well as a senior physician from the cardiology department (PD Dr. R. Schimpf) and a study nurse (Mrs. K. Knoll)

Audience

Type

- AF Patients
- Healthcare professionals
- stroke patients with unknown stroke etiology

Location

Germany, Europe