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Country: **Germany**

Titel of the project: **TIA and atrial fibrillation: prevent strokes by better diagnostics**

Project details

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Award amount: €100,000

Transient ischemic attacks (TIAs) are warning signs of a threatening stroke and are caused by atrial fibrillation in up to 20% of cases. Paroxysmal (=short-term) atrial fibrillation is frequently not discovered with customary diagnostic methods. Our goal is to increase the hit rate in searching for atrial fibrillation in day-clinic TIA patients by means of biomarkers and intensified ECG monitoring.

Patients in the TIA clinic of the Klinikum Harlaching with suspicion of TIA receive a day-clinic diagnosis for stroke within one day. In-patient admission is usually not required. Fast causal classification of the TIA is decisive, to commence risk-adapted stroke prophylaxis even on the same day. The stroke diagnosis consists of a neurological examination, cerebral imaging - as a rule magnetic resonance tomography - an ultrasound examination of the arteries supplying the brain, taking blood samples with determination of the blood fats and a blood pressure measurement on arms and legs (ankle-arm index). Cardiac causes of TIA and stroke are acquired by means of contrast-supported transcranial Doppler sonography for searching for an open oval foramen, an embryonal short-circuit connection between right and left atrium, an ECG or a long-term ECG. In paroxysmal atrial fibrillation, i.e. atrial fibrillation present for a short time, there is a diagnostic gap, because the ECG is normal between the fibrillation episodes. Our project provides for the following procedure to improve the diagnostics of atrial fibrillation in patients of the TIA clinic: Each patient receives an ECG and a long-term ECG in the course of the customary stroke diagnostics. Moreover, the brain natriuretic peptide (BNP) biomarker is determined. This is a short amino acid chain which is formed in the heart muscle not exclusively, but also in the course of an atrial fibrillation episode and is delivered into the blood. The increased BNP value in the blood can indicate preceding atrial fibrillation, if the patient does not suffer from a chronic heart muscle weakness (cardiac insufficiency). The heart muscle enzyme creatine kinase (CK) and troponin are also determined to exclude acute heart failure. If BNP is elevated, without the patient suffering from cardiac insufficiency or acute heart failure, this is an indication of atrial fibrillation, and the search for it is intensified by further ECG leads. ECG monitoring is by means of conventional long-term ECG (e.g. 5x24 hours within 4 weeks) or event recorders with telephone or Internet-assisted ECG evaluation. We expect that we will identify more TIA patients with atrial fibrillation than previously by this additional diagnostic method. A group of patients who had been treated in the TIA clinic in 2009 and 2010 is used for comparison.

Audience

Type

- Healthcare professionals
- Carers of AF Patients
- Patients with TIA

Location

Germany, Europe