POSSIBLE ROLE OF THE IMPLANTABLE LOOP RECORDER IN THE EVALUATION OF PATIENTS AFFECTED BY CRYPTOGENIC STROKE


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Introduction and objective
It is well known that a high percentage of strokes remains of undetermined origin in spite of an accurate workup. The implantable loop recorder allows a prolonged registration of the cardiac electric activity. Our study aims to evaluate the efficacy of the device in detecting a paroxysmal atrial fibrillation in a cohort of patients affected by a cryptogenic stroke.

Patients and Methods
As a first step the patients affected by cryptogenic stroke were identified among the ones admitted for ischemic stroke to the S.C. Neurologia 3 of the Molinette Hospital in Turin from 2011 to 2014. According to the TOAST classification a cryptogenic stroke was defined as a brain non lacunar infarction not attributable to a source of definite cardioembolism or large artery atherosclerosis (stenosis >50% or dissection), despite extensive vascular, cardiac, and serologic evaluation. Diagnostic workup included brain MRI, carotid color doppler of the supraortic vessels, transthoracic echocardiography, Holter ECG, lab tests including a screening for coagulopathy. As a second step the patients with cryptogenic stroke were evaluated with the STAF Score (Score for the Targeting of paroxysmal Atrial Fibrillation Mahagne 2011). Only the patients with score > 4 were considered for implantation.

Results
58 patients, 33 males and 25 females, mean age 66 yrs (± 15) were implanted. A paroxysmal atrial fibrillation (PAF) was identified in 21 (37%). In these patients advanced age, atrial premature beats, and supraventricular tachycardia runs were observed more frequently. The mean duration of the monitoring before detection of PAF was 51 days (9-270); in 6 cases the first event occurred more than 6 months after implantation. Duration of the detected episodes was variable, ranging from few minutes to more than 12 hours. In no cases PAF episodes were associated with stroke recurrence.

Discussion and conclusions
Our study confirms the results of previous studies (CRYSTAL- AF, SURPRISE, Rojo-Martinez), which showed a detection rate for PAF with the implantable loop recorder ranging from 12 to 33%. In our experience the preliminary screening with the STAF Score seems to further increase the sensibility of the procedure (37%), allowing a more selected employment of the device. The implications for therapy and subsequent prognosis seem very promising.

References
1 T. Sanna et al Cryptogenic stroke and underlying atrial fibrillation NEJM 2014;370:2478-86
2 Christensen LM et al Paroxysmal Atrial Fibrillation occurs often in cryptogenic stroke. Final results from the SURPRISE study EJN 2014;21:884-89