DETECTION OF POST-STROKE ATRIAL FIBRILLATION: a hard challenge for neurologists

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BACKGROUND

The overall prevalence of atrial fibrillation (AF) in patients with stroke, including those with known diagnosis, is about 39%. Almost in 24% of patients with stroke or transient ischemic attack (TIA) post-stroke AF could be identified. According to recent metanalysis, post-stroke AF was diagnosed in 7.7% of patients with stroke or TIA at admission ECG. During hospitalization Holter monitoring detected AF in 4.5% and continuous ECG monitoring in 7% of the patients. The duration of in-hospital monitoring varied between 1 and 7 days.

OBJECTIVE

The aim of our study is to verify if in-hospital cardiac monitoring is a suitable method to detect silent AF and if selecting a high-risk population is likely to improve detection rates.

MATERIALS AND METHODS

We retrospectively evaluated all patients admitted to our Stroke Unit (SU) for ischemic stroke and TIA during 2.5 years (from January 2013 to June 2015). All patients were investigated with ECG at admission with QTc calculation and continuous cardiac monitoring (CCM). All had troponin (TnI) measurement within 24 hours of symptom onset. Transcranial colordoppler (TCCD) was performed at admission and, if artery occlusion was found, it was repeated within one week.
The mean duration of CCM was 10 days. 12-lead ECG was performed to confirm AF suspected on monitoring.

RESULTS

- 441 patients with ischemic stroke and 42 with TIA
- Mean age: 71.6 years;
- 55% men, 45% women
- Mean admission NIHSS: 8
  - 179 patients with AF (37,1%):
    17.3% paroxysmal
    5.6% valvular AF
- 16% of patients had elevated TnI (> 0,015 ug/l)
- 54% of patients had elevated QTc (> 436 msec)
- 30% of patients had occlusion at TCCD
- 33 of them showed recanalization at one-week follow-up

- 120 (24.8%) had known AF
- 59 (12.2%) had post-stroke AF:
  - 32 (6.6%) at admission ECG
  - 27 (5.6%) **silent AF :**
    - 26 by CCM
    - 1 by Holter monitoring
- 81% of silent AF was detected within first 4 days
- At admission 42% was in oral anticoagulation (OAC)
- At discharge only little increase in OAC prescription (45%)

Predictors of silent AF:

	TCCD Recanalization	QTc > 436 msec	TnI > 0,015 ug/l
U di Mann-Whitney	854,000	4943,000	4825,500
W di Wilcoxon	16254,000	109139,000	109021,500
Z	-2,013	-1,930	-2,312
Sig. Asint. a 2 code	**,044**	**,054**	**,021**

CONCLUSION

Detection of AF after stroke is crucial for secondary prevention therapy. Patients with AF and stroke have a 15% stroke risk during the first year after the index event.
No consensus has been reached about how and how long AF should be investigated in patients with stroke.
Our data, according to literature, confirm continuous ECG monitoring for at least 4 days in SU as a suitable method to find AF previously unknown. However it would be helpful having markers to identify patients at higher risk of AF that would benefit most from additional and prolonged cardiac testing. Our study shows that recanalization at TCCD, abnormal TnI and QTc >436 msec could be useful to select patients at high-risk for AF post-stroke.

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