

Predictors of atrial fibrillation in patients with cryptogenic stroke and fifteen-days electrocardiographic monitoring. Preliminary results of the DECRYPTORING study

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onbehalf: DECRYPTORING study

Introduction: Cryptogenic stroke (CS) represents up to 30% of all stroke types. In one third of CS, atrial fibrillation (AF) is identified as the underlying cause. Predictors of AF in the setting of CS have been described, however these findings were based on retrospective studies and with maximum ECG monitoring of 72 hours. To overcome these limitations, we designed the prospective Decryptoring study whose objective is to create a comprehensive predictive model for AF in patients with CS.

Methods: From April 2019, 41 consecutive patients with a CS and age > 60 years were included. On admission, a transthoracic echocardiogram with 3D volume and left atrial (LA) strain was performed. All patients were monitored with a 15-day ECG-Holter after discharge. Patients were classified according to AF detection.

Results: AF was detected in 9 patients (22%). Patients with AF were older (75.9 ± 8 vs. 81.9 ± 4.3 years, $p = 0.041$). There was no difference in T-troponin levels. NTproBNP was higher in the group with AF (350 ± 586 pg / ml vs. 1084 ± 1416 pg / ml, $p = 0.018$). Regarding LA strain, patients with AF presented reservoir LA strain ($25.5 \pm 8.2\%$ vs $17.4 \pm 4.3\%$; $p = 0.006$) and conduct LA strain ($12 \pm 5.2\%$ vs $7.2 \pm 1.5\%$; $p = 0.01$) lower than patients without AF. There were no differences in contraction LA strain or other echocardiographic variables. The risk of developing AF was higher in patients with NTproBNP > 165 pg / ml (OR 11.3 [95% CI 1.2-102.9] $p = 0.031$), LA reservoir strain <19.1% (OR 7.7 [IC 95 % 1.5-40.0] $p = 0.016$) and LA conduct strain <9.1% (OR 7.8 [95% CI 1.3-45.0] $p = 0.022$) (Table).

Conclusions: This prospective study, demonstrates that high NTproBNP, low reservoir LA strain and low conduct LA strain are associated with underlying AF in patients with cryptogenic stroke.

	No AF (n = 32)	AF (n = 9)	P value
Age (years)	75.9 ± 8	81.9 ± 4.3	$p = 0.041$
NTPROBNP (pg/ml)	350 ± 586	1084 ± 1416	$P = 0.018$
LA indexed diastolic volume (ml/m ²)	30 ± 11.8	33.8 ± 9.8	$P = 0.35$
LA EF (%)	45 ± 16.7	45 ± 12.8	$P = 1$
Reservoir LA strain (%)	25.5 ± 8.2	17.4 ± 4.3	$P = 0.006$
Conduct LA strain (%)	12 ± 5.2	7.2 ± 1.5	$P = 0.01$
Contraction LA strain (%)	13.5 ± 5.3	10.2 ± 3.9	$P = 0.10$
NTPROBNP > 165 pg/ml	12 (41%)	8 (89%)	OR 11.3 [IC 95% 1.2-102.9]; $p = 0.031$
Reservoir LA strain <19.1%	6 (20%)	6 (67%)	OR 7.7 [IC 95% 1.5-40.0]; $p = 0.016$
Conduct LA strain <9.1%	9 (31%)	7 (78%)	OR 7.8 [IC 95% 1.3-45.1]; $p = 0.022$