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Abstract Title: CRYPTOGENIC STROKE AND STROKE RECURRENCE: UNVEILING RISK FACTORS AND THE CRITICAL ROLE OF PROLONGED CARDIAC MONITORING FOR ATRIAL FIBRILLATION DETECTION

Abstract Category: 05.00 - RISK FACTORS AND PREVENTION (PRIMARY AND SECONDARY) - 05.02 - SECONDARY PREVENTION

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Background and Aims: The predictors of stroke or transient ischemic attack (TIA) recurrence and the role of atrial fibrillation (AF) detection with insertable cardiac monitors (ICMs) in secondary prevention of cryptogenic stroke, remain unclear. This study evaluated stroke/TIA recurrence and its risk factors in cryptogenic stroke patients and assessed the role of AF detection and ICM use in secondary prevention.

Methods: A retrospective study at a tertiary care center identified all consecutive cryptogenic stroke/TIA patients admitted between 2017 and 2023. The following parameters were assessed: AF detection, OAC use, stroke/TIA recurrence, all-cause mortality, and comorbidities. Multivariate logistic regression analysis was performed to determine the impact of risk factors on the likelihood of stroke or TIA recurrence.

Results: Our study included 924 cryptogenic stroke/TIA patients (48.8% female) with a median age of 71 [61-80], with 7.5% experiencing a recurrent stroke or TIA. Previous stroke or TIA (OR: 2.943, 95% CI: 1.672–5.178, p<.001) together with atherosclerosis (OR: 2.218, 1.256–3.915, p=.006) were the only two risk factors associated with an increased likelihood of stroke/TIA recurrence. The stroke/TIA recurrence rate was significantly lower in patients with AF detected prior to recurrence (2.0%) compared to those without AF detected (6.7%, p=.023). Figure 1 shows the sequence of events (index event, start of monitoring, AF detection, and stroke/TIA recurrence).

Conclusion: This study identified prior stroke and atherosclerosis as predictors of stroke or TIA recurrence. Moreover, it highlights the critical role of long-term cardiac monitoring and AF detection in reducing stroke or TIA recurrence in cryptogenic stroke patients.

Table 1. Predictors of stroke or TIA recurrence.

Predictor	Univariate OR (95% CI)	*p*-value
Previous stroke or TIA	3.113 (1.777 - 5.453)	<.001
Atherosclerosis	2.338 (1.330 - 4.110)	.003
Vascular disease	2.107 (1.185 - 3.747)	.011
CHA_2DS_2-VA	1.259 (1.055 - 1.501)	.011
Age	1.021 (1.001 - 1.042)	.040
Left atrium ejection fraction	0.210 (0.029 - 1.540)	.125
Diabetes	1.496 (0.860 - 2.603)	.154
Hypercholesterolemia	1.458 (0.868 - 2.450)	.154
Hypertension	1.442 (0.835 - 2.491)	.189
Obesity	1.391 (0.819 - 2.362)	.222

Only predictors with p < .25 are presented.

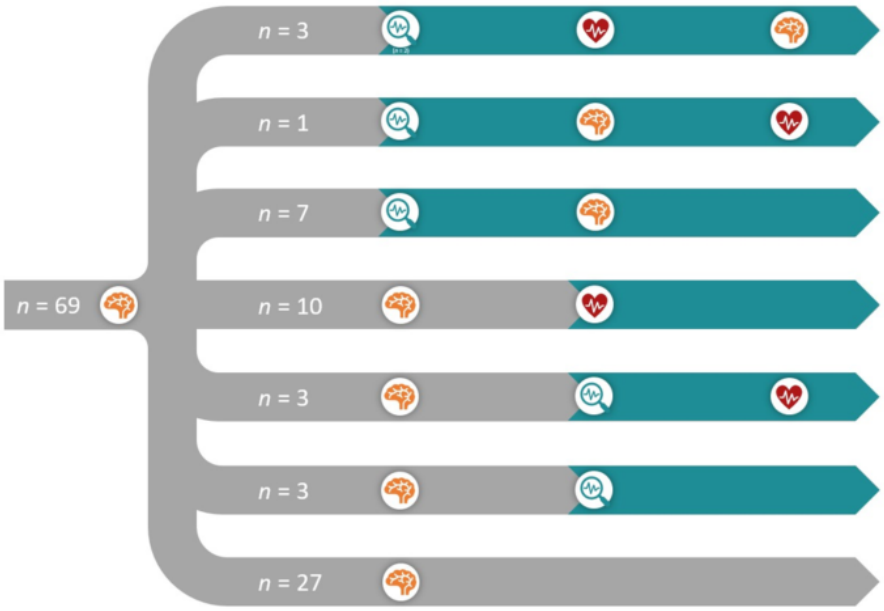

Figure 1. Flowchart of events: stroke recurrence, cardiac monitoring, and atrial fibrillation detection. The orange brain represents stroke (index and recurrence); the blue magnifier indicates the start of long-term cardiac monitoring; the red heart represents atrial fibrillation detection; the grey area visualizes the period in which no long-term cardiac monitoring was used but could have been used.

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