

Who gets cryptogenic strokes?

First Author: Alexa Ragusa

Classification: EM resident

Additional Authors: Taylor Cesarz, MD
Abigail Alorda, MD
Natalie Diers, MD
Latha Ganti, MD

Affiliations: UCF/HCA GME Consortium Emergency Medicine
Residency of Greater Orlando

Research Type: Research Abstract

IRB Approval or Exemption: Exemption

Mailing Address of First Author: 3050 La Spezia Circle, Apt 425
Kissimmee, FL, 34741

Email Address of First Author: alexa.ragusa@ucf.edu

Official submission to the FCEP Emergency Medicine Research Competition at Symposium by the Sea 2022

Who gets cryptogenic strokes?

Background/Objective:

Cryptogenic stroke is defined as a cerebrovascular ischemic event for which an etiology could not be determined. They comprise up to one third of acute stroke presentations. We sought to characterize the demographics of these patients, and also to study whether they received intravenous thrombolysis more or less frequently than strokes of other subtypes.

Methods:

This is an IRB approved prospective observational study of consecutive stroke patients who presented to our emergency department between January 1, 2018 and December 31, 2021. Our institution is a comprehensive stroke center, and participates in the Get With The Guidelines (GWTG) – Stroke registry. Information on stroke subtype was ascertained upon completion of the workup at hospital discharge. The 5 subtypes were: 1-large-artery atherosclerosis (e.g., carotid or basilar artery stenosis); 2- cardioembolism (e.g., atrial fibrillation/flutter, prosthetic heart valve, recent myocardial infarction); 3-small-vessel disease (e.g., subcortical or brain stem lacunar infarction <1.5 cm); 4- Stroke of other determined etiology; and 5-cryptogenic stroke. Patient demographics including age, sex and race, and rates of thrombolysis were also collected.

Results:

There were 2142 acute ischemic strokes during the 4 year study period. The demographics are summarized in table 1, and stroke subtypes in figure 1. Patients with cryptogenic stroke were significantly younger ($P < 0.0001$, 95% CI -3.0065 to -0.5477). They were also significantly more likely to be discharged home (OR 1.48, $P < 0.0001$). There was no difference between males and females. Patients with cryptogenic strokes received intravenous thrombolysis with alteplase at the same as other stroke subtypes.

Conclusion:

Although the rate of thrombolysis did not differ between stroke subtypes, patients with cryptogenic stroke are younger and are discharged home after hospitalization more often than those with strokes due to other etiologies.

	Large-artery atherosclerosis	Cardioembolic	Small-vessel disease	Stroke of other determined etiology	Cryptogenic Stroke
N	301	582	411	64	784
% Female	42%	52%	49%	61%	54%
Median age (IQR)	70 (60-80)	74 (63-83)	70 (61—78)	56.5 (44-70)	68 (56-78 years)
Race	3% Asian 16% Black 70% White	2% Asian 12 % Black 72% White	4% Asian 17 % Black 62% White	0% Asian 23 % Black 67% White	2% Asian 15% Black 65% White
Median NIHSS (IQR)	5 (2.5-15)	12 (5-21)	1 (0.5-10)	9 (3.5-20)	6.5 (1-14)
% antiplatelet	87%	66%	86%	69%	80%
% anticoagulant	13%	34%	14%	31%	20%

% taking diabetes med	34%	29%	43%	33%	33%
% received tPA	16%	18%	15%	16%	
% went home	44%	43%	61%	47%	54%
% died	7%	3%	3%	8%	4%

Frequency of ischemic stroke subtypes in comprehensive stroke center over 4 year period

