



Stroke

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Abstract TP217: Longitudinal Study of Young Patients With Embolic Stroke of Undetermined Source (ESUS)

Sarah Lee, Adam MacLellan, Sebastian F Ameriso, Antonio Arauz, Karl G Häusler, Marcel Arnold, Lee A Birnbaum, Joan Martí-Fàbregas, Verónica V Olavarría, Amanda Taylor, Kanjana S Perera¹Dept of Neurology & Neurological Sciences, Stanford Univ Sch of Medicine, Palo Alto, CA²Dept of Neurology, Institute of Neurological Rsch, Fleni, Buenos Aires, Argentina³Departamento de Neurología Vascular, Instituto Nacional de Neurología y Neurocirugía Manuel Velasco Suárez, Mexico City, Mexico⁴Dept of Neurology, Universitätsklinikum Würzburg, Würzburg, Germany⁵Dept of Neurology, Univ Hosp Bern, Bern, Switzerland⁶Dept of Neurology & Neurosurgery, Univ of Texas Health Sciences Cntr at San Antonio, San Antonio, TX⁷Dept of Neurology, Hosp de la Santa Creu i Sant Pau, Barcelona, Spain⁸Servicio de Neurología, Departamento de Neurología y Psiquiatría, Clínica Alemana de Santiago, Santiago, Chile⁹McMaster Univ, Hamilton, Canada



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Abstract

Introduction: Stroke in young adults is not rare, and can have a devastating, lasting impact. Up to 20% of patients with Embolic Stroke of Undetermined Source (ESUS) are under 50 years of age; thus, determining potential causes and outcomes in this younger cohort may significantly impact clinical practice. We aim to describe clinical, laboratory and imaging characteristics of patients between 21 and 50 years of age with ESUS; determine rates of new-onset atrial fibrillation; and investigate predictors of recurrent stroke in this unique population.

Methods: This is an ongoing multi-center, international registry, which plans to prospectively enroll 500 patients between the ages of 21-50 years with ESUS¹ within 60 days. Clinical, laboratory and imaging data are documented at enrollment. Patients will be followed prospectively at 6, 12 and 18 months post-stroke via telephone interview to determine treatment and outcomes. End of enrollment is anticipated in mid-2019.

Results: Majority of patients are male (63.7%), and males had a higher median age at stroke than females (43 versus 41 years, range 21-50). Figure 1 shows the geographical breakdown of recruited patients. Intravenous recombinant tissue plasminogen activator (tPA) was given to 26/146 (17.8%). Median modified Rankin Score at time of stroke was 1.0 (range 0-5.0). Table 1 contains baseline characteristics and diagnostic workup of 146/187 patients enrolled thus far.

Conclusion: Demographics, stroke risk factors and recurrence rates may differ for younger patients with ESUS; thus, findings of this study could potentially shape clinical practice and ultimately improve outcomes for this at-risk population.

Table 1.

RISK FACTOR	N = 146	%	DIAGNOSTIC INVESTIGATION	N = 146	%
PFO	76	52.1	Neuroimaging		
Hypertension	35	24.0	CT only	16	11
Current Tobacco	35	24.0	MRI only	89	61
Diabetes	15	10.3	CT and MRI	41	28.1
Cancer	4	1.7	Cardiac Workup		
Heart Failure	2	1.4	TTE	120	81.6
Coronary Artery Disease	2	1.4	In-hospital telemetry <i>without</i> automated rhythm detection	16	11.0
MI	2	1.4	In-hospital telemetry <i>with</i> automated rhythm detection	34	23.3
Bioprosthetic Valve	2	1.4	Ambulatory ECG ≤ 24 hours	33	22.8
Prior stroke	13	8.9	Ambulatory ECG > 24 hours	29	20.0
Prior TIA	3	2.1	Loop recorder	8	5.5
Prior strokes seen on imaging	22	15.1	Other type of prolonged cardiac monitoring	27	18.5

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Figure 1. Participants recruited by country.



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Footnotes

Author Disclosures: **S. Lee:** None. **A. MacLellan:** None. **S.F. Ameriso:** None. **A. Arauz:** None. **K.G. Häusler:** None. **M. Arnold:** None. **L.A. Birnbaum:** None. **J. Martí-Fàbregas:** None. **V.V. Olavarría:** None. **A. Taylor:** None. **K.S. Perera:** Research Grant; Modest; Bayer AG - Investigator Initiated Grant For a longitudinal study of young ESUS patients. Honoraria; Modest; Bayer AG.



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