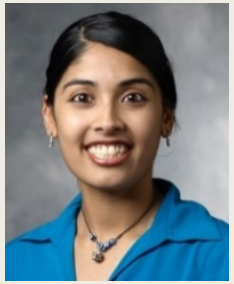

Nirali Vora, MD

Co-Chair, Right Care Initiative Silicon Valley University of Best Practices; Professor, Neurology, School of Medicine, Stanford University; Director, Global Health Neurology; Program Director, Adult Neurology Residency, School of Medicine, Stanford University

Nirali Vora is a board-certified stroke neurologist, Associate Professor at Stanford, and a faculty affiliate of the Clinical Excellence Research Center. She provides comprehensive care for stroke and transient ischemic attack (TIA) patients, especially those with "cryptogenic" or undetermined cause for their disease. She has pioneered initiatives to improve stroke care through systems change and education on a regional and global level, including development of the first stroke unit in Zimbabwe. She is the Director of the Stanford Global Health Neurology program, as well as the Program Director of the Adult Neurology Residency Training program. She looks forward to continuing to work with patients and providers to prevent and better manage stroke, eliminate disparities in health care, and improve global neurology education.

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE COVID-19 CASES

Large-Vessel Stroke as a Presenting Feature of Covid-19 in the Young

Comments open through May 20, 2020

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Table 1. Clinical Characteristics of Five Young Patients Presenting with Large-Vessel Stroke.*

Variable	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Age — yr	33	37	39	44	49
Sex	Female	Male	Male	Male	Male
Medical history and risk factors for stroke†	None	None	Hyperlipidemia, hypertension	Undiagnosed diabetes	Mild stroke, diabetes
Medications	None	None	None	None	Aspirin (81 mg), atorvastatin (80 mg)
NIHSS score‡					
On admission	19	13	16	23	13
At 24 hr	17	11	4	19	11
At last follow-up	13 (on day 14)	5 (on day 10)	NA; intubated and sedated, with multiorgan failure	19 (on day 12)	7 (on day 4)
Outcome status	Discharged to rehabilitation facility	Discharged home	Intensive care unit	Stroke unit	Discharged to rehabilitation facility
Time to presentation — hr	28	16	8	2	8
Signs and symptoms of stroke	Hemiplegia on left side, facial droop, gaze preference, homonymous hemianopia, dysarthria, sensory deficit	Reduced level of consciousness, dysphasia, hemiplegia on right side, dysarthria, sensory deficit	Reduced level of consciousness, gaze preference to the right, left homonymous hemianopia, hemiplegia on left side, ataxia	Reduced level of consciousness, global dysphasia, hemiplegia on right side, gaze preference	Reduced level of consciousness, hemiplegia on left side, dysarthria, facial weakness
Vascular territory	Right internal carotid artery	Left middle cerebral artery	Right posterior cerebral artery	Left middle cerebral artery	Right middle cerebral artery
Imaging for diagnosis	CT, CTA, CTP, MRI	CT, CTA, MRI	CT, CTA, CTP, MRI	CT, CTA, MRI	CT, CTA, CTP
Treatment for stroke	Apixaban (5 mg twice daily)	Clot retrieval, apixaban (5 mg twice daily)	Clot retrieval, aspirin (81 mg daily)	Intravenous t-PA, clot retrieval, hemicraniectomy, aspirin (81 mg daily)	Clot retrieval, stent, aspirin (325 mg daily), clopidogrel (75 mg daily)
Covid-19 symptoms	Cough, headache, chills	No symptoms; recently exposed to family member with PCR-positive Covid-19	None	Lethargy	Fever, cough, lethargy
White-cell count — per mm^3	7800	9900	5500	9000	4900
Platelet count — per mm^3	427,000	299,000	135,000	372,000	255,000
Prothrombin time — sec	13.3	13.4	14.4	12.8	15.2
Activated partial-thromboplastin time — sec	25.0	42.7	27.7	26.9	37.0
Fibrinogen — mg/dl	501	370	739	443	531
D-dimer — ng/ml	460	52	2230	13,800	1750
Ferritin — ng/ml	7	136	1564	987	596

* Reference ranges are as follows: platelet count, 150,000 to 450,000 per cubic millimeter; prothrombin time, 12.3 to 14.9 seconds; activated partial-thromboplastin time, 25.4 to 34.9 seconds; fibrinogen, 175 to 450 mg per deciliter; D-dimer, 0 to 500 ng per milliliter; and ferritin, 30 to 400 ng per milliliter. CT denotes computed tomography, CTA CT angiography, CTP CT perfusion, MRI magnetic resonance imaging, NA not applicable, PCR polymerase chain reaction, and t-PA tissue plasminogen activator.
† The patients were screened for smoking, hypertension, hyperlipidemia, diabetes, atrial fibrillation, congestive heart failure, illicit drug use, and neck trauma.
‡ Scores on the National Institutes of Health Stroke Scale (NIHSS) range from 0 to 42, with higher numbers indicating more severe stroke.

Brief Report

ONLINE FIRST FREE

April 23, 2020

Association of Renin-Angiotensin System Inhibitors With Severity or Risk of Death in Patients With Hypertension Hospitalized for Coronavirus Disease 2019 (COVID-19) Infection in Wuhan, China

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» Author Affiliations | Article Information

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https://jamanetwork.com/journals/jamacardiology/fullarticle/2765049

Table 3. ACEI/ARB and Non-ACEI/ARB Therapy and Comorbid Conditions in Patients With Hypertension

Characteristic	No. (%)			*P* value
	Total	ACEI/ARB	Non-ACEI/ARB	
All patients, No.	362	115	247	
Severe	173 (47.8)	57 (49.6)	116 (47.0)	.65
Nonsurvivor	77 (21.3)	21 (18.3)	56 (22.7)	.34
Coronary artery disease, No.	62	27	35	
Severe	39 (62.9)	17 (63.0)	22 (62.9)	.99
Nonsurvivor	21 (33.9)	7 (25.9)	14 (40.0)	.31
Cerebrovascular disease, No.	68	27	41	
Severe	50 (73.5)	18 (66.7)	32 (78.0)	.30
Non-survivor	37 (54.4)	13 (48.1)	24 (58.5)	.40
Diabetes, No.	127	42	85	
Severe	76 (59.8)	23 (54.8)	53 (62.4)	.41
Nonsurvivor	38 (29.9)	9 (21.4)	29 (34.1)	.14
Neurologic disease, No.	38	13	25	
Severe	25 (65.8)	9 (69.2)	16 (64.0)	.75
Nonsurvivor	13 (34.2)	4 (30.8)	9 (36.0)	.75
Chronic kidney disease, No.	35	13	22	
Severe	30 (85.7)	12 (92.3)	18 (81.8)	.39
Nonsurvivor	20 (57.1)	7 (53.8)	13 (59.1)	.76

Abbreviations:
ACEIs, angiotensin-converting enzyme inhibitors; ARBs, angiotensin II receptor blockers.