



## 81-year-old with acute onset of aphasia and right hemiplegia

### DIVISION OF INTERVENTIONAL NEURORADIOLOGY

*Presents a patient case treated by the team members of the division and physicians and staff of the UCLA Comprehensive Stroke Center*

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### PATIENT PRESENTATION

81-year-old woman with aphasia and right hemiplegia, last known well 2 ½ hours prior with NIH stroke scale 22 on admission. Interventional neuroradiology was consulted for evaluation for emergent thrombectomy.

### EVALUATION AND IMAGING

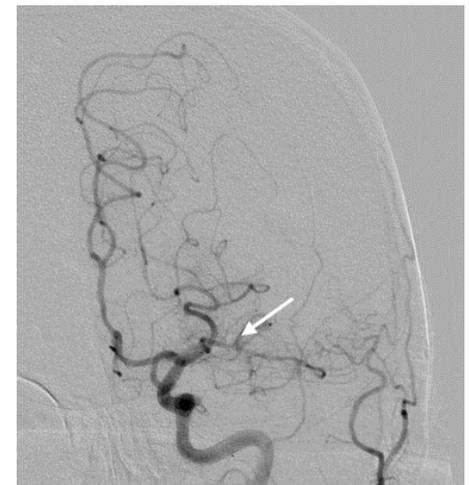
Non contrast head CT showed early ischemic changes in the left basal ganglia but otherwise unremarkable. Multimodal CT imaging showed left MCA M1 occlusion (Figure 1) and large volume of salvageable tissue. Decision was made to proceed to intervention with thrombectomy.

### INTERVENTION PERFORMED

Catheter angiography confirmed MCA M1 occlusion (Figure 2). A 4mm by 20mm Solitaire Flow Restoration device (stent retriever device) was used to engage clot and perform thrombectomy procedure (Figure 3). Post clot retrieval, the angiogram shows recanalization of the left MCA (Figure 4). Time from symptom onset to recanalization was under 4 hours. Post procedure CT scan shows only previously seen basal ganglia infarct (Figure 5).



**Figure 1: CTA shows left MCA M1 occlusion (arrow)**



**Figure 2: Catheter angiogram confirms MCA M1 occlusion (arrow)**

(over)

# INTERVENTIONAL NEURORADIOLOGY



**Procedures provided by DINR for adult and pediatric patients**

Acute Ischemic Stroke

Acute Thrombectomy/Thrombolysis  
Extra/Intracranial Angioplasty/Stenting

Brain Hemorrhage, Aneurysm/AVM/fistulae

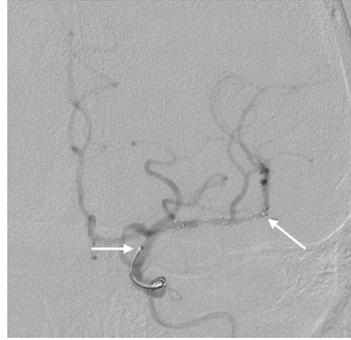
Aneurysm coiling  
Stent/balloon assisted aneurysm coiling  
Flow diverter stent device embolization  
AVM/Dural fistulae embolization  
Venous Sinus Thrombectomy/Thrombolysis  
Direct transcatheter embolization

Chronic Occlusive Cerebrovascular Disease

Extra/Intracranial Angioplasty/Stenting  
Venous Sinus Angioplasty/Stenting

Head/neck/orbit tumors & vascular

malformations, epistaxis  
Endovascular embolization  
Direct percutaneous embolization



**Figure 3: Device is placed along the length of the clot and with the stent retriever deployed, the clot is compressed and anterograde flow is already established. Arrows indicate distal and proximal end of device.**



**Figure 4: Catheter angiogram post retrieval shows recanalization of the left MCA.**



**Figure 5: Follow up CT head shows left basal ganglia infarct.**

## PATIENT OUTCOME

The patient tolerated the procedure well and was discharged to rehabilitation facility 4 days later. On follow up, 6 weeks post procedure, she was at her baseline neurologic status.

## DISCUSSION

The patient arrived in the ER at about 2 ½ hours post symptom onset and within 90 minutes of arrival, was recanalized and normal flow in left MCA re-established. Time to recanalization is an important determinant of outcome in ischemic stroke patients. It has been estimated that every 30 minute delay in recanalization from symptom onset is associated with at least a 15% lower probability of an independent outcome. The importance of this variable has been recognized by the LA County EMS agency and protocols are being established to transport ischemic stroke patients directly to comprehensive stroke centers where they can receive immediate endovascular intervention. This will hopefully translate to better outcomes for the patient population in LA County.

**Division of Interventional Neuroradiology – A Leader in Neurovascular Care and Research**

- Invented the Merci retriever – the 1<sup>st</sup> endovascular device for acute stroke therapy
- Invented GDC and Matrix coils – the leading tool for aneurysm treatment around the world
- Developed Onyx liquid embolic material – the leading therapy for brain vascular malformations



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