



## Novel device for treating wide neck bifurcation brain aneurysms – First Pulse Rider case at UCLA

### 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*

**GARY DUCKWILER, MD**  
*Director and Professor*

**FERNANDO VINUELA, MD**  
*Professor Emeritus*

**REZA JAHAN, MD**  
*Professor*

**SATOSHI TATESHIMA, MD, DMSc**  
*Associate Professor*

**VIKTOR SZEDER, MD, PhD, MSc**  
*Assistant Professor*

**GEOFFREY COLBY, MD, PhD**  
*Associate Professor*

**MAY NOUR, MD, PhD**  
*Assistant Professor*



### PATIENT PRESENTATION

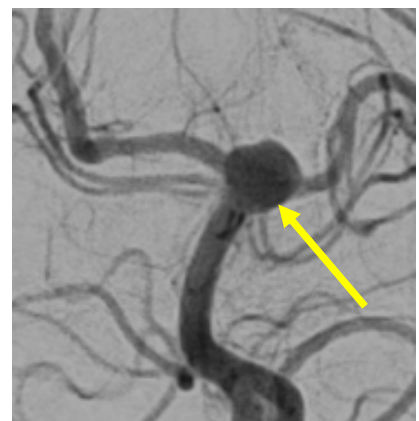
- 62 year old woman was found to have an asymptomatic basilar artery aneurysm.
- She was referred to UCLA for higher level of care.
- Her MRA imaging from the outside facility revealed wide neck 7mm basilar artery tip aneurysm (Fig.1).



*Figure 1: Brain MRA demonstrating a basilar artery tip 7mm aneurysm (yellow arrow).*

### EVALUATION AND IMAGING

- We performed a cerebral angiogram to better characterize the anatomy of the aneurysm as well as the basilar artery and its branches.
- Angiogram (Fig. 2) revealed wide neck irregularly shaped basilar artery tip aneurysm. The two posterior cerebral arteries branching of the basilar artery were found to be in favorable angles for Pulse Rider device assisted coiling treatment.



*Figure 2: Digital subtraction angiography (DSA) demonstrating a 6.9 mm irregularly shaped wide neck basilar tip aneurysm (yellow arrow).*



INTERVENTION PERFORMED

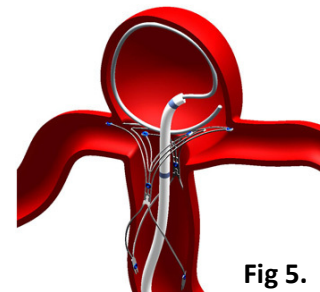
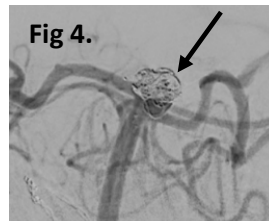
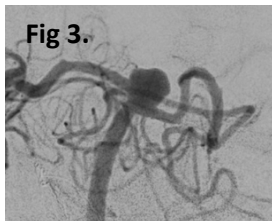


Fig 5.

- Pulse Rider assisted coiling was performed. Pulse Rider device was placed into the distal basilar artery with its 2 wings in posterior cerebral arteries. With this support, coils (arrow) were introduced into the aneurysm (Fig. 3 and 4).

THE OUTCOME

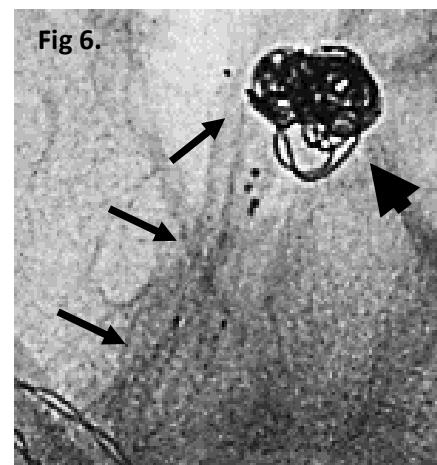


Fig 6.

- The Pulse Rider remodeled the wide neck of the aneurysm, with the wings in the 2 posterior cerebral arteries, allowing good coil embolization to protect the aneurysm from rupture.
- The patient tolerated the embolization procedure well without complications.

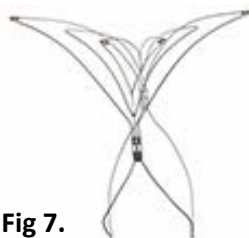


Fig 7.

Fig 6. Pulse Rider device (arrows) remodeled neck of the aneurysm with the coils (arrowhead) in the aneurysm dome.

Fig 5 and 7. Pulse Rider, a self-expandable stent designed for the treatment of complex wide neck bifurcation aneurysms. It acts as a bridge through the neck of the aneurysm, allowing safe coiling to secure the aneurysm from rupturing.

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

Division of Interventional Neuroradiology  
David Geffen School of Medicine at UCLA  
Ronald Reagan UCLA Medical Center  
757 Westwood Plaza, Suite 2129  
Los Angeles, CA 90095-7437  
www.aneurysm-stroke.com  
http://radiology.ucla.edu/interventional-neuroradiology

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



American Heart Association  
American Stroke Association  
**CERTIFICATION**  
Meets standards for  
**Comprehensive Stroke Center**

