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Trans-Brachial Approach to Ruptured Aneurysm Embolization

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

- 73 year old woman with high risk cardiac disease & atrial fibrillation, on anticoagulation, presenting with acute onset, severe headache.
- Non-contrast CT of the brain demonstrated Fisher grade 4, diffuse subarachnoid hemorrhage and CTA showed an anterior communicating artery (ACOMM) aneurysm (Figure 1).
- Anticoagulation was reversed in light of hemorrhage and the patient presented to the angiography suite.

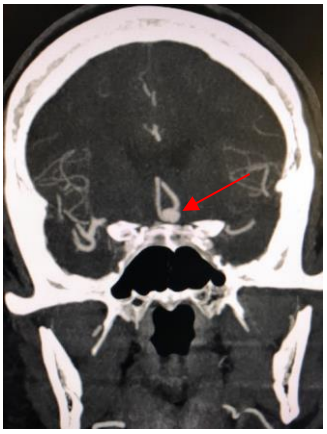

Figure 1: CTA of the brain showing bulbous appearance of an ACOMM aneurysm.

Evaluation and Imaging

- Diagnostic cerebral angiography was performed to better characterize the aneurysm in preparation for possible endovascular embolization (Figure 2).
- In spite of a favorable dome to neck ratio & favorable treatment profile for the aneurysm, aortic arch anatomy posed a particular challenge to system access.

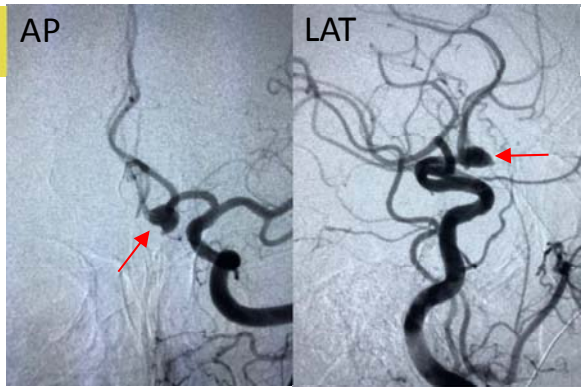

Figure 2: Digital subtraction angiography (DSA) from the left internal carotid artery (ICA), AP & LAT projections demonstrating ACOMM aneurysm.

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 transcutaneous 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

INTERVENTION PERFORMED

- After multiple attempts through the femoral artery route, a brachial artery approach was taken & proved to be the most effective (Figures 3).

Figure 3: Brachial access of the left common, followed by internal carotid in preparation of endovascular embolization of the ruptured ACOMM aneurysm.

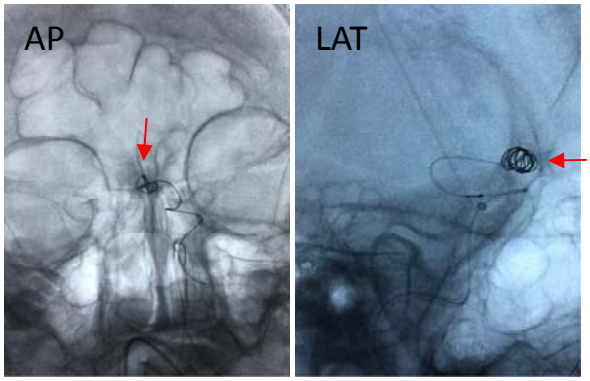

Figure 4: Microcatheter selection of the aneurysm & active coil embolization.

THE OUTCOME

- Embolization was completed successfully with the final outcome shown in Figure 5 and the ACOMM aneurysm was protected endovascularly, avoiding open vascular surgery in a high risk cardiac patient.

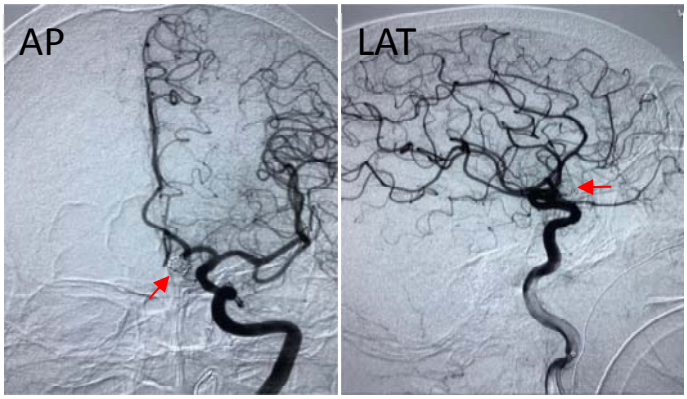

Figure 5: Final angiographic outcome following trans-brachial endovascular embolization.

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

- Invented the Merci retriever – the 1st 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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