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# Case Report with Video Demonstration

## Atheromatous Embolism during Clipping of Atherosclerotic MCA Aneurysm

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## Ischemic complication after aneurysm clipping surgery

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- 9.8% asymptomatic
- 2% symptomatic
- Relatively less than endovascular treatment
- **One of Main factor: atherosclerotic aneurysm neck**
- **Encountering atheromatous embolism during surgery is rare**



# Case Report

M/70

HTN/DM/dyslipidemia +/-/-

ASA/clopidogrel -/-

2023.05 headache, dizziness

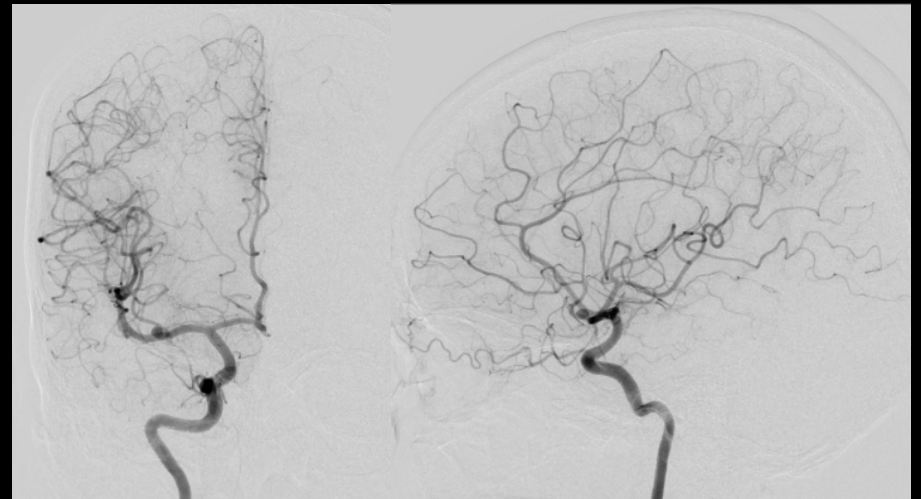
2023.05 MRA) r/o Rt MCA bifurcation An

2023.05.31 DSA) 4x3.3x3mm Rt MCA bifurcation An

MRA



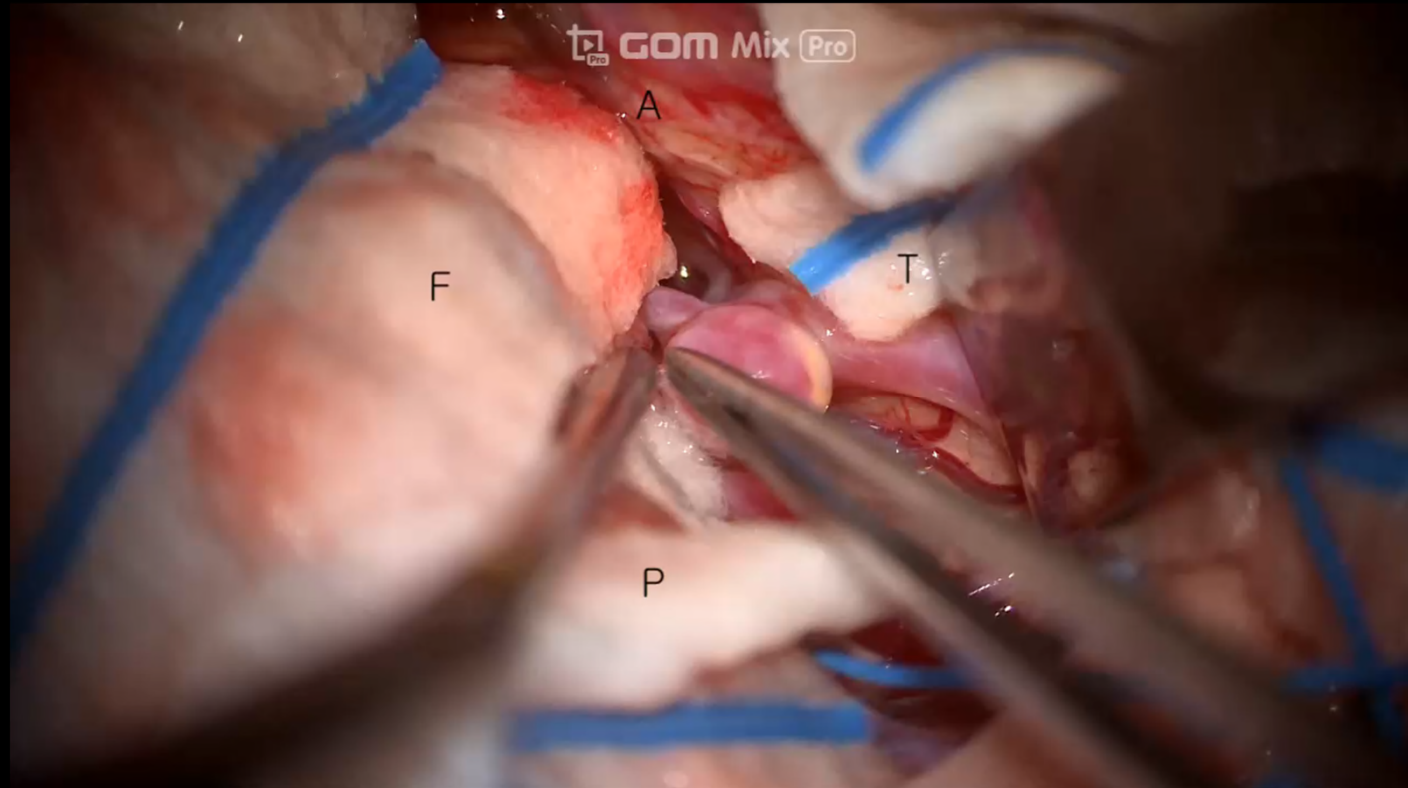
DSA



## 2023.06.01 pterional craniotomy aneurysm clipping

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- **1<sup>st</sup> attempt** of permanent clipping
  - Failed d/t narrowing of M2 branch
- **2<sup>nd</sup> attempt** of permanent clipping
  - Failed d/t narrowing of M2 branch
- **3<sup>rd</sup> attempt**
  - Successful aneurysm neck clipping
  - Eye-witnessing atheromatous embolism caused by ruptured atheroma in aneurysmal neck
  - No postoperative neurologic deficit



# Conclusion

To **decrease risk of embolic event** during surgery,

# Preoperative evaluation of **aneurysm wall and plaque**  
(i.e. concentric atherosclerosis, plaque thin fibrous cap, irregular surface, intraplaque hemorrhage, lipid-rich core)

# Preoperative consideration of **alternative surgery**  
(i.e. bypass or trapping)

# **Intraoperative minimal manipulation** of aneurysm  
is essential

