

# XVII CURSO NACIONAL DE NEURORRADIOLOGÍA

*Neurorradiología en la Patología Vascular Cerebral*

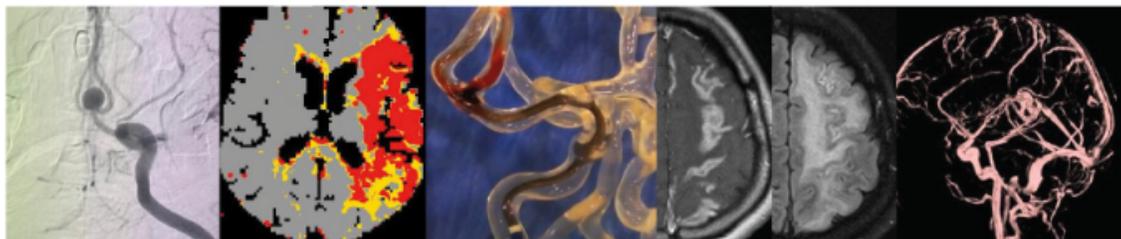
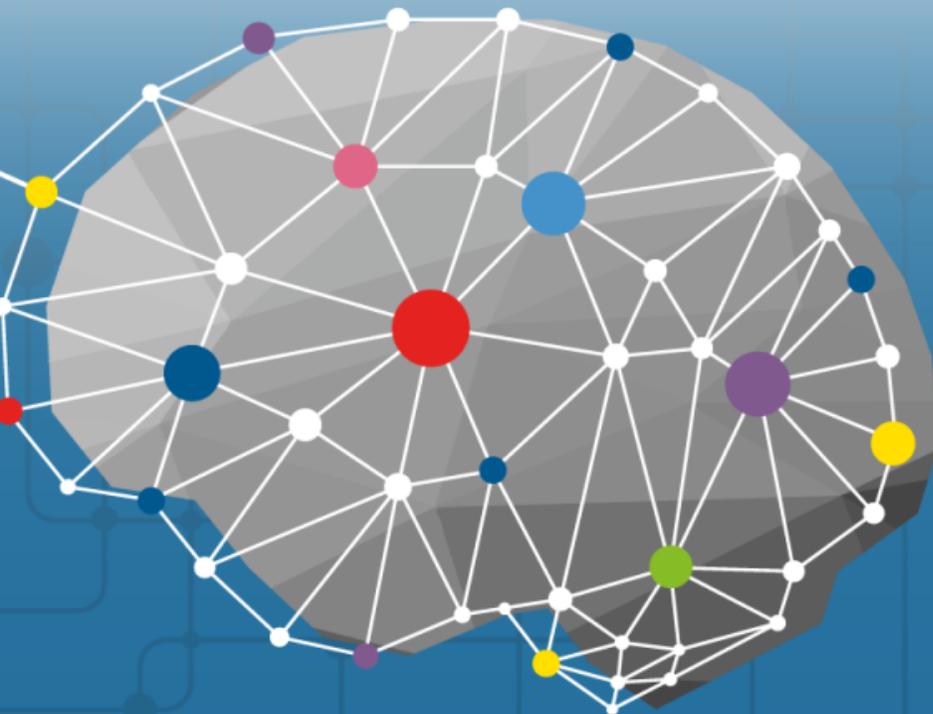
**EDICIÓN VIRTUAL**

22-26 febrero 2021

## TRATAMIENTO ENDOVASCULAR DEL ICTUS ISQUÉMICO AGUDO

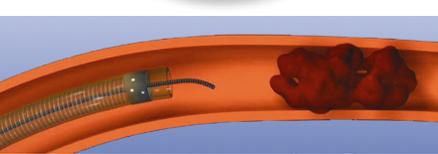
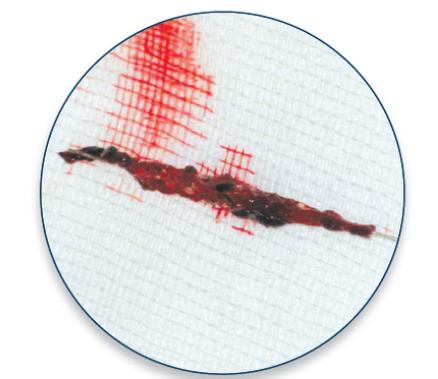
FEDERICO BALLELLA MARCO

NEURORRADIOLOGÍA INTERVENCIONISTA. HOSPITAL 12 DE OCTUBRE. MADRID

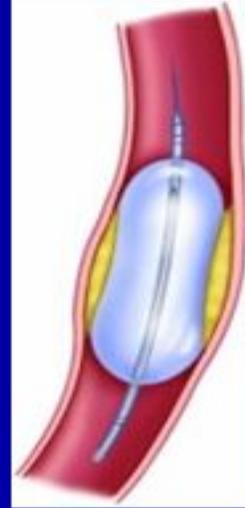


# CONTENIDOS:

- INTRODUCCIÓN
- TÉCNICAS DE TROMBECTOMÍA:
  - TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL
  - TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL
  - TROMBECTOMÍA CON ASPIRACIÓN DIRECTA
- CONCLUSIÓN



# EVOLUCIÓN DEL TRATAMIENTO ENDOVASCULAR



MR CLEAN  
SWIFT PRIME  
EXTEND IA  
ESCAPE  
REVASCAT  
THERAPY

IV tPA

PROACT II  
IA tPA

Angioplasty  
Stenting

MERCII

Penumbra  
Bridging IV/IA  
IV tPA (4.5h)

Solitaire  
Trevo  
ACE

Level I  
Evidence



1995

2000

2005

2010

2015

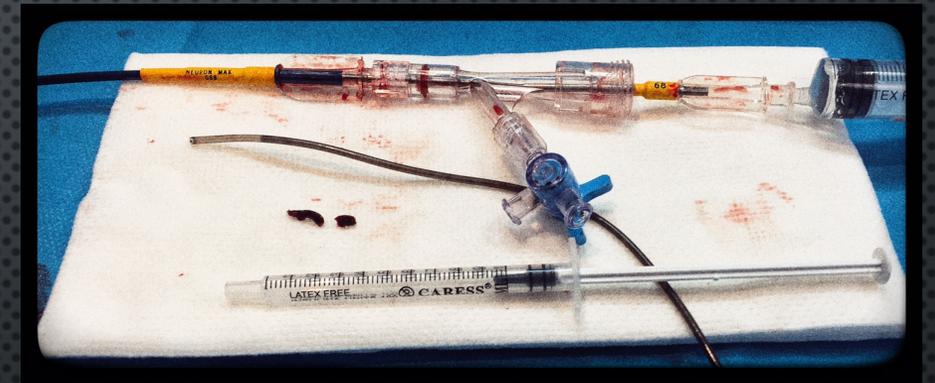
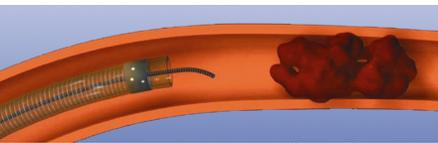
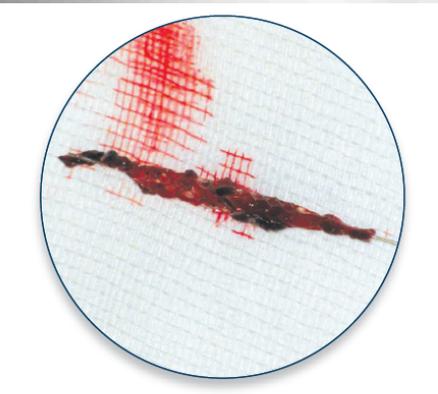
FDA Approved - Yellow

Off-label - Red





# TÉCNICAS DE TROMBECTOMÍA: ¿QUÉ HEMOS APRENDIDO? (2008-2021)



## CONCEPTOS GLOBALES

- SACAR TROMBO-ÉMBOLO EN BLOQUE
- MAXIMIZAR EFICACIA DE PRIMER PASE
- OCLUSIÓN DE GRAN VASO = MAL PRONÓSTICO INDEPENDIEMENTE DE LA MEJORA CLÍNICA
- IRREGULARIDADES-ESTENOSIS = ALTA TASA DE REOCLUSIÓN



# TÉCNICAS DE TROMBECTOMÍA:

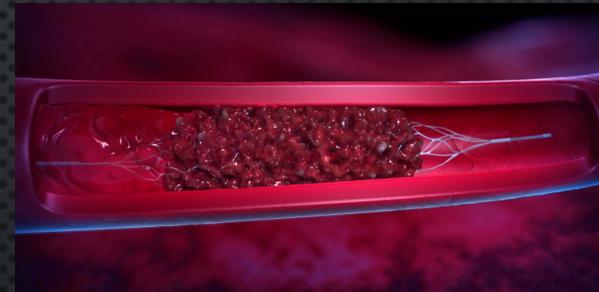
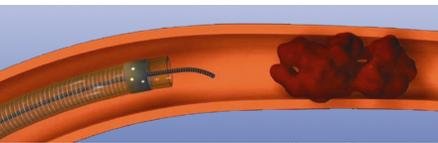
1. TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL

2. TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL

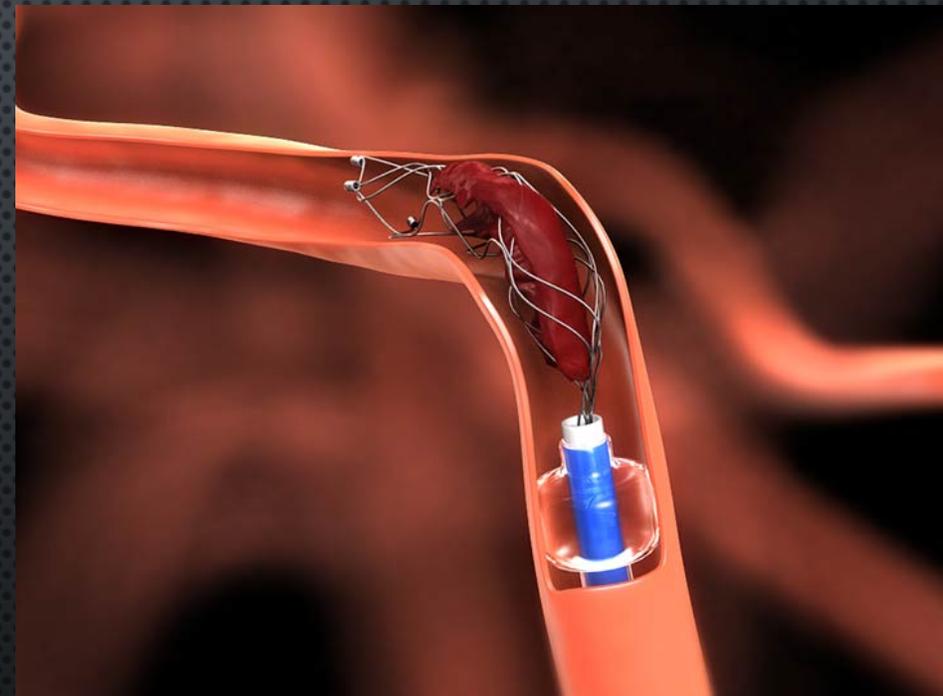
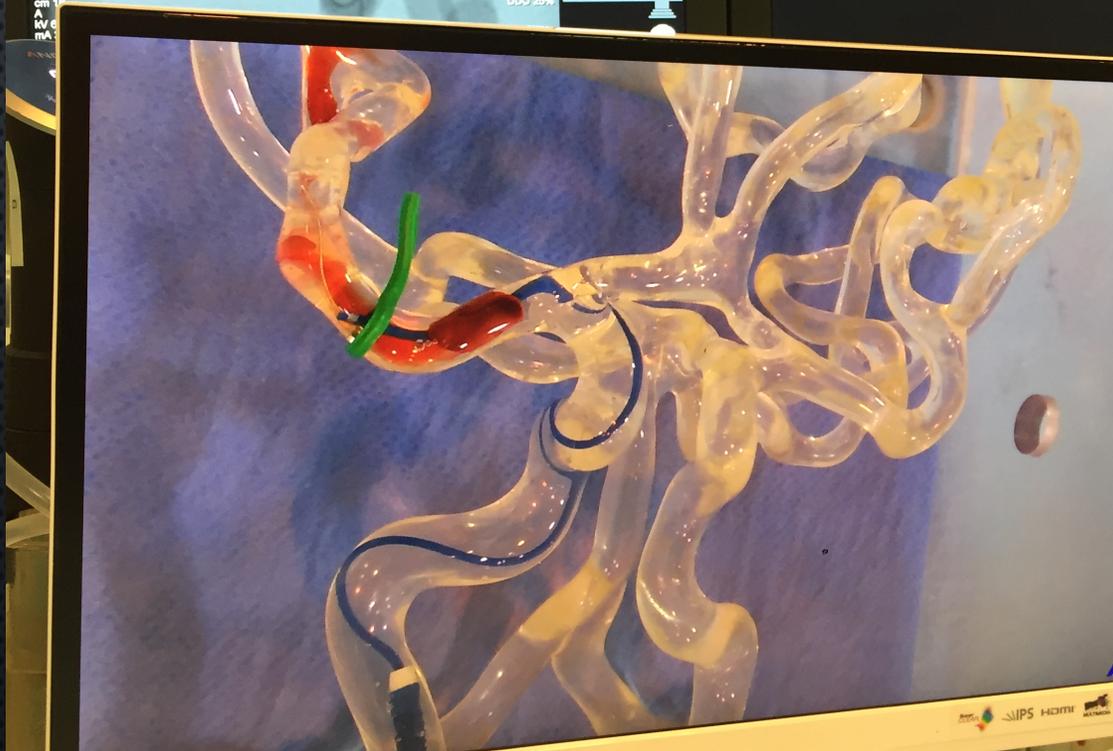
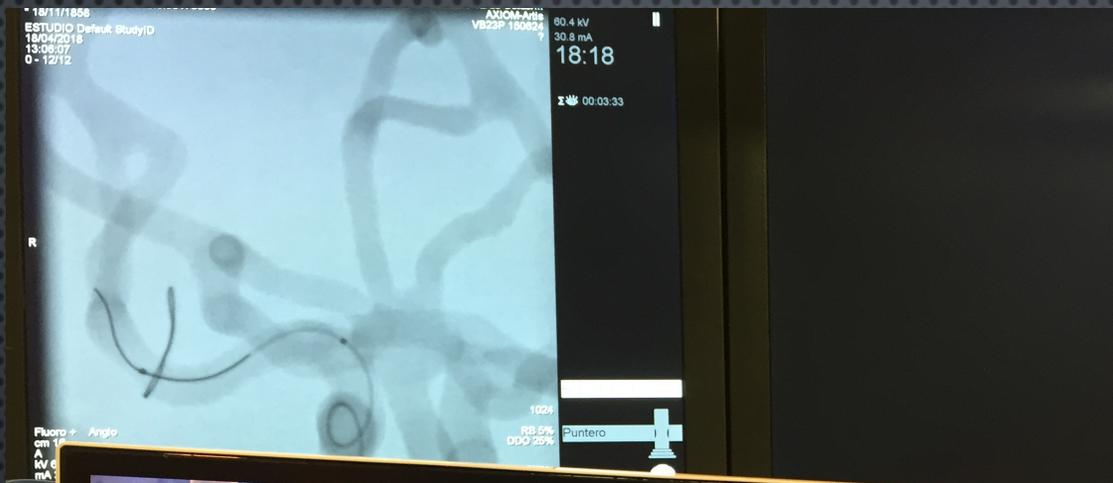
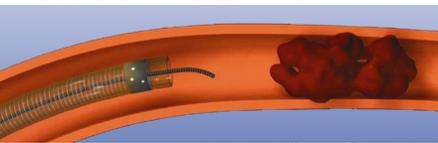
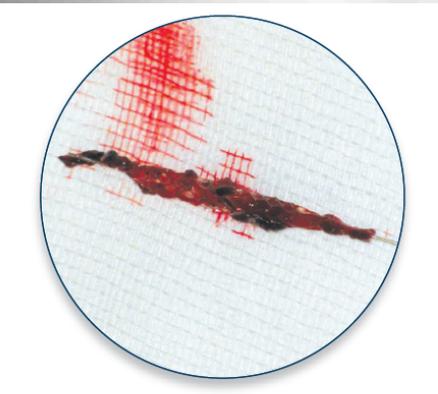
1. SOLUMBRA

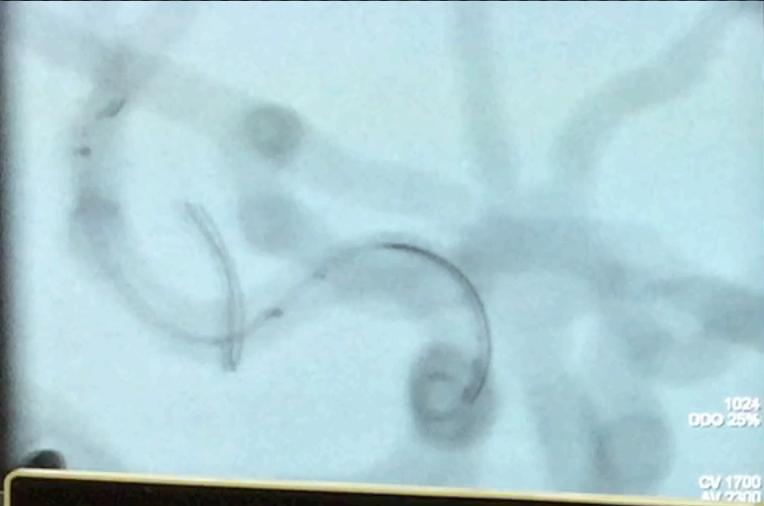
2. EPIC

3. TROMBECTOMÍA POR ASPIRACIÓN DIRECTA (ADAPT)



# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL



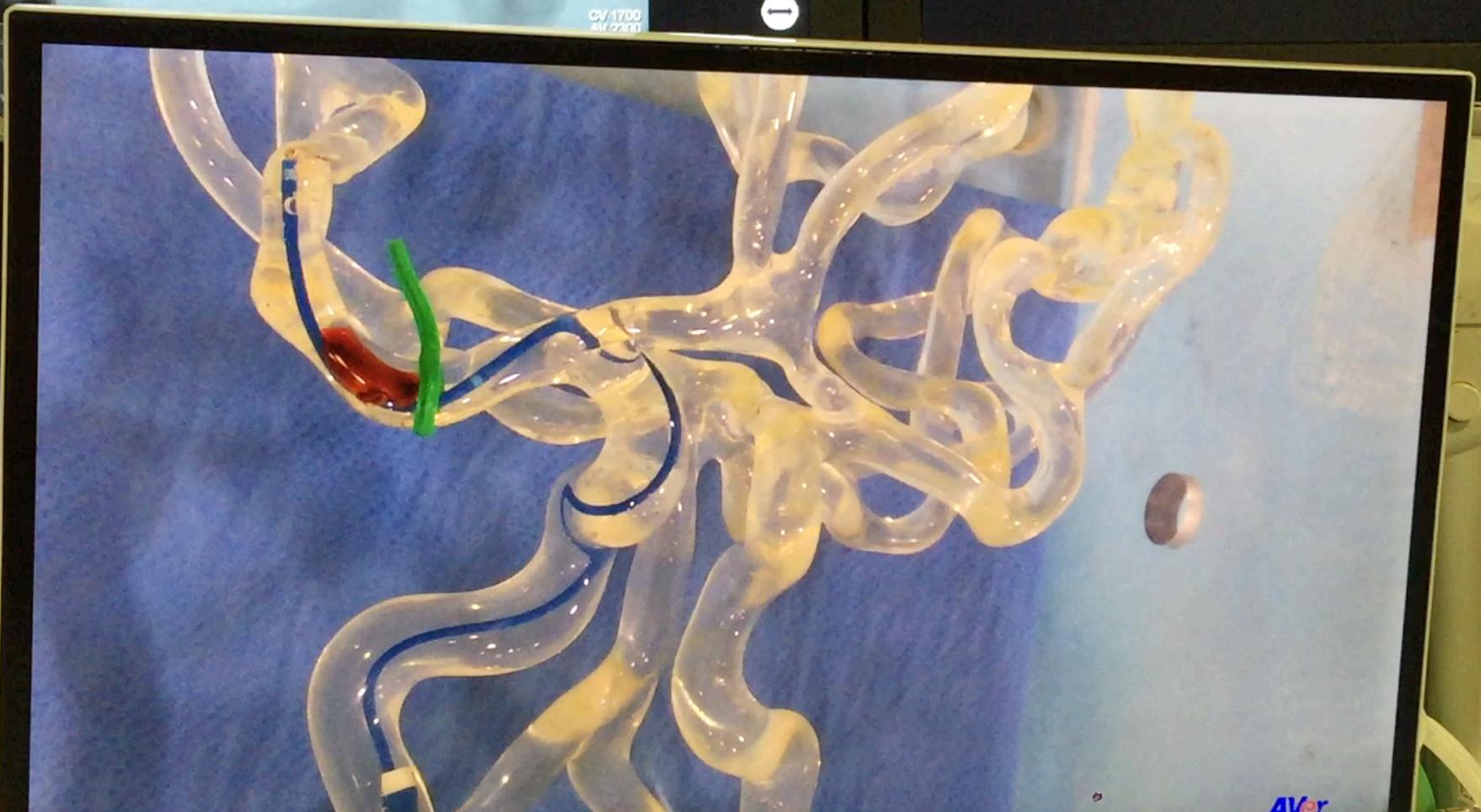


1024  
000 25%

Puntero

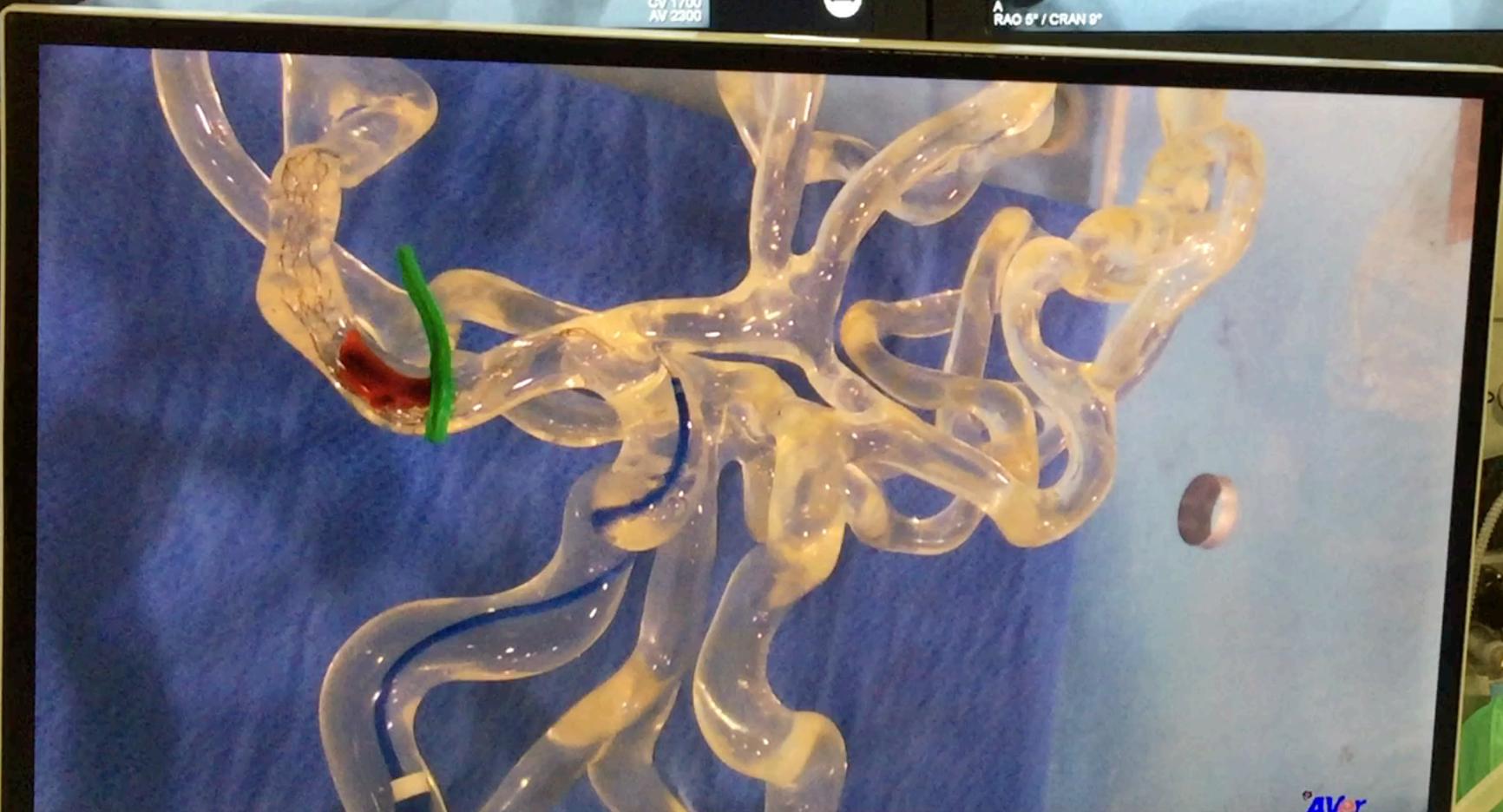
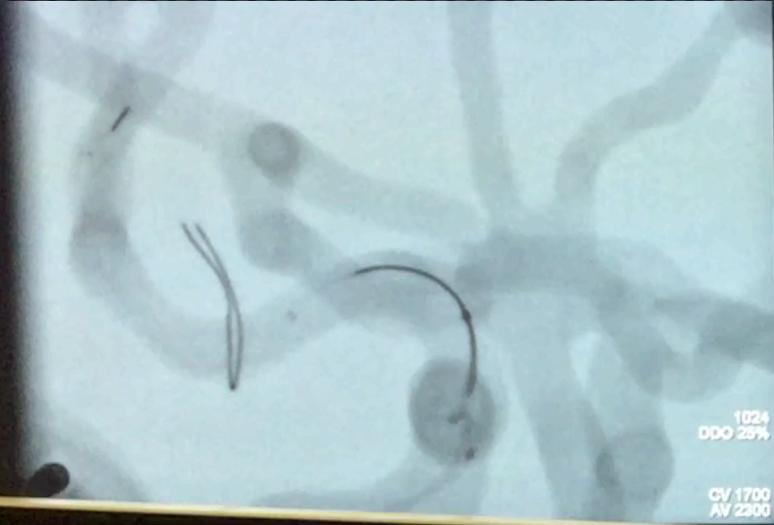


CV 1700  
AV 2310



AVer

Presione



# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL:

- **VENTAJAS DE LA TÉCNICA:**

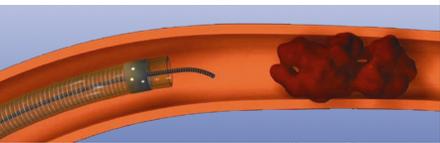
- CATETERISMO FÁCIL CON MICROCATÉTER DE 0.021
- TÉCNICA BIAXIAL HABITUAL

- **VENTAJAS ASPIRACIÓN:**

- INCREMENTA LA POSIBILIDAD DE SACAR EL TROMBO
- EVITA LA MIGRACIÓN DISTAL DE FRAGMENTOS

- **DESVENTAJAS:**

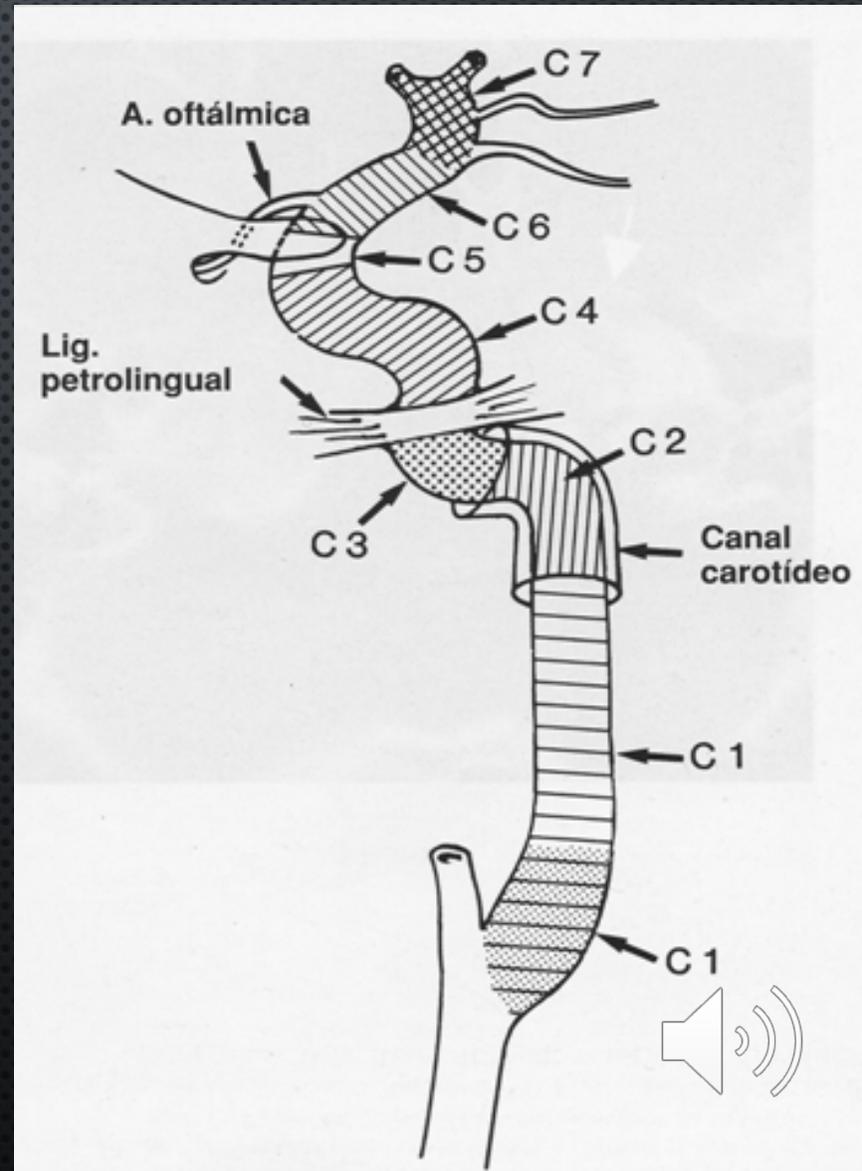
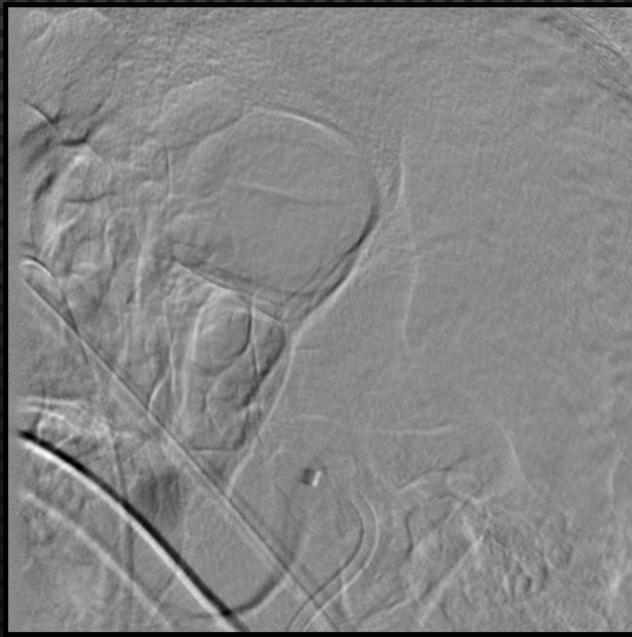
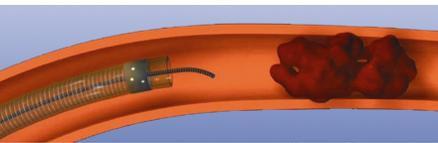
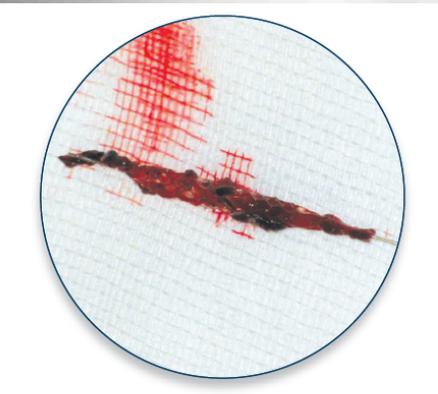
- ATRAVESAR EL TROMBO



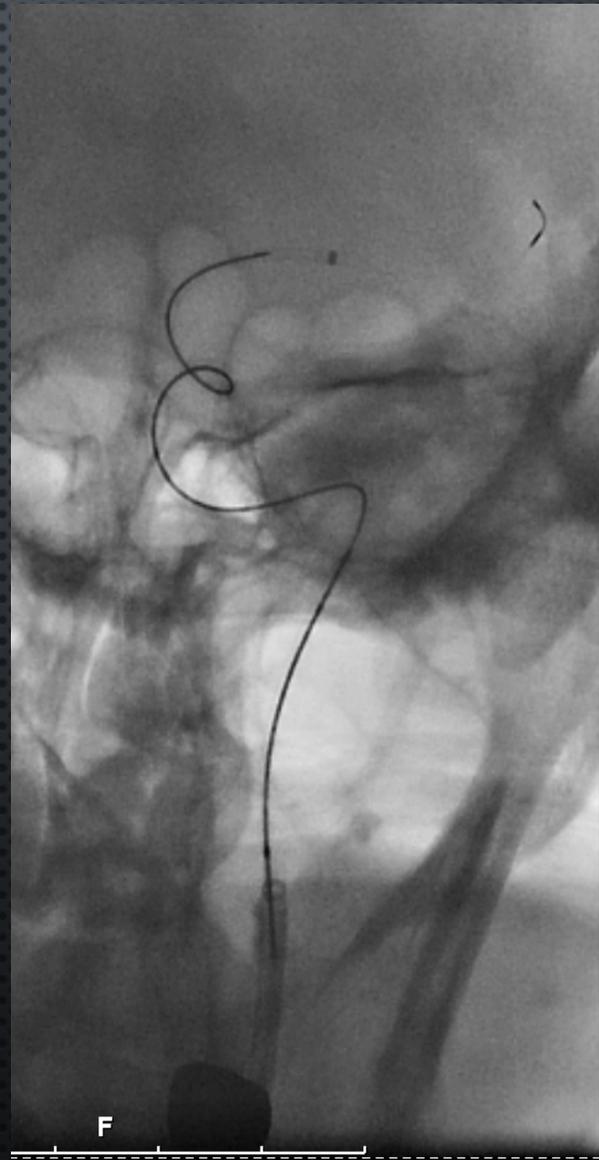
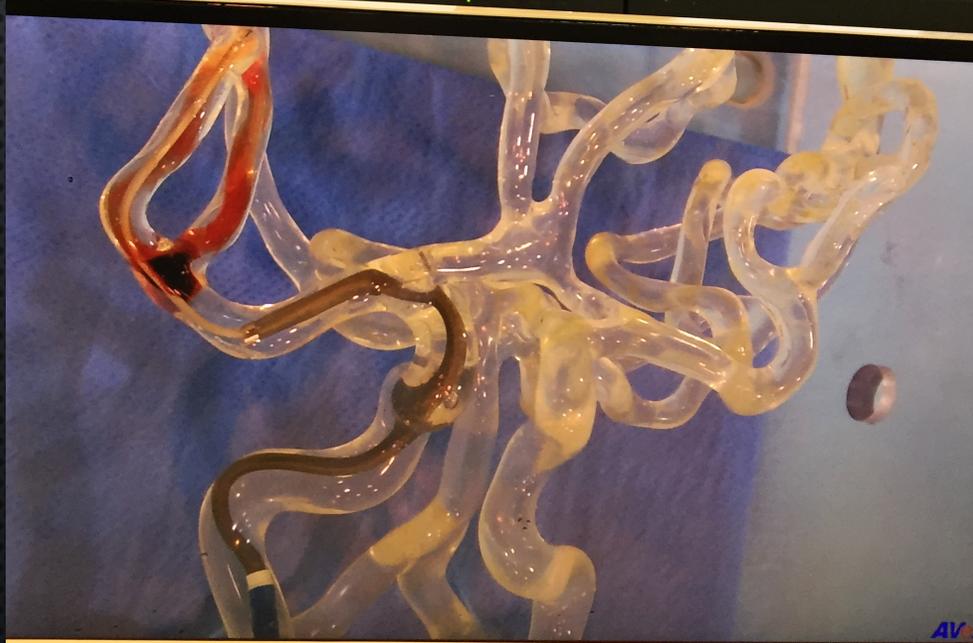
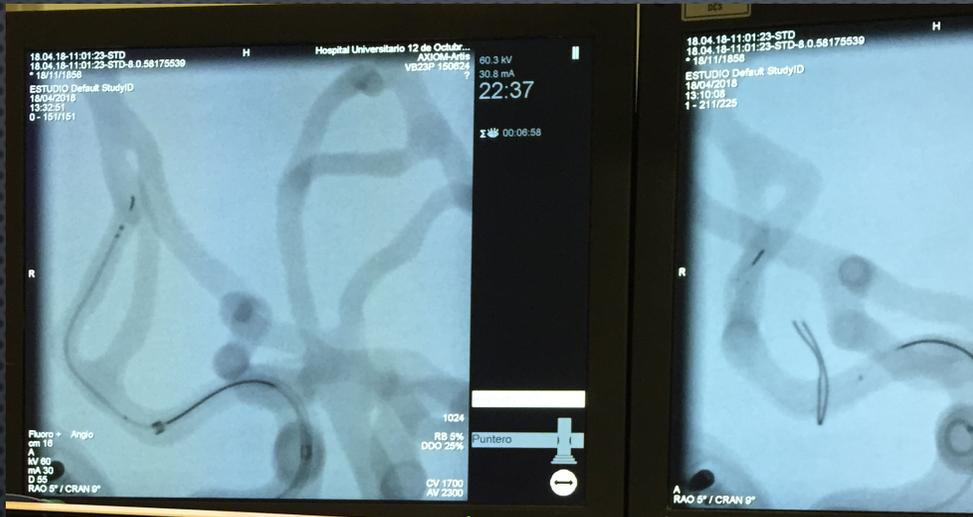
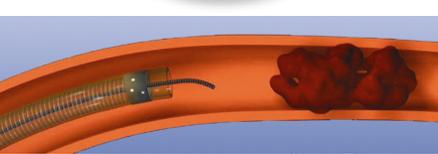
# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL :

- **ASPECTOS TÉCNICOS:**

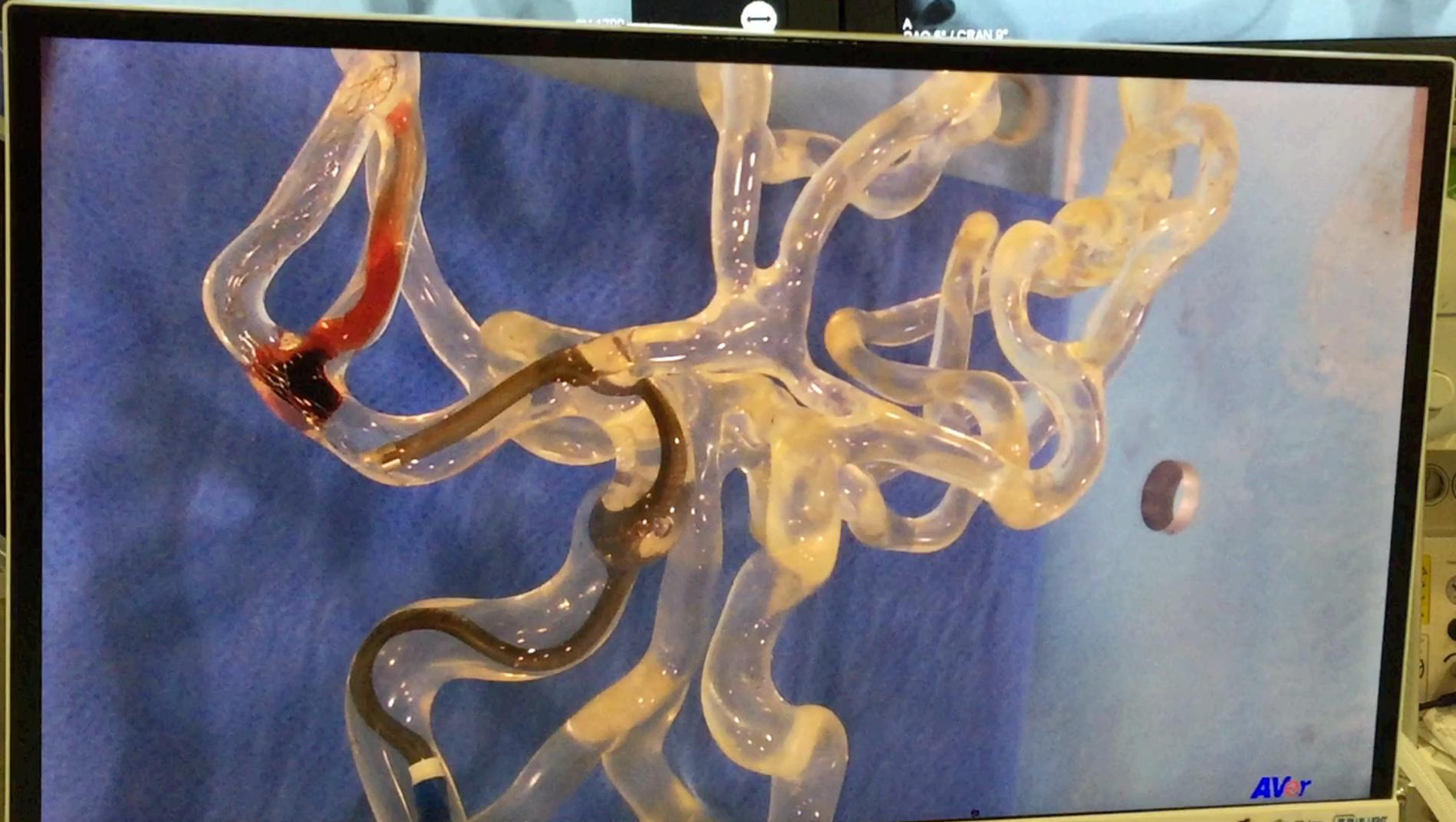
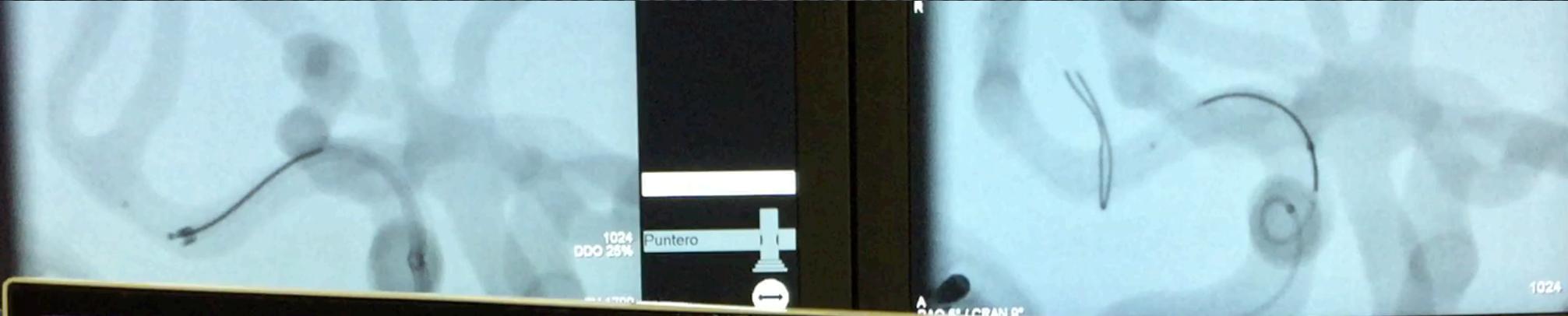
- ¿ CATÉTER BALÓN ?
- POSICIONAMIENTO
- MANIOBRA DE DESPLIEGUE DEL RETRIEVER



# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL







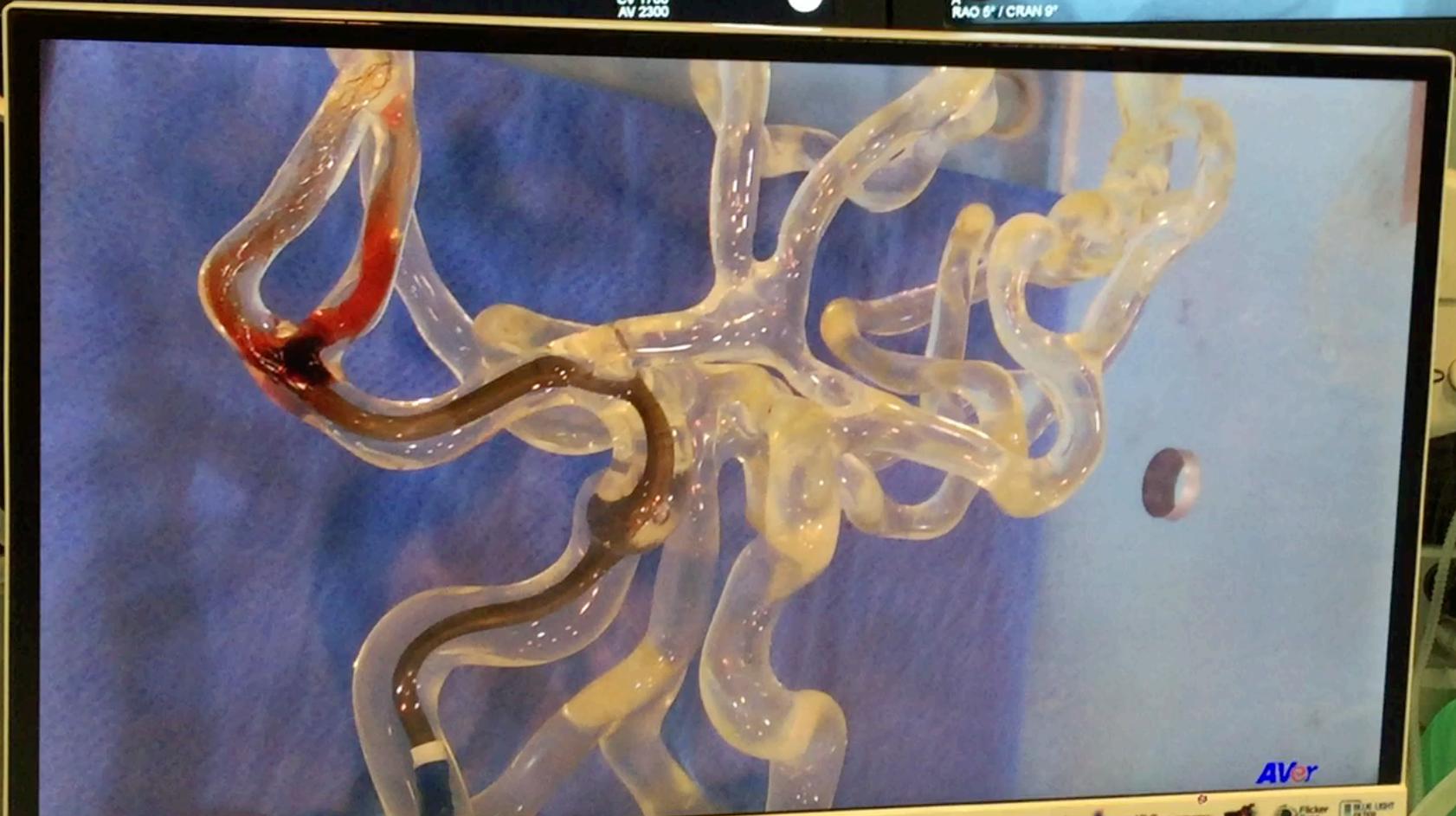
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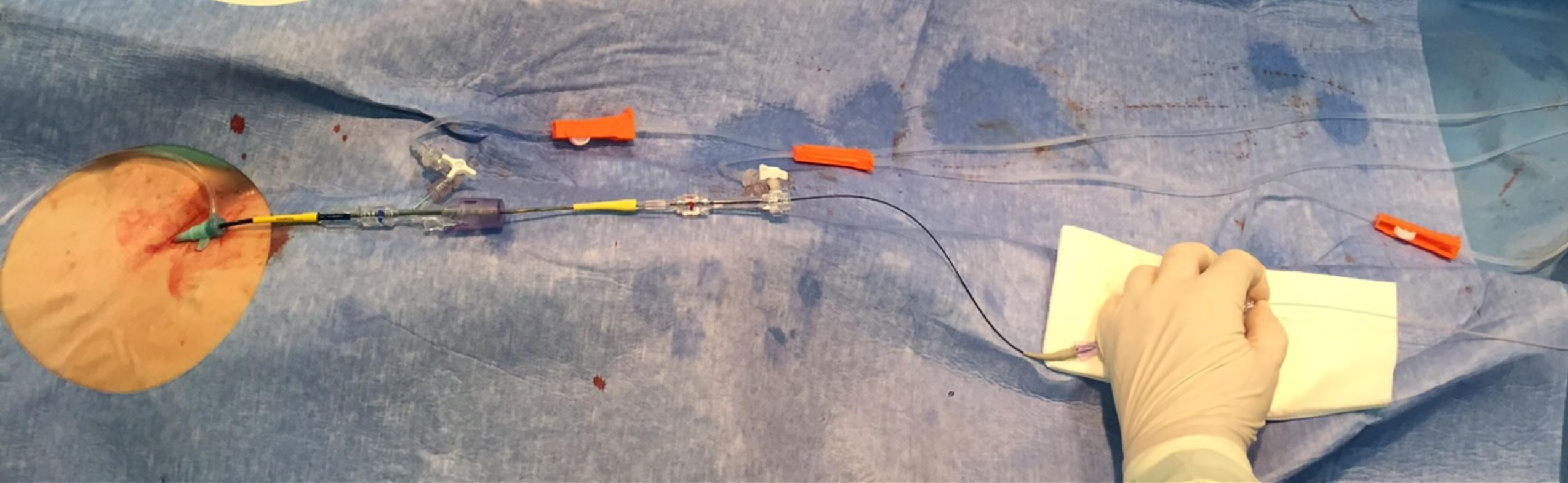
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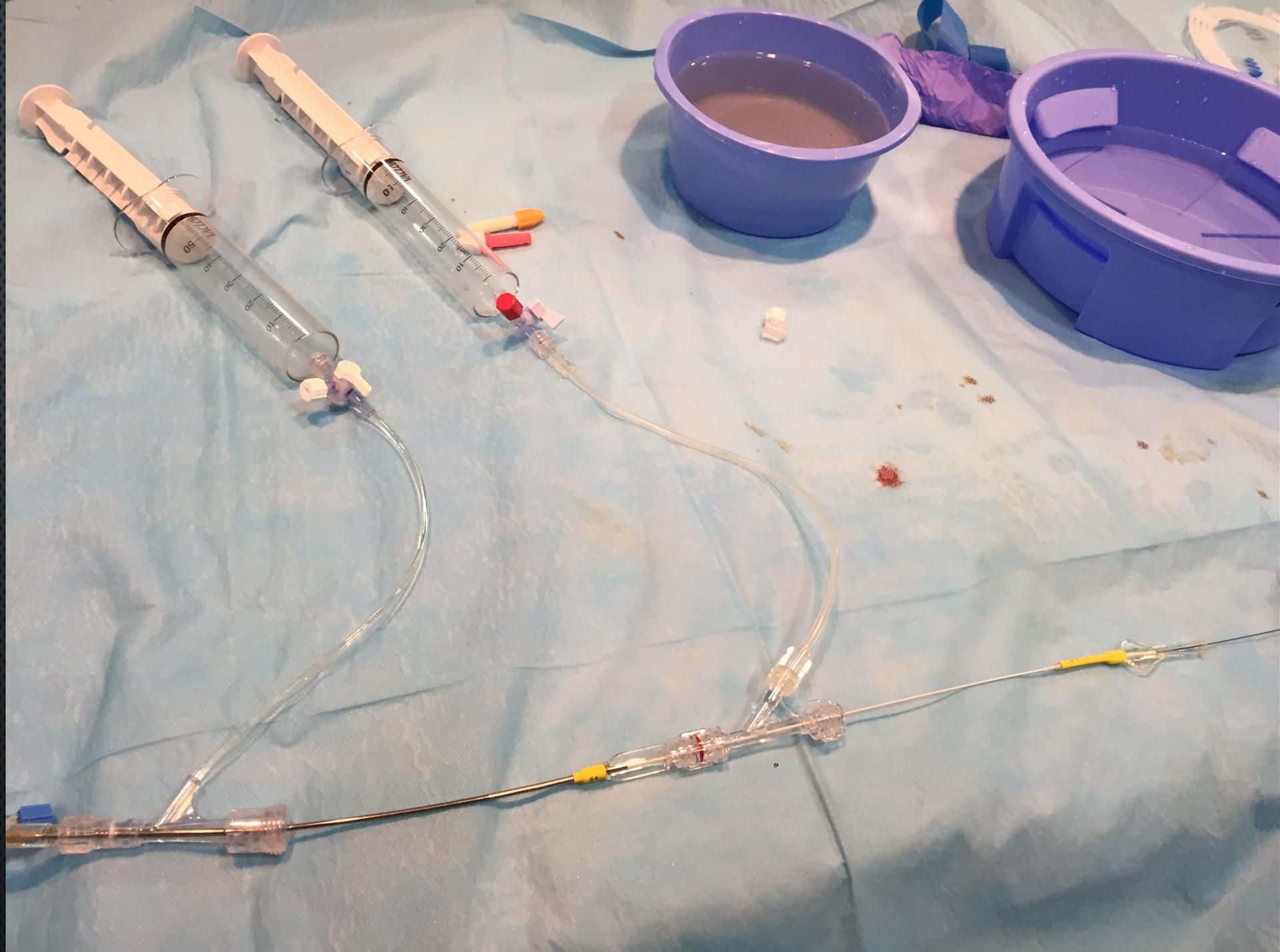
1024  
DDO 23%  
Puntero  
CV 1700  
AV 2300

A  
RAO 6° / CRAN 9°

1024







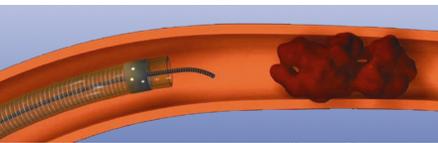
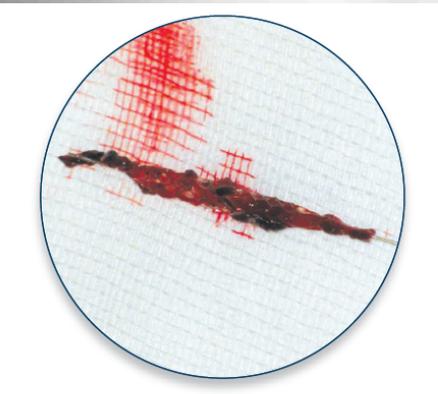
# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL:

- **EPIC/SAFE/TRAP:**

- SACAR EN BLOQUE CATÉTER CON RETRIEVER

- **SOLUMBRA – TREVUMBRA - ...::**

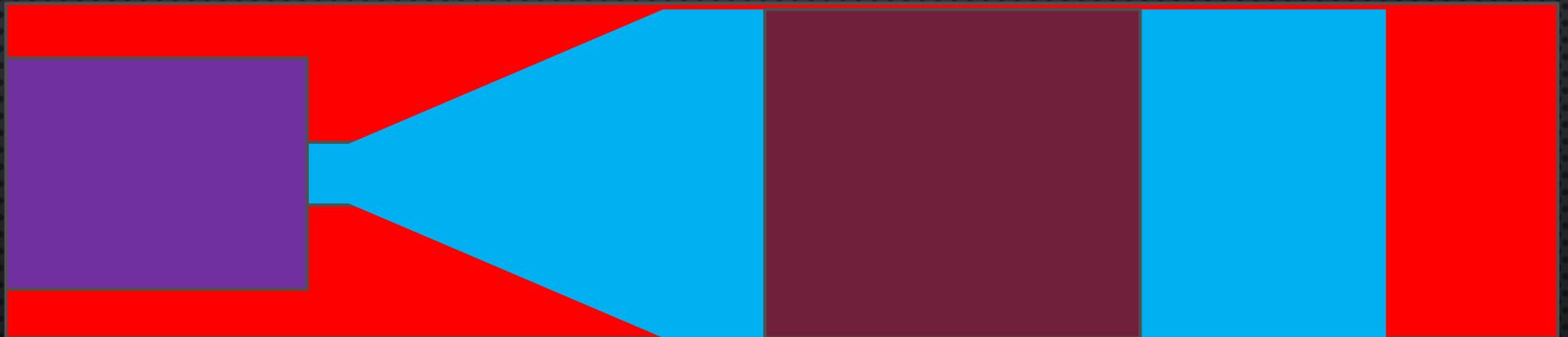
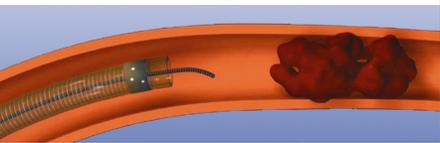
- PASAR EL RETRIEVER POR DENTRO DEL CATÉTER INTERMEDIO O DE ASPIRACIÓN



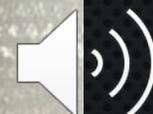
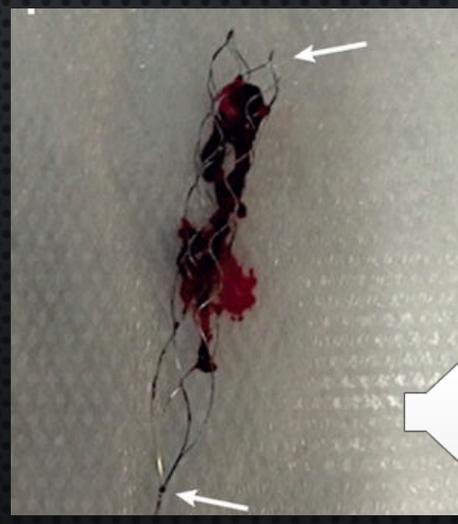
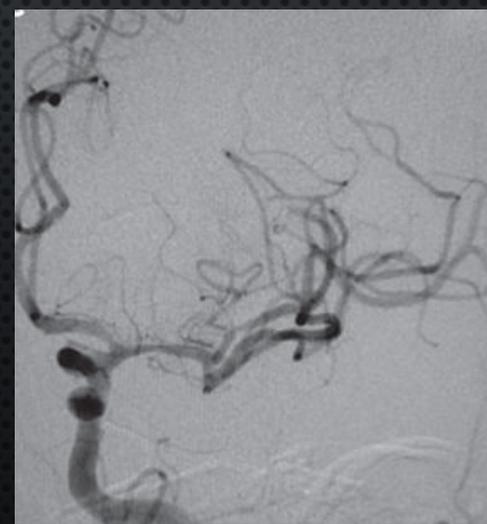
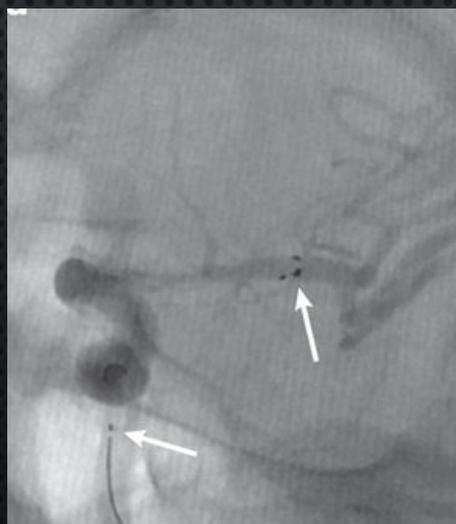
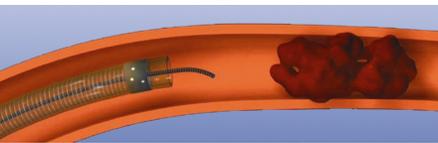
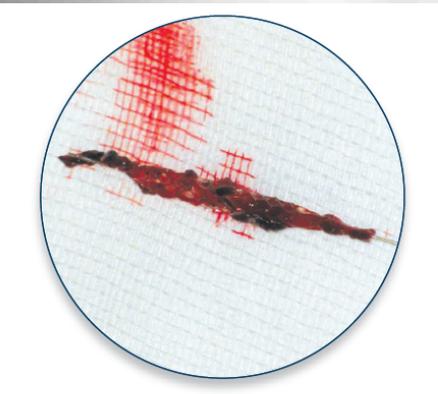
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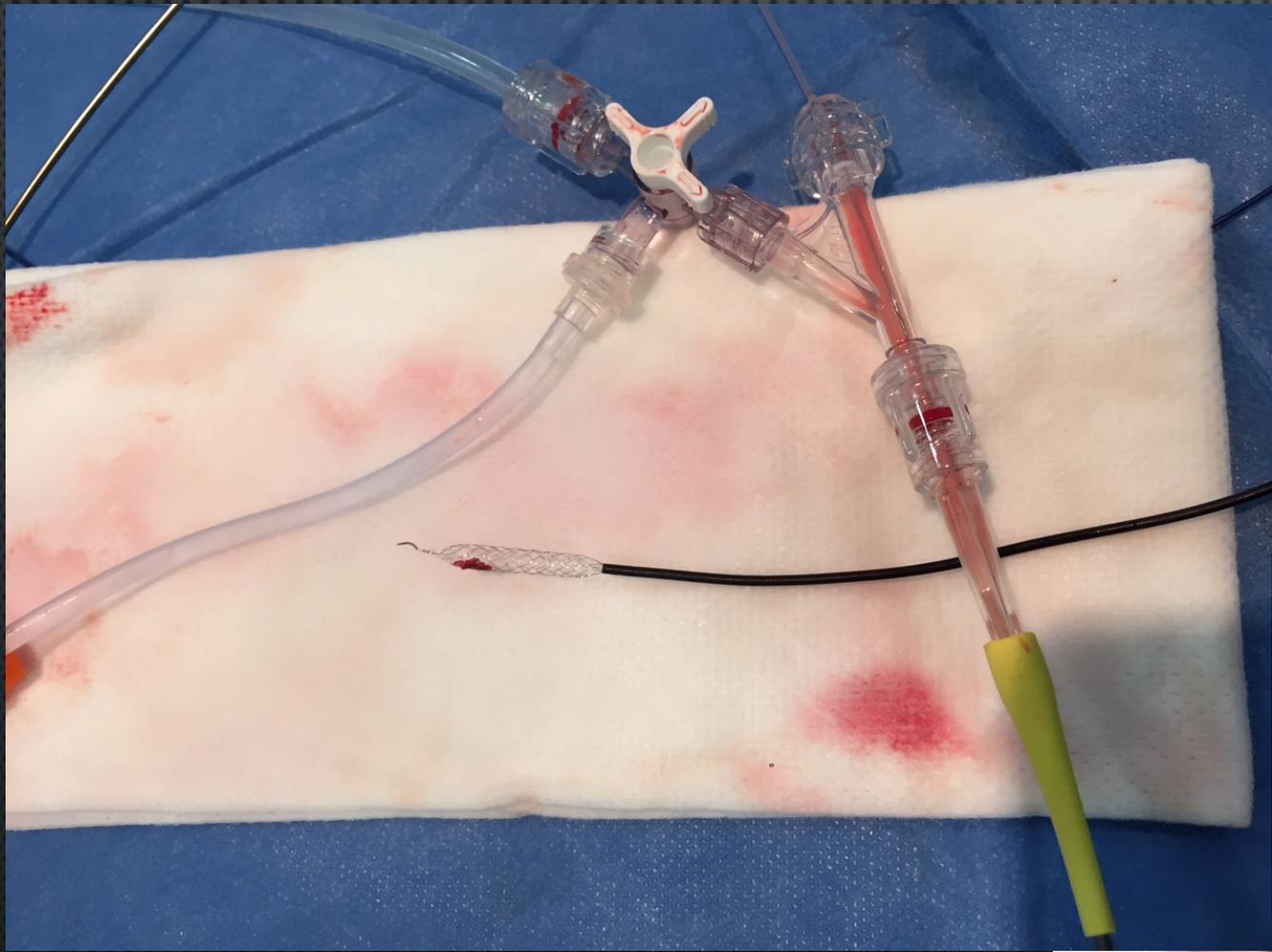
- **EPIC/SAFE/TRAP:**

- OCLUSIONES PROXIMALES
- MEJOR EFICACIA DE PRIMER PASE



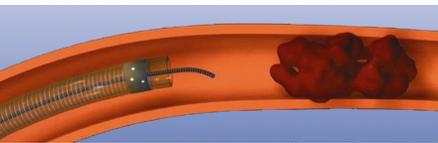
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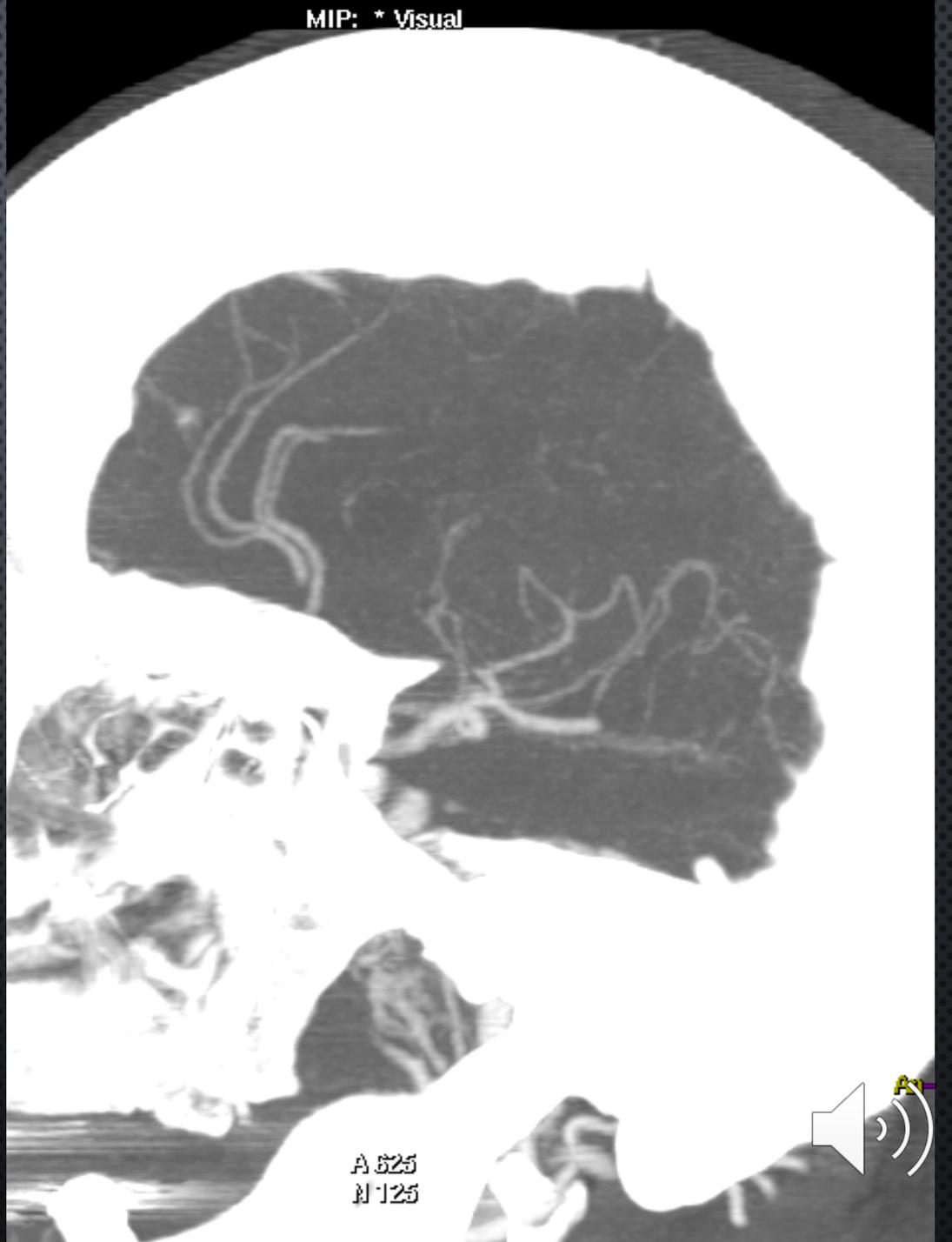
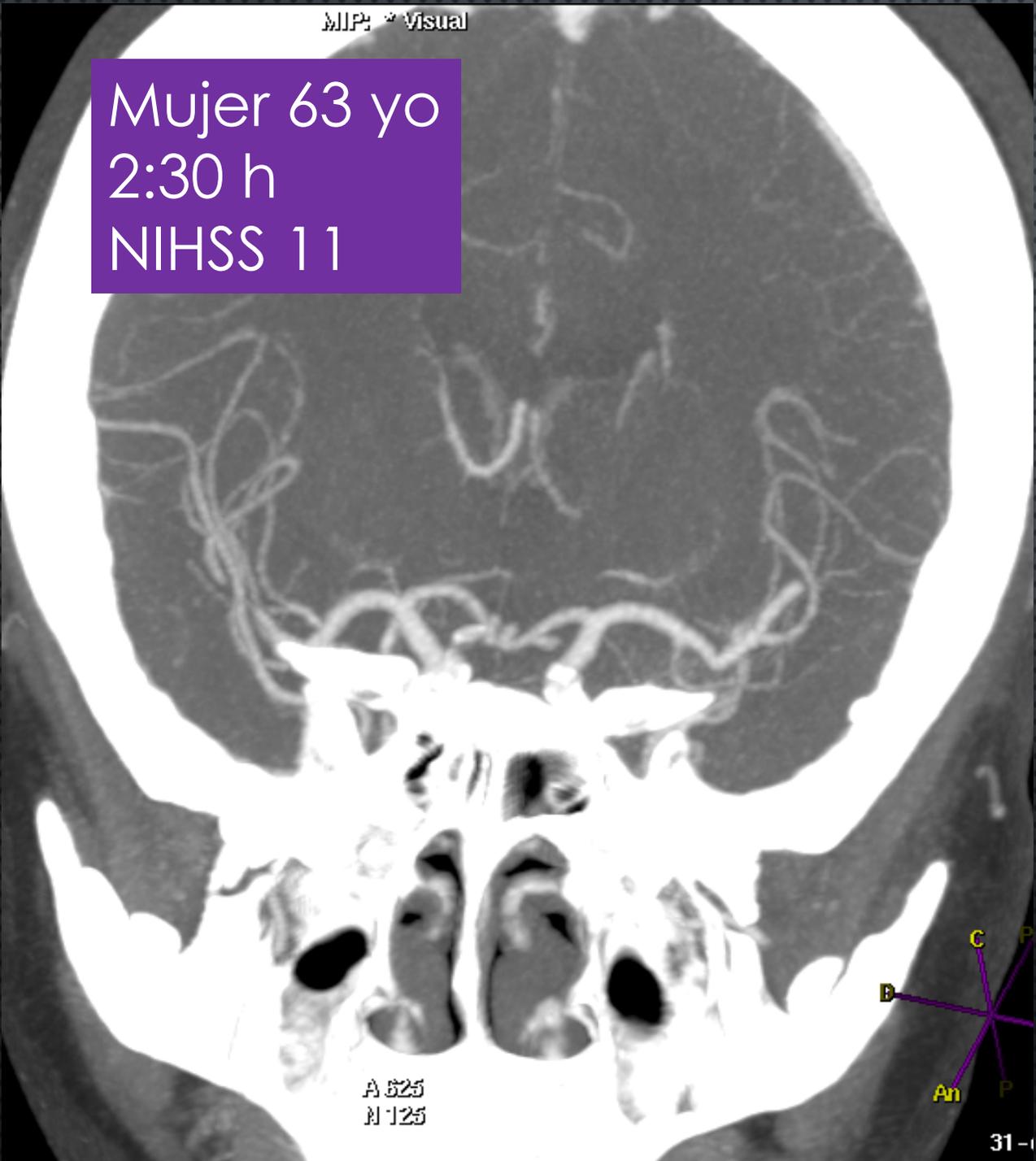


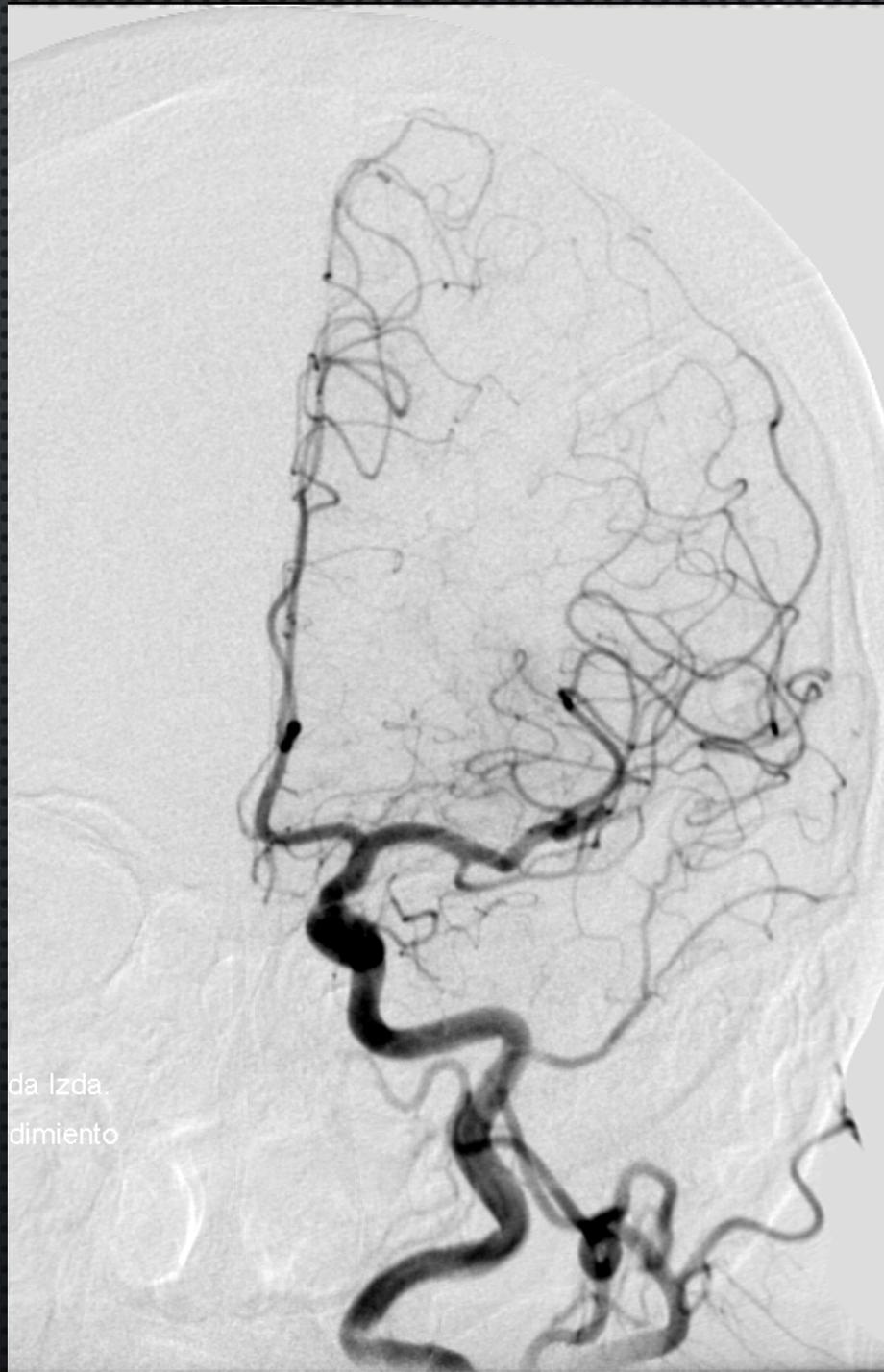
# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL :

- **SOLUMBRA – TREVUMBRA - ...:**
  - OCLUSIONES DISTALES PARA SALVAR EMBOLIAS A TERRITORIOS NO INFARTADOS
  - NAVIGACIÓN DIFICULTOSA O LESIONES PROXIMALES



Mujer 63 yo  
2:30 h  
NIHSS 11



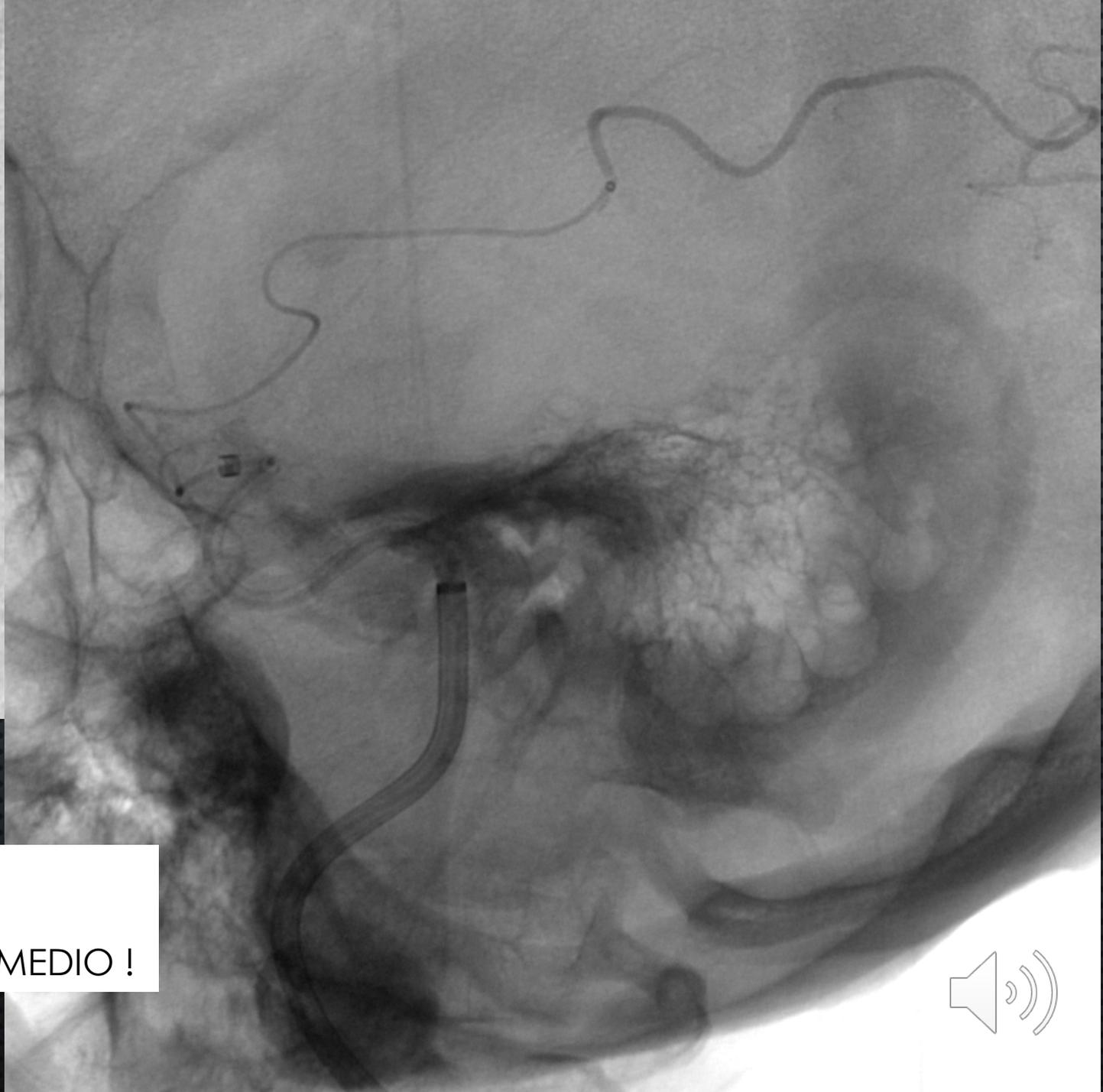
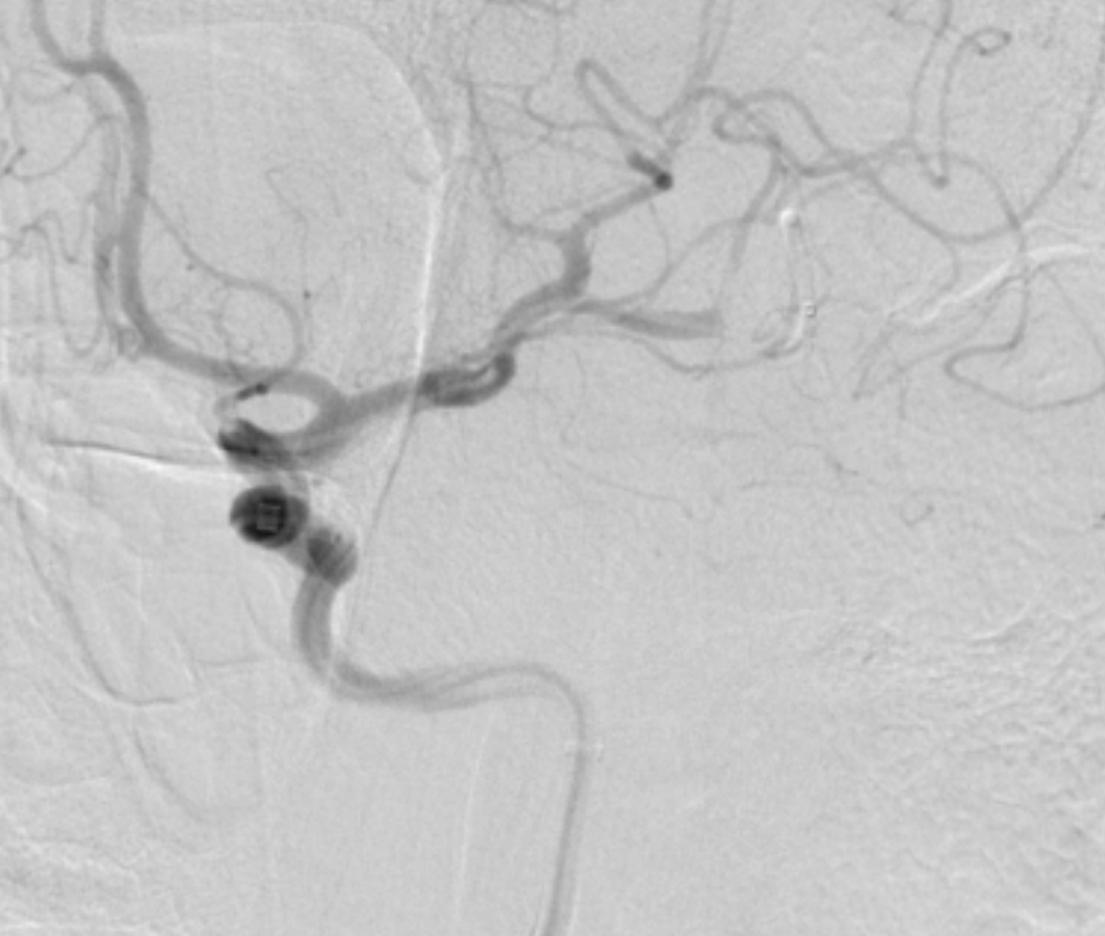


da Izda.  
dimiento



A. Carotida Izda.  
Pre-procedimiento





1º: Avanzar microcatéter

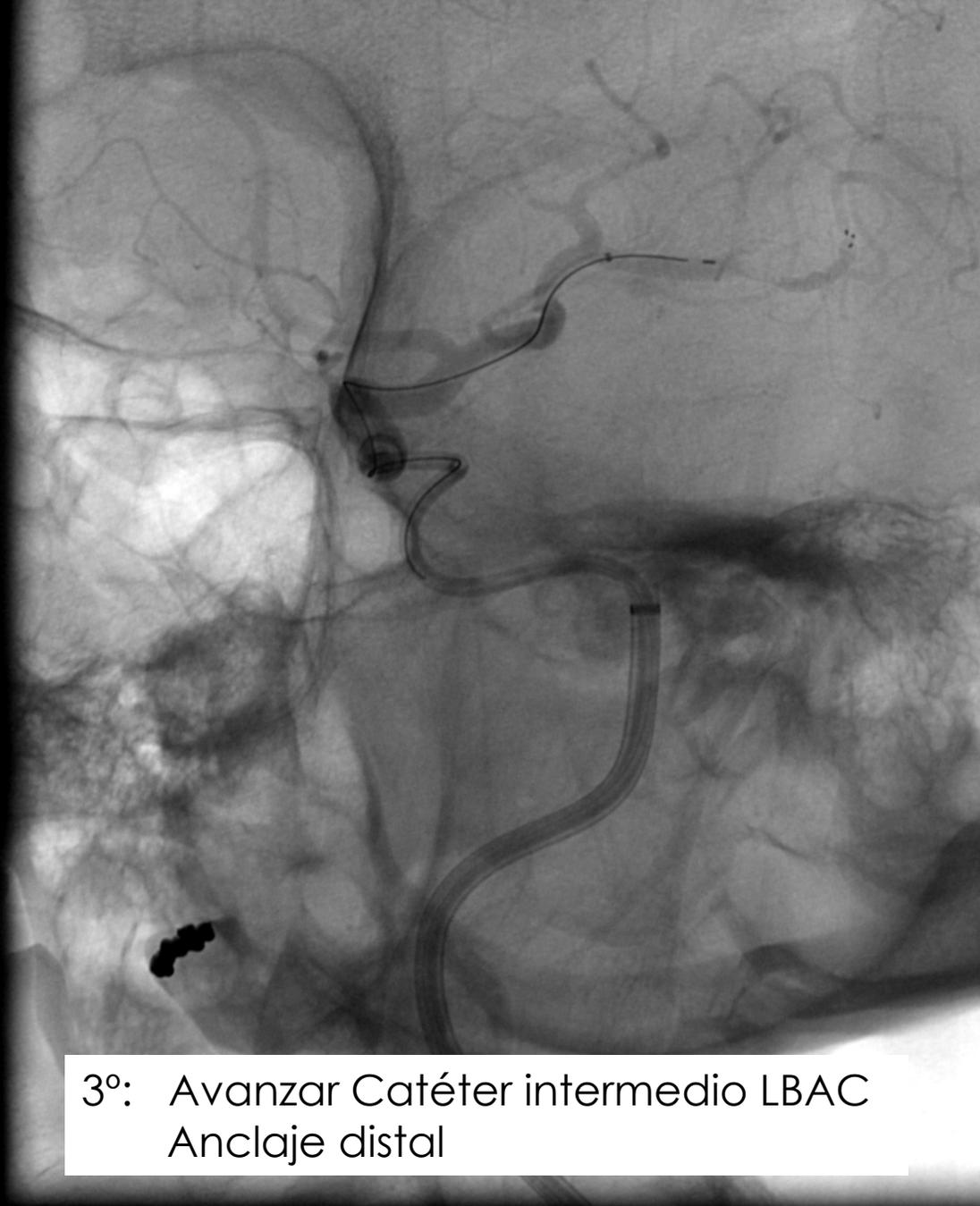
¡ NO PERDER TIEMPO CON EL CATÉTER INTERMEDIO !



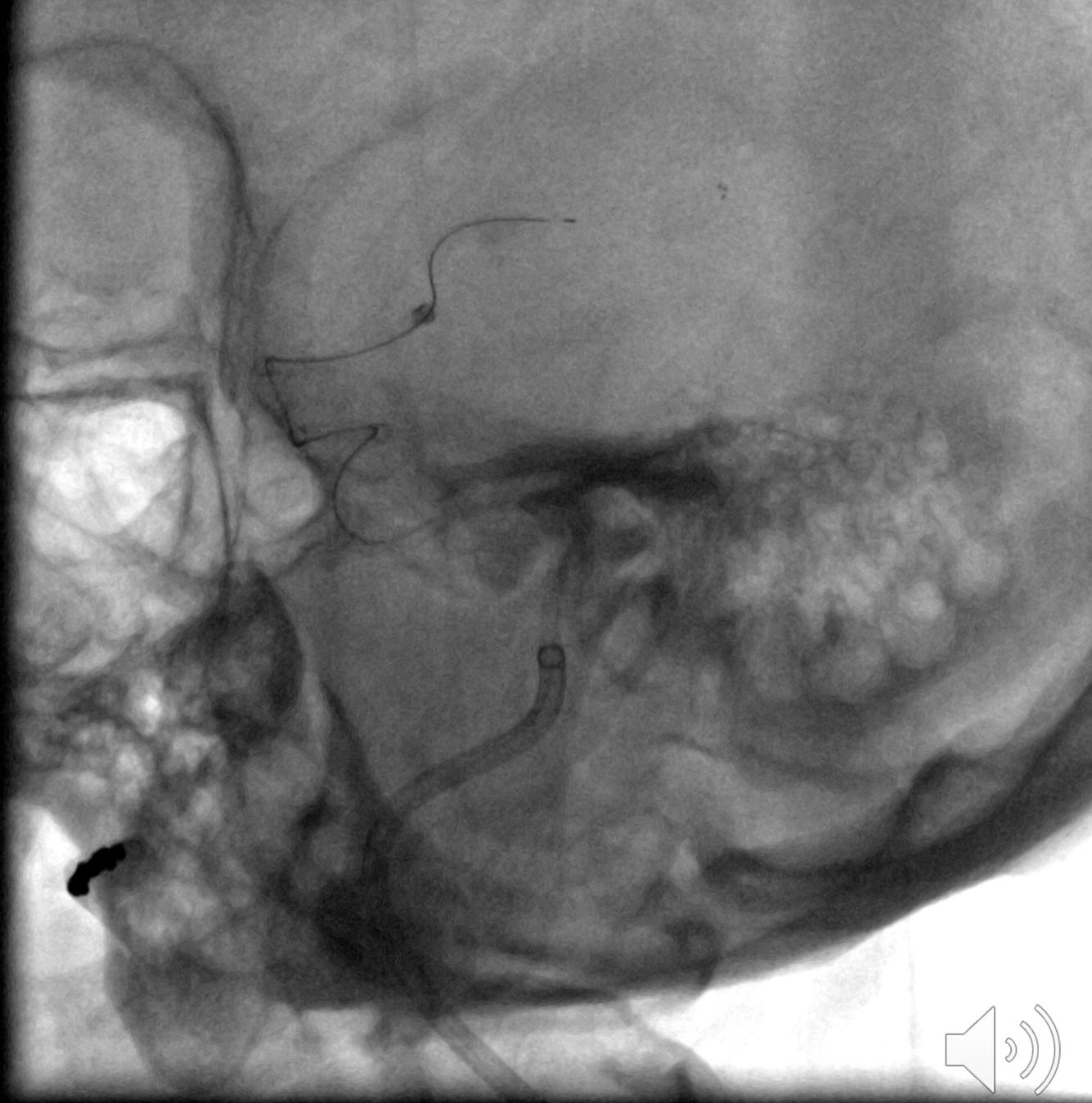


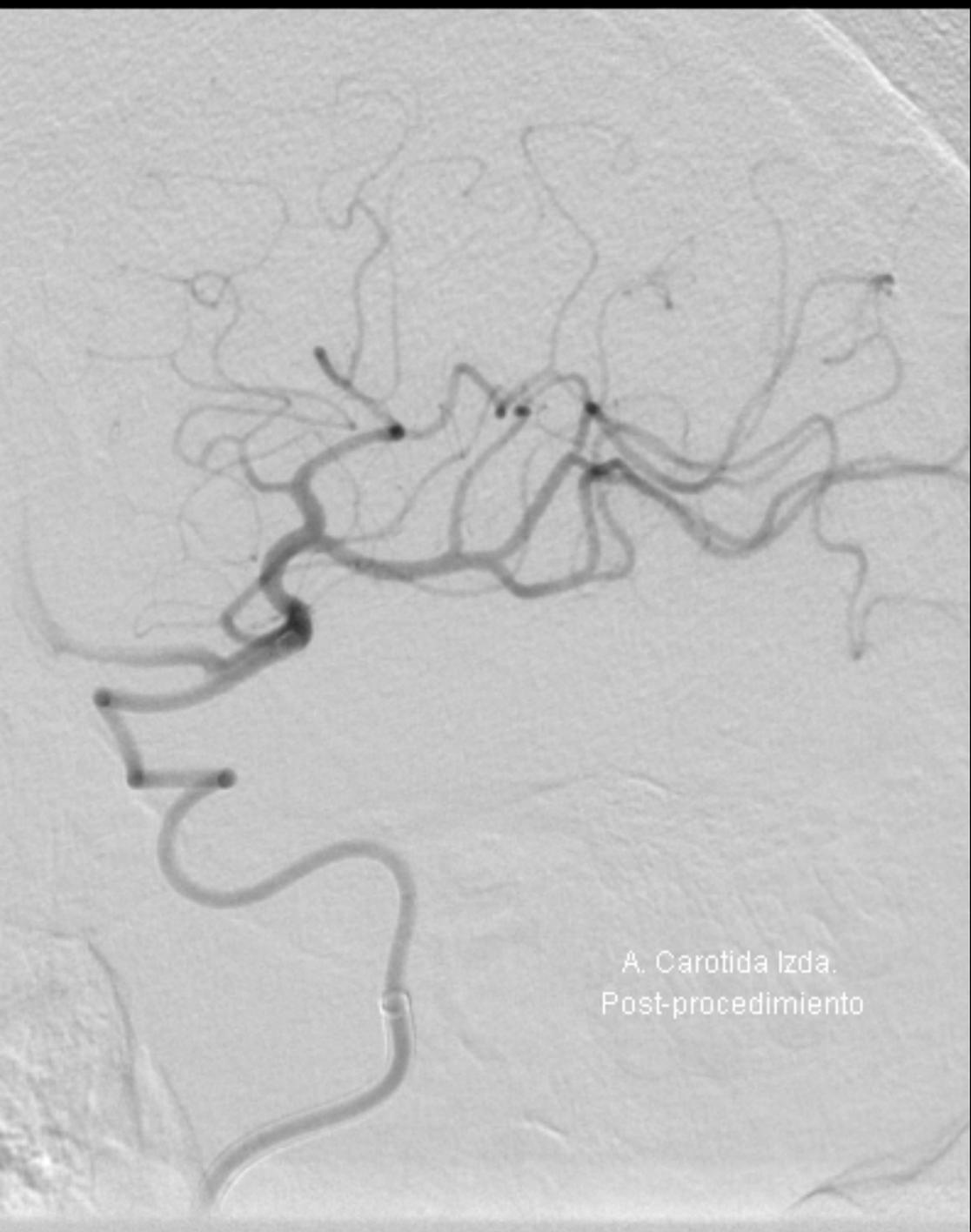
2°: Abrir Stentriever (3 mm)



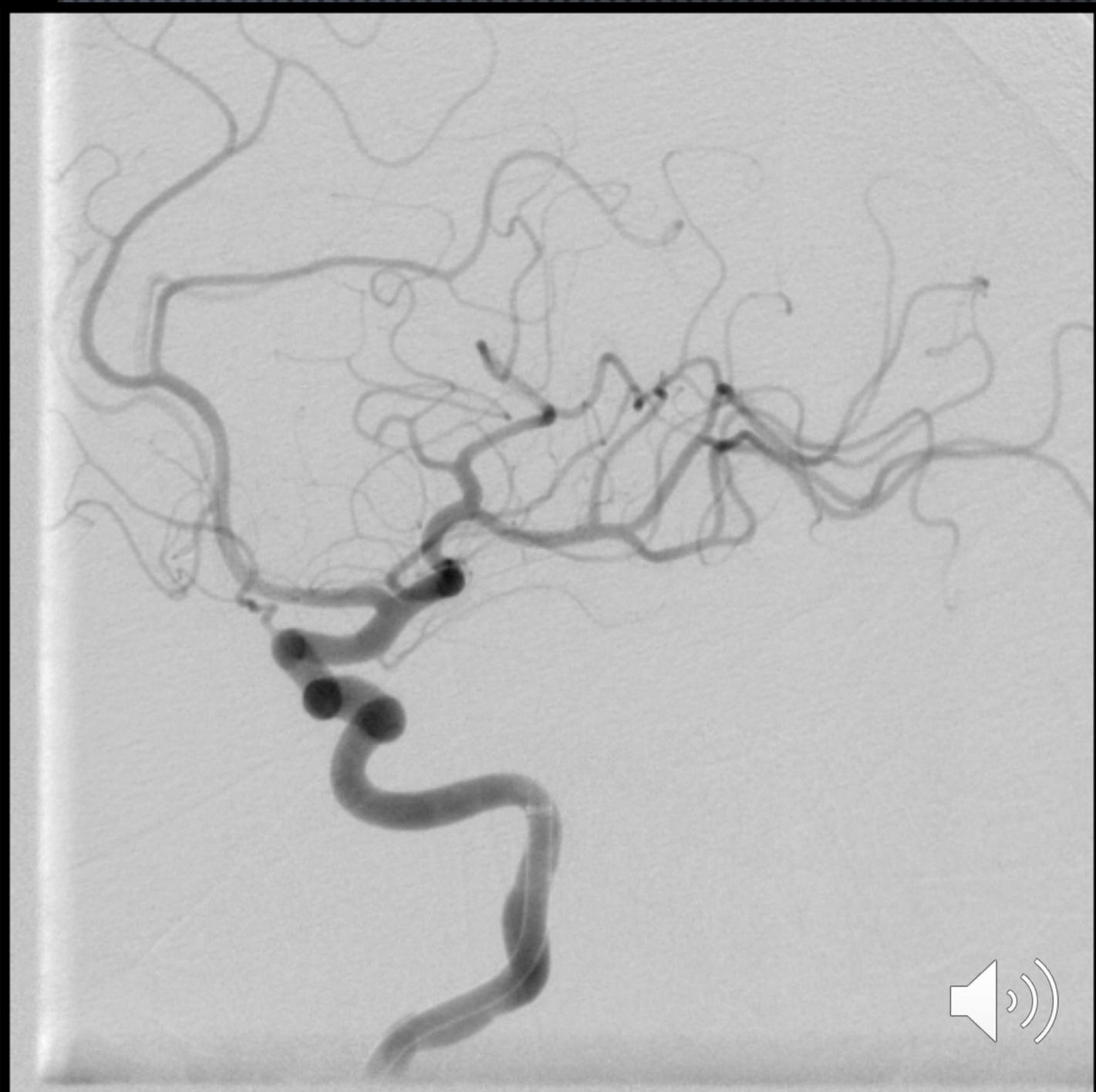


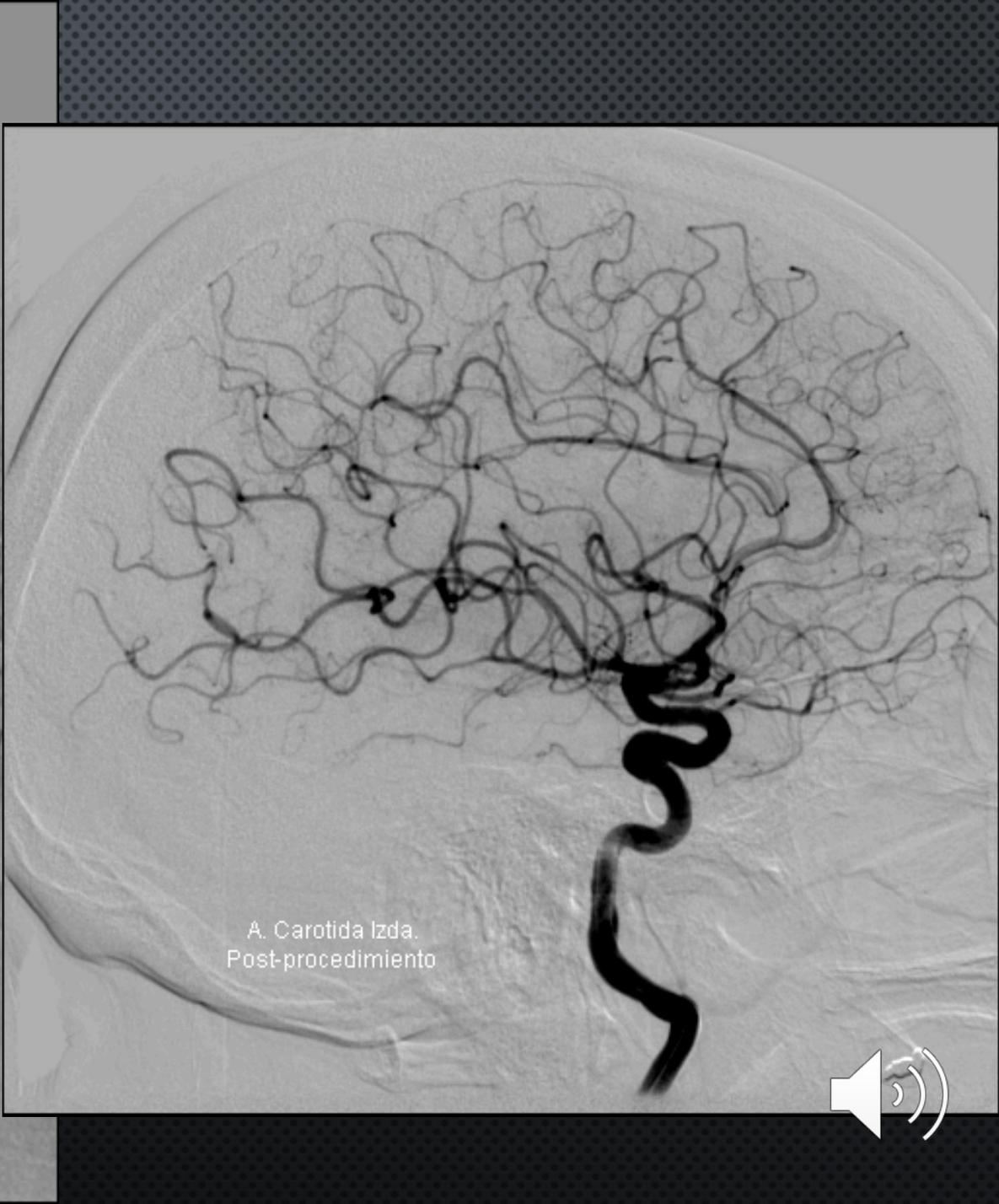
3°: Avanzar Catéter intermedio LBAC  
Anclaje distal





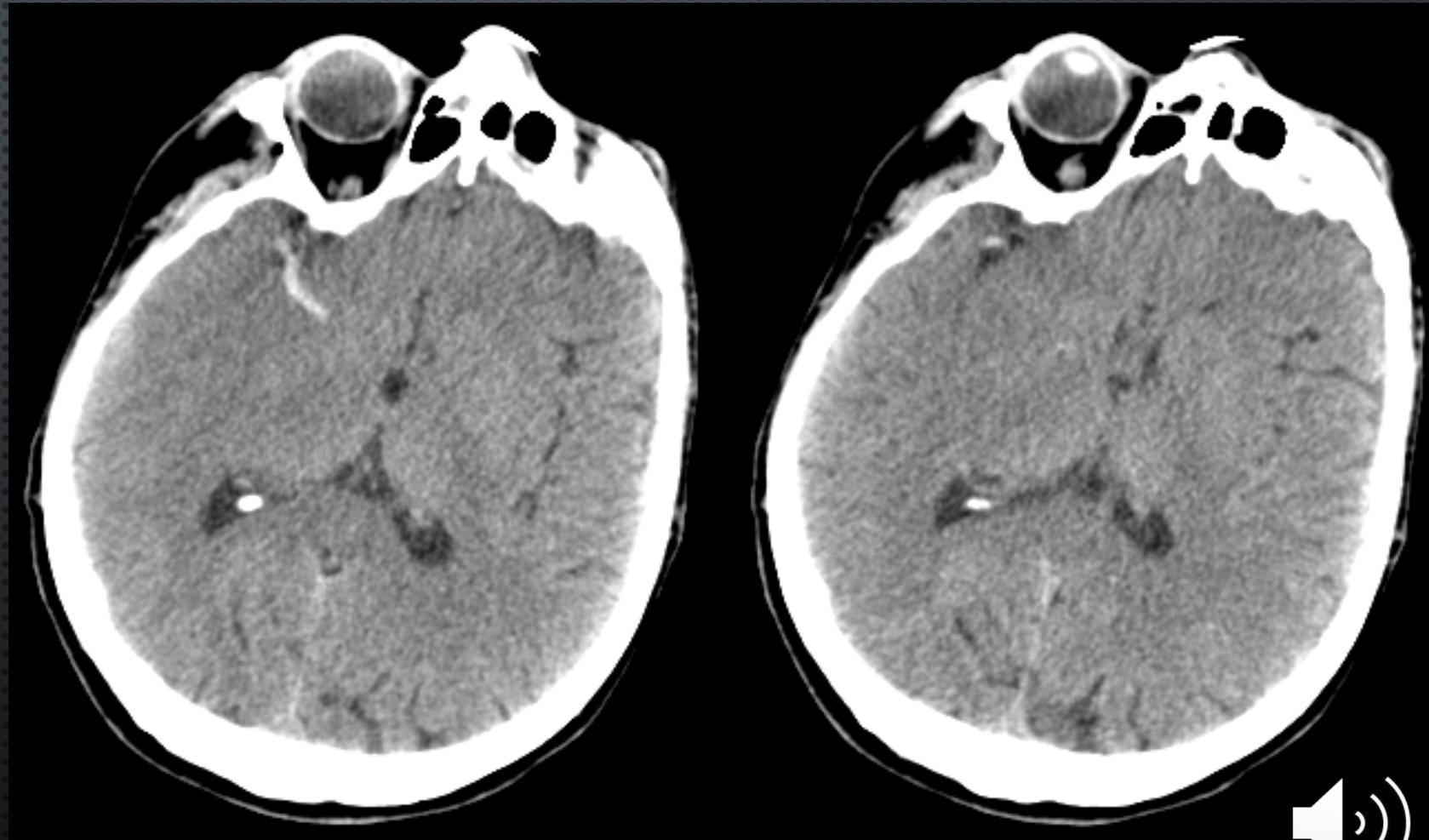
A. Carotida Izda.  
Post-procedimiento

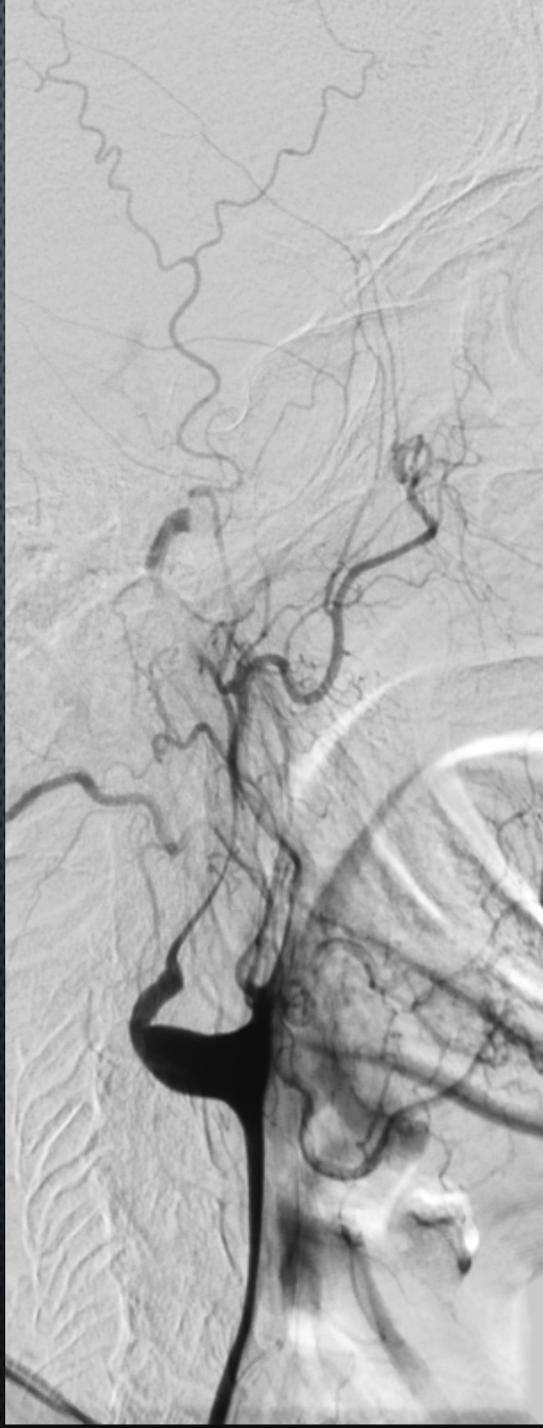
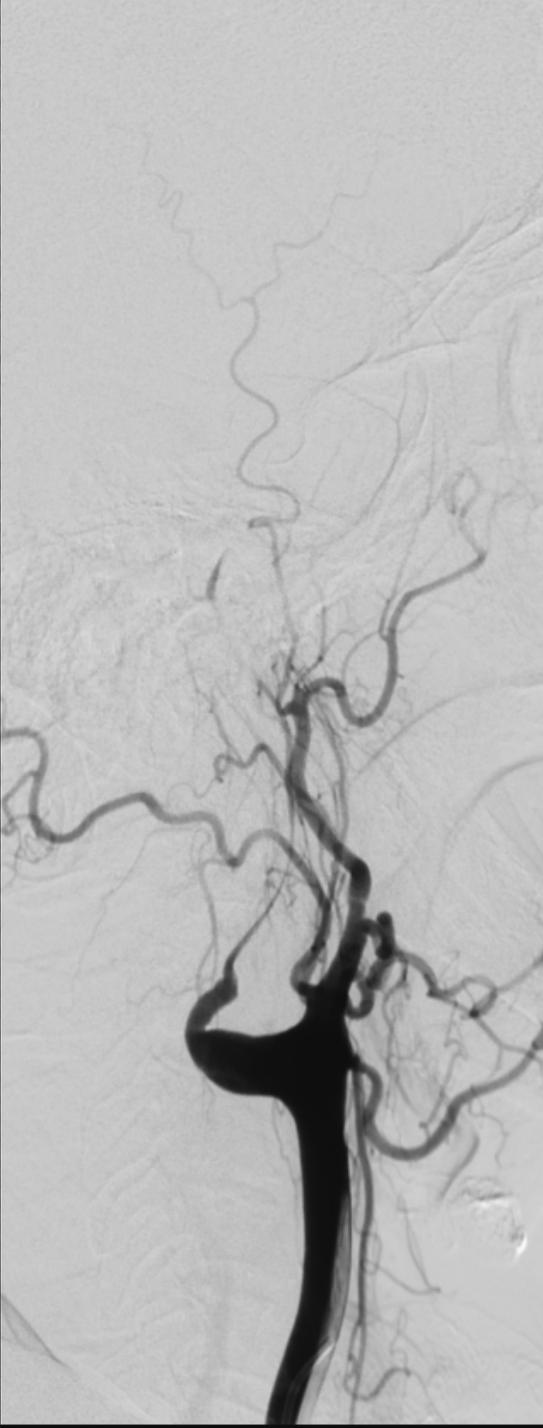




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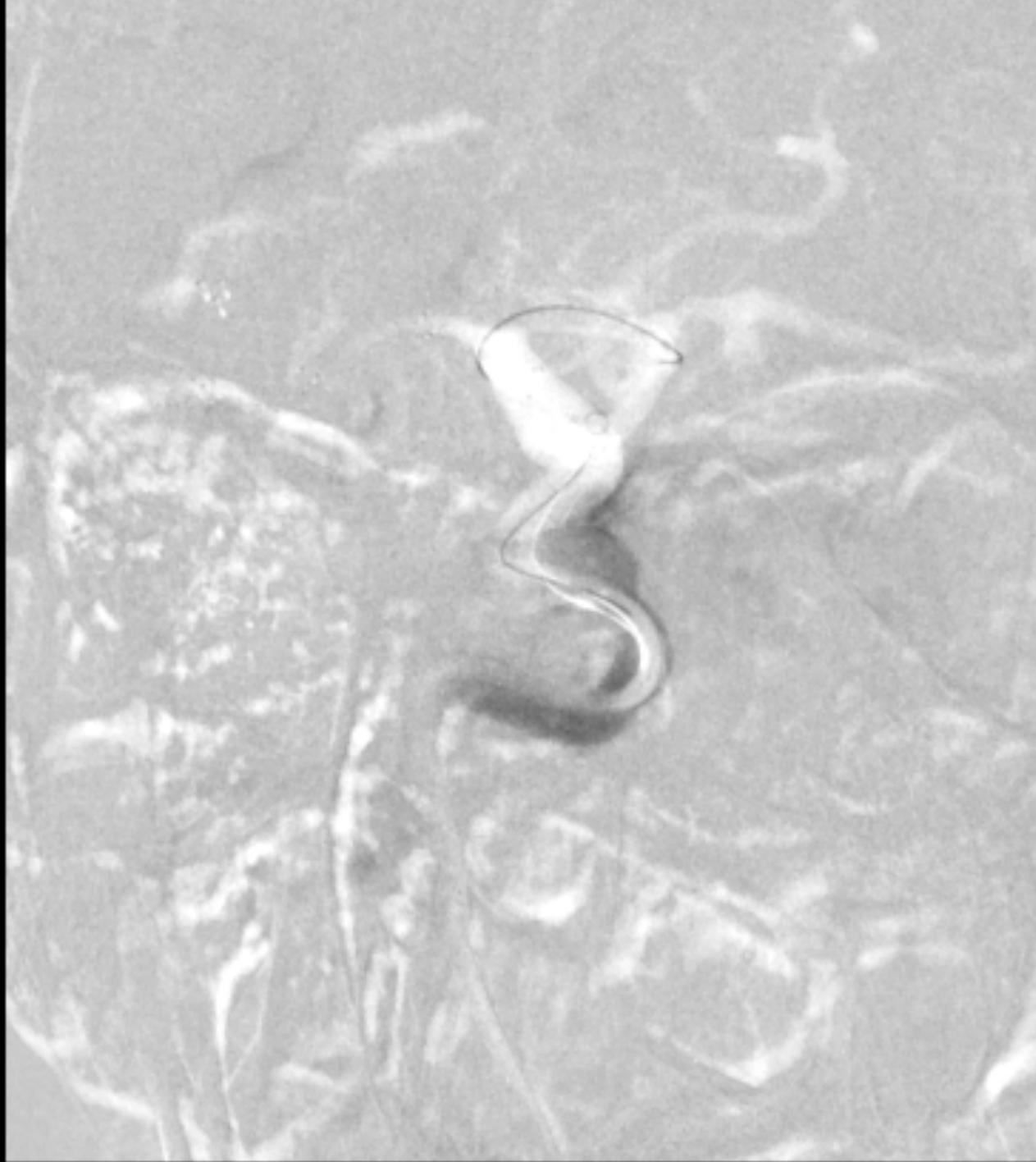
- HOMBRE 62 AÑOS
- NIHSS :18 PTS
- 2'5 HORAS

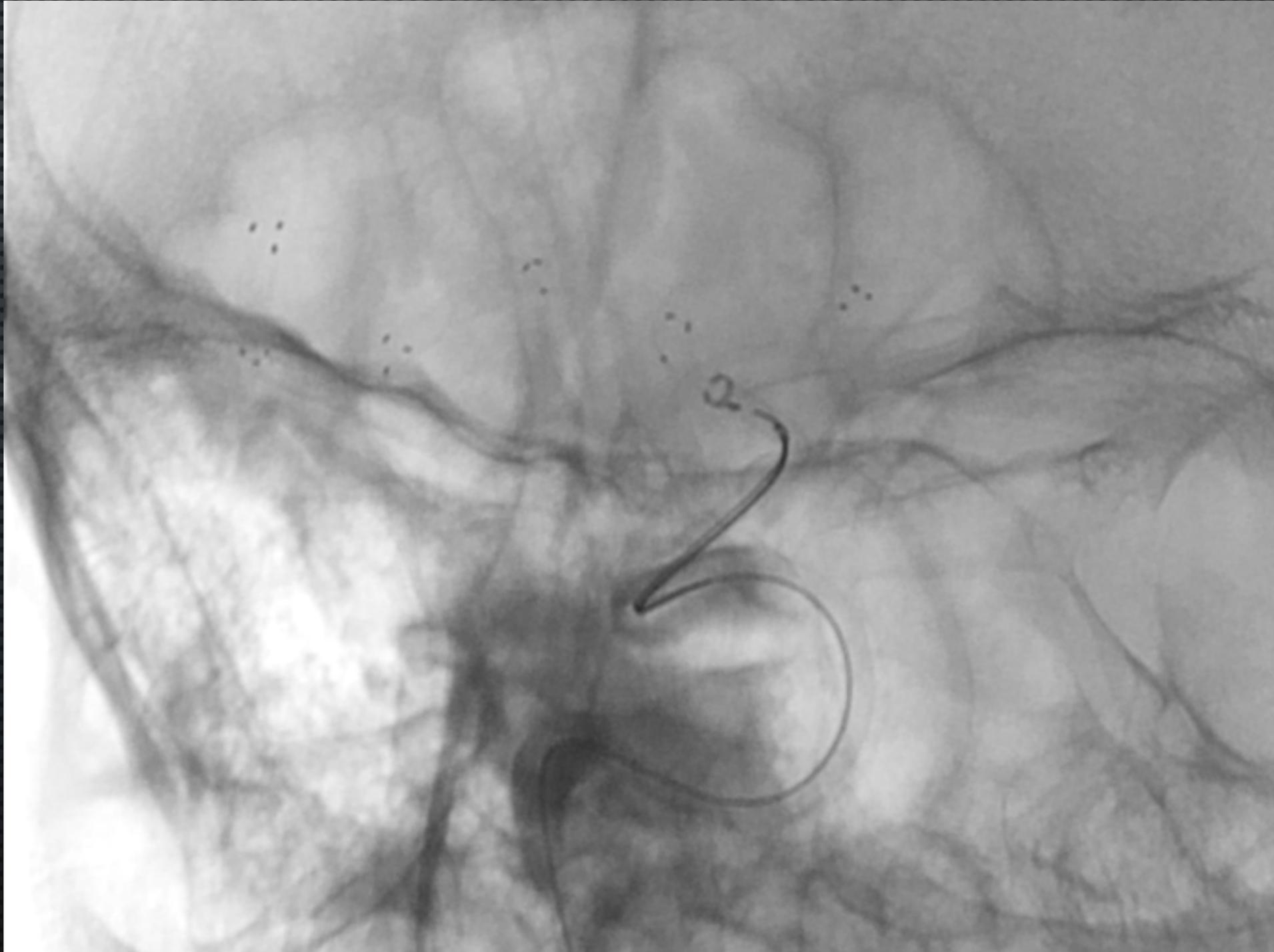


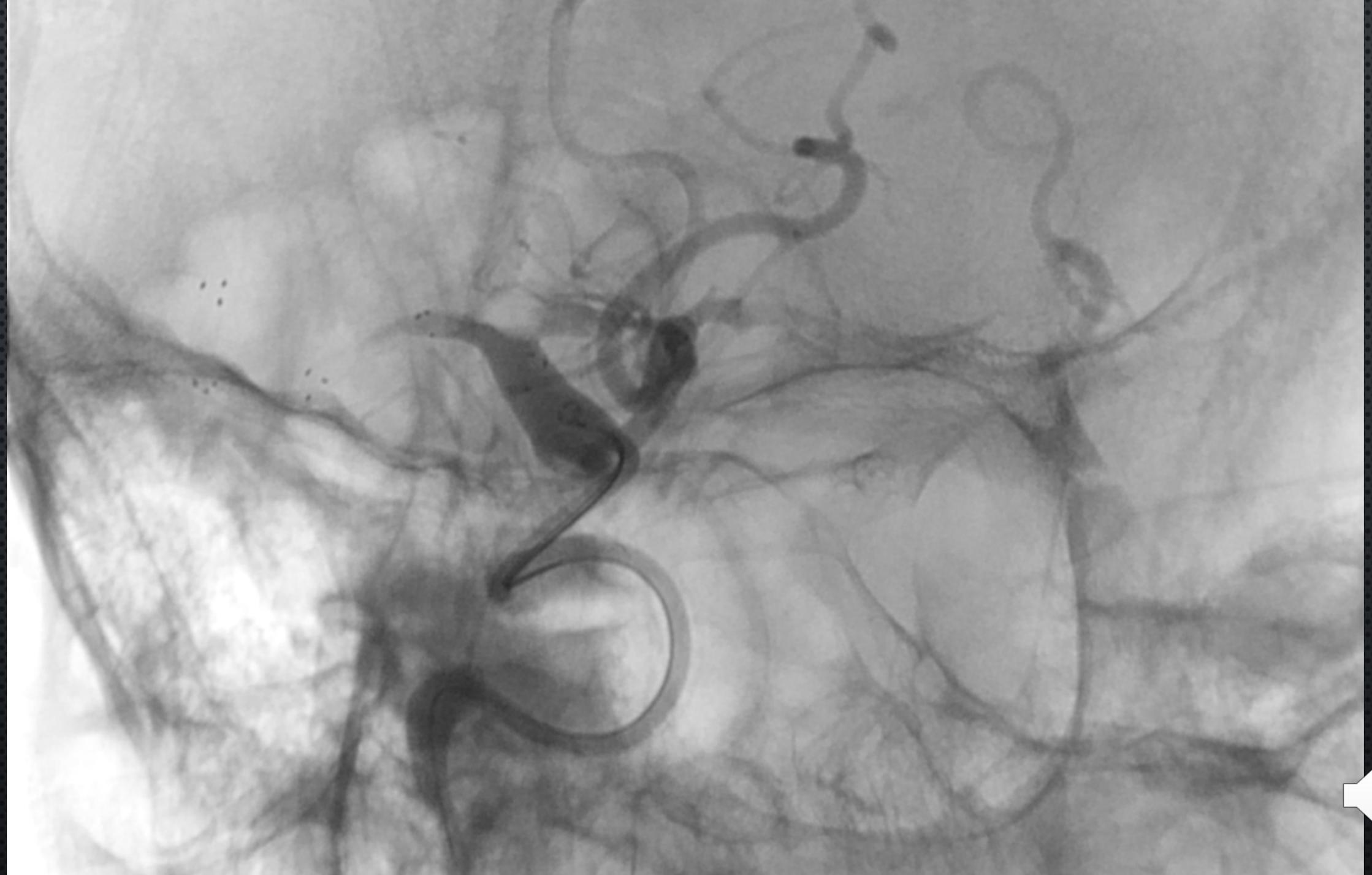


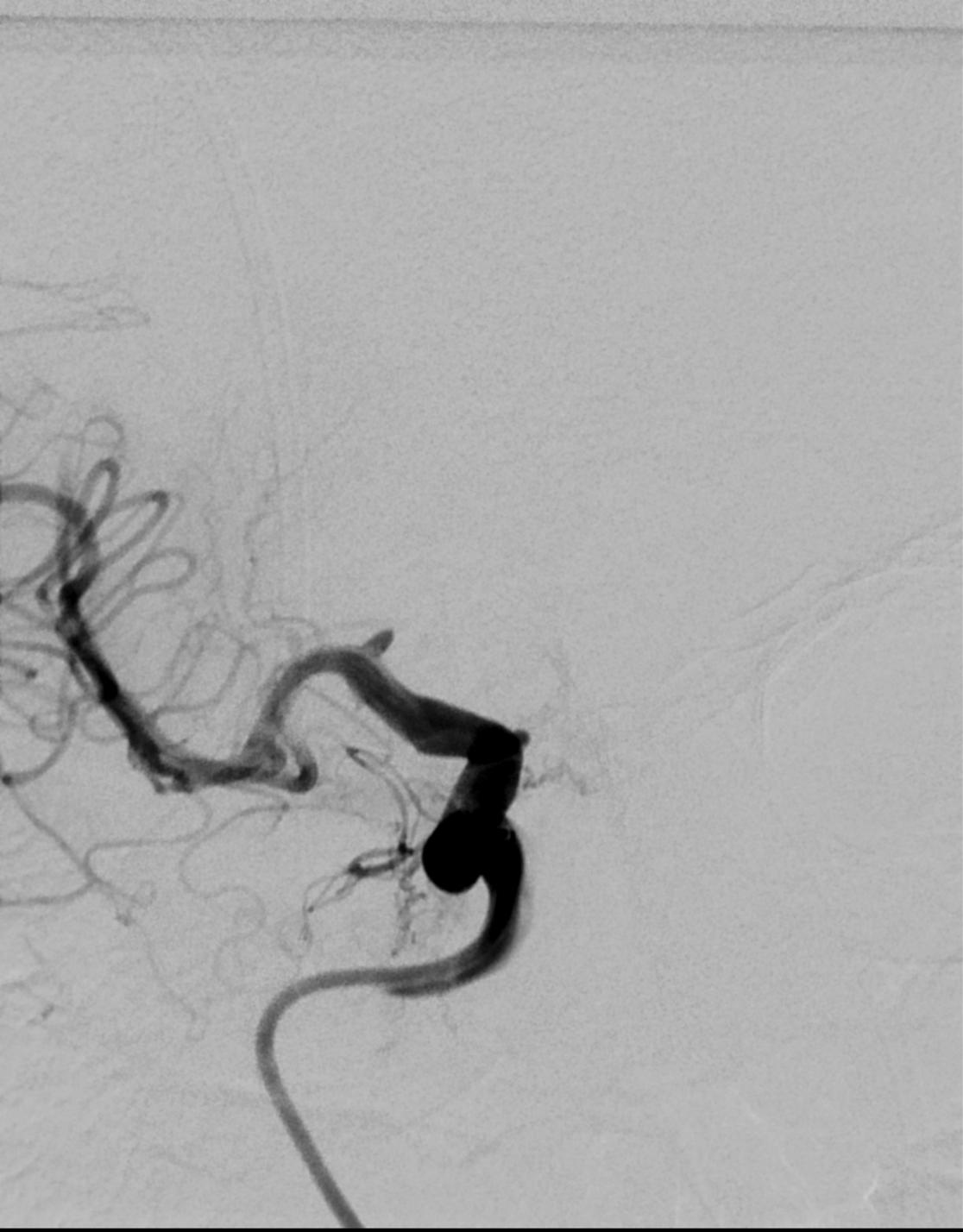


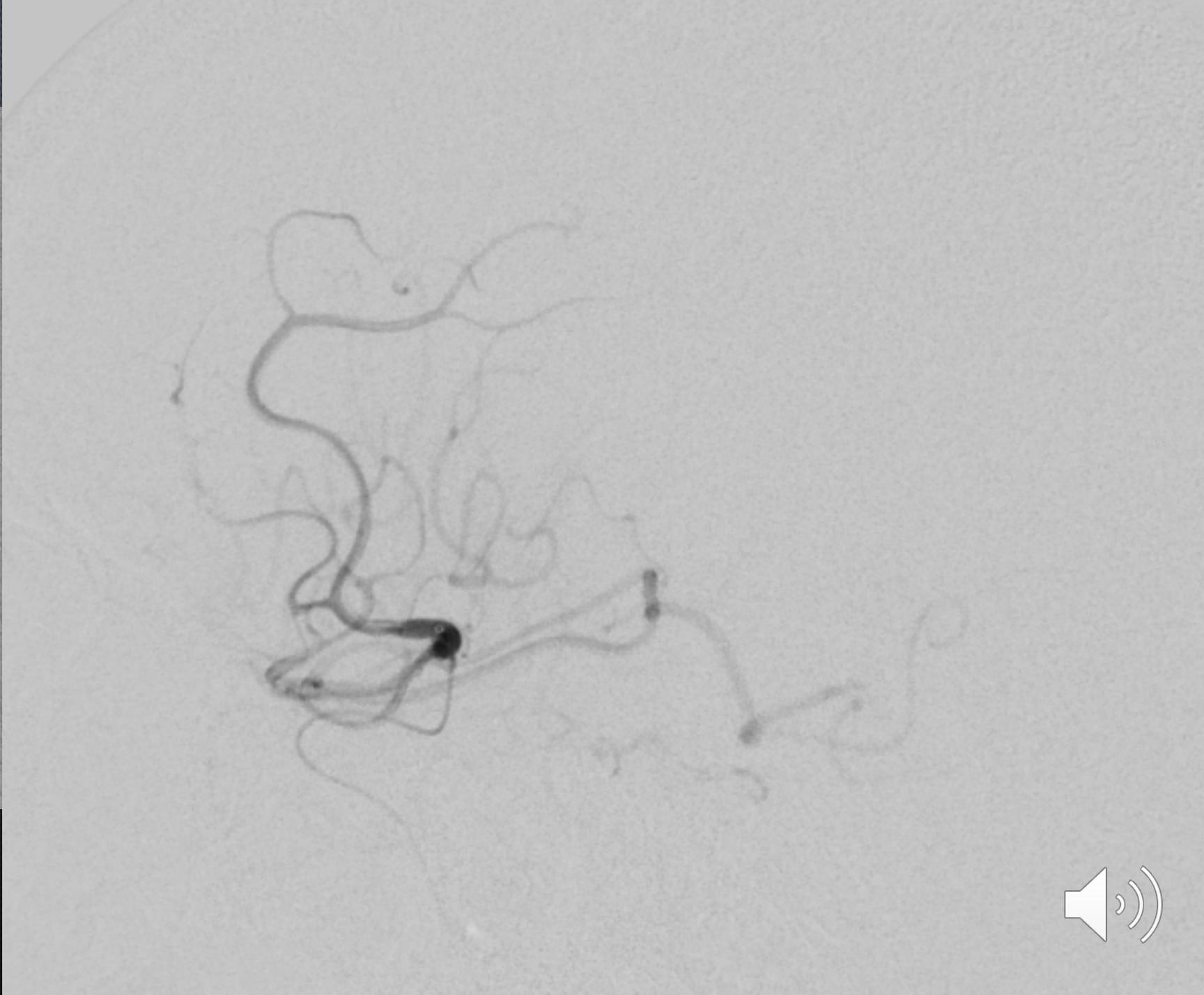
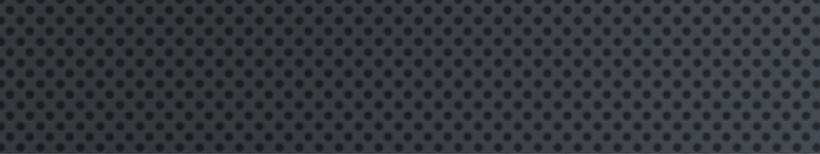


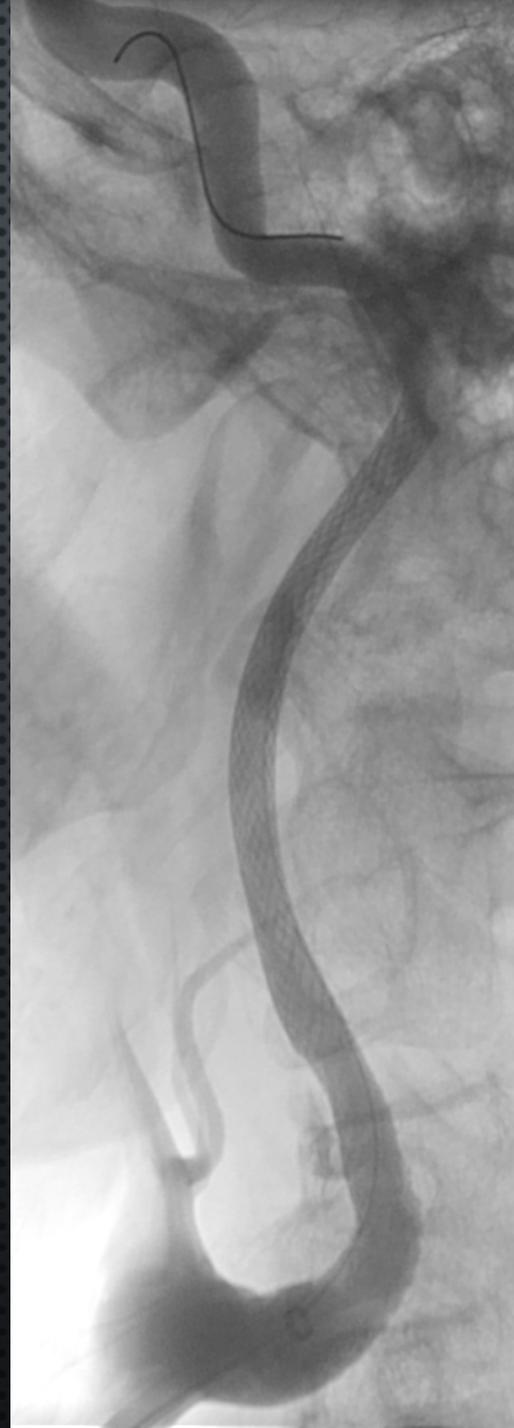
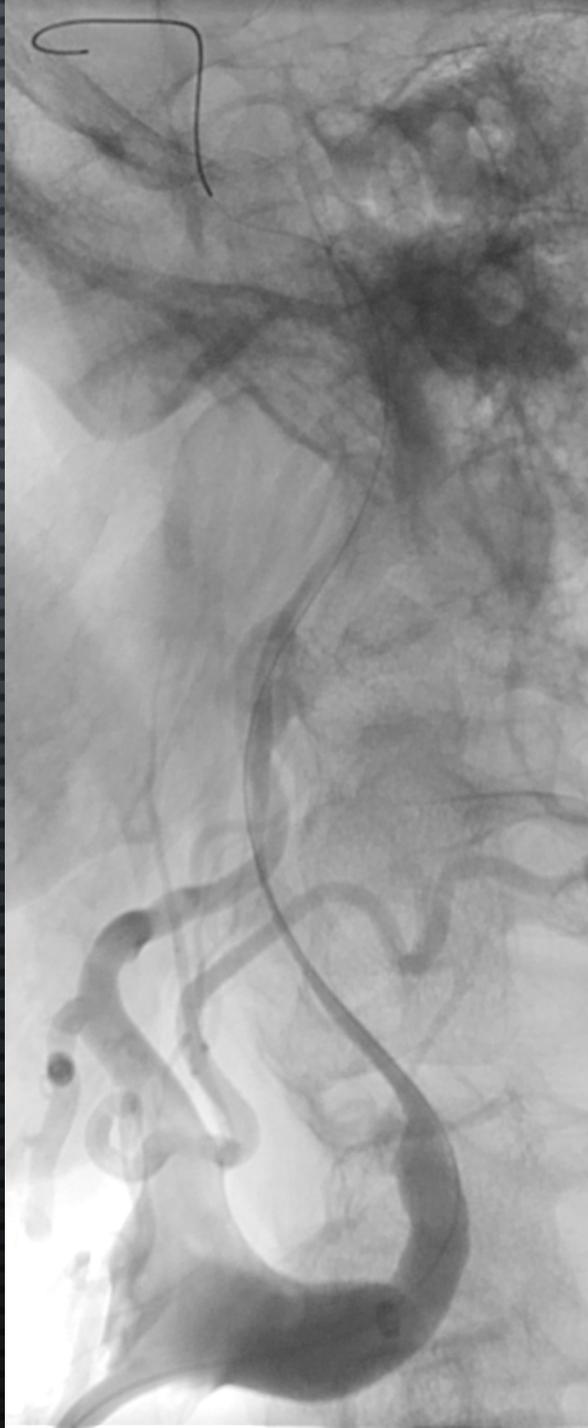
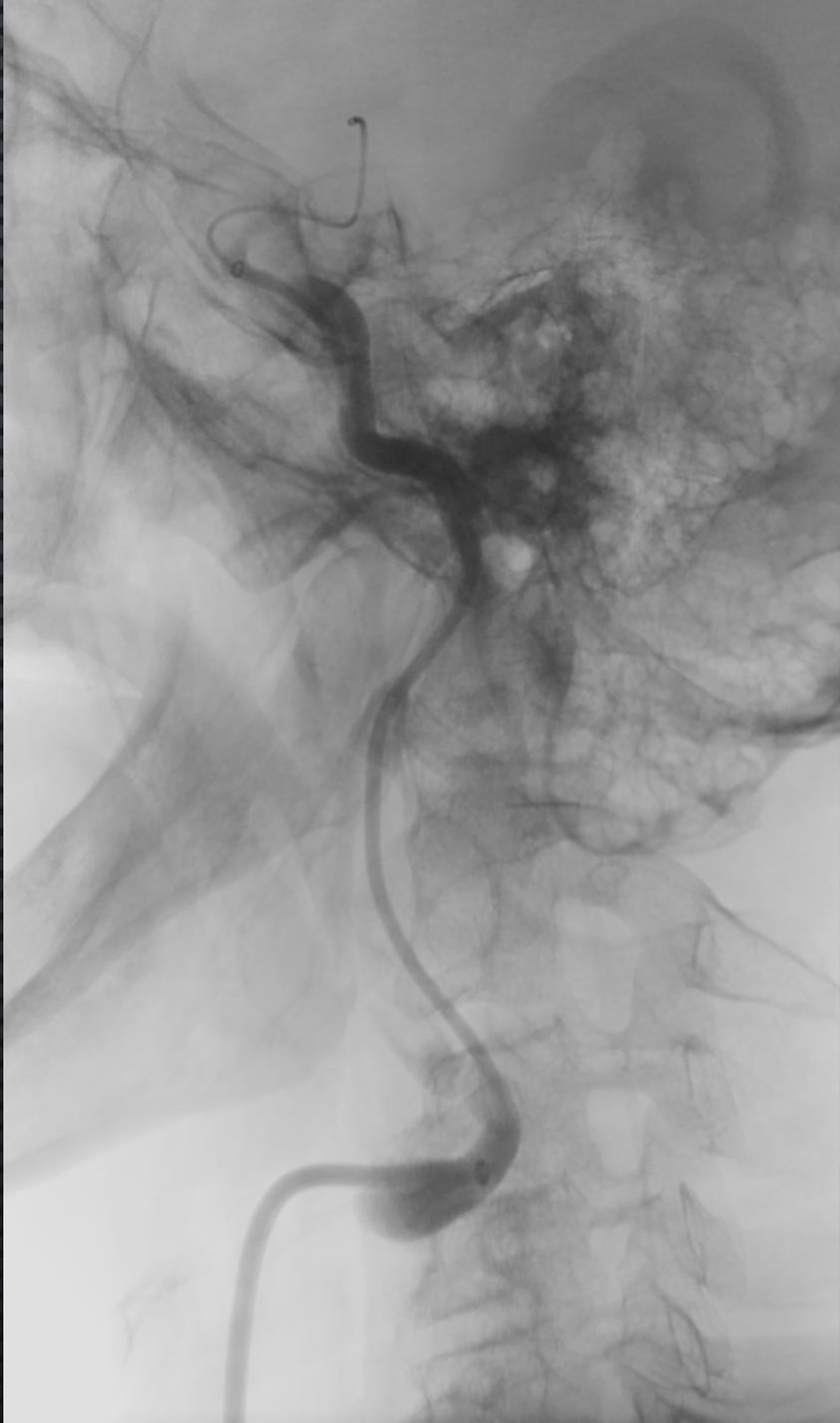






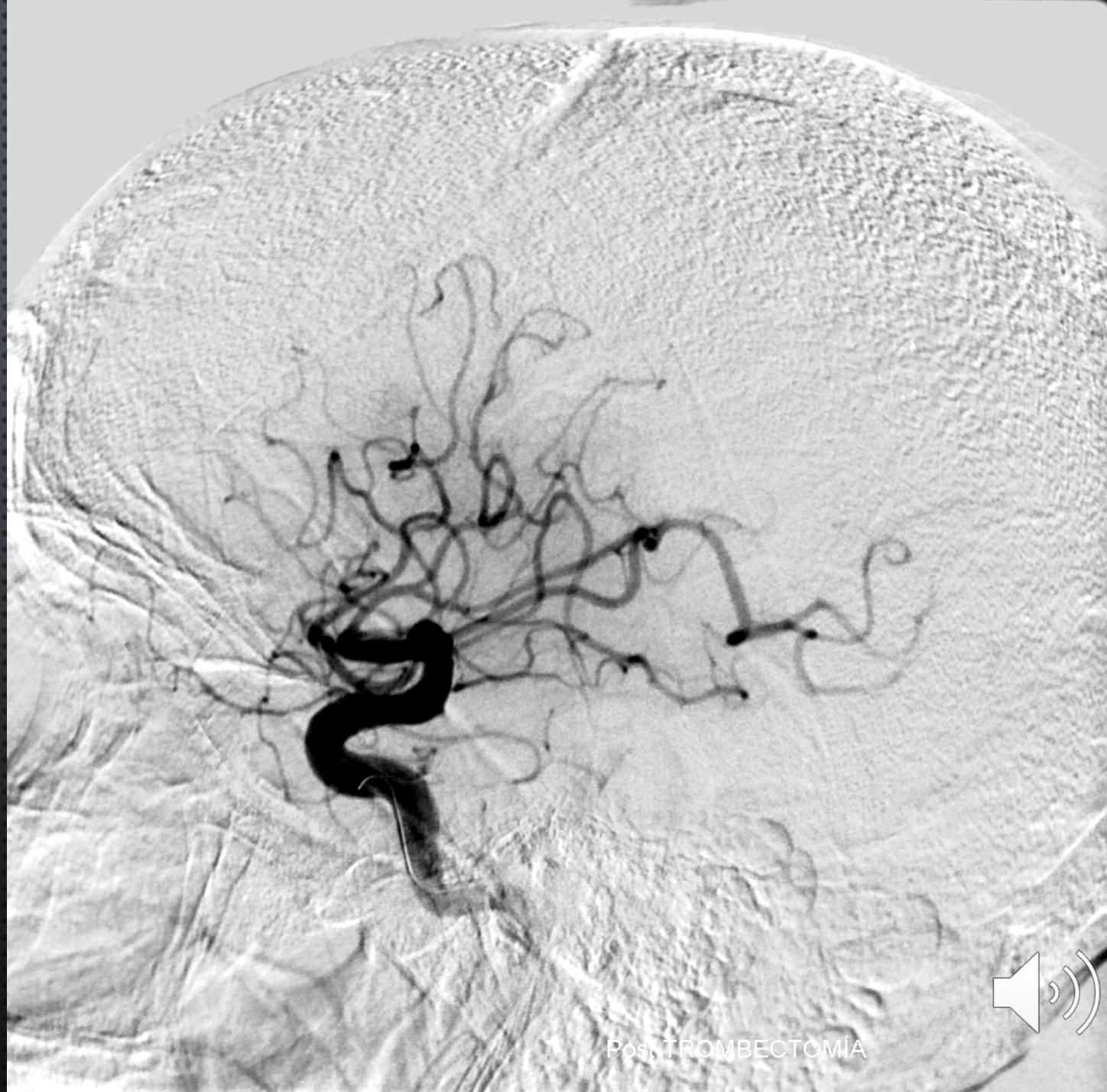








Post T



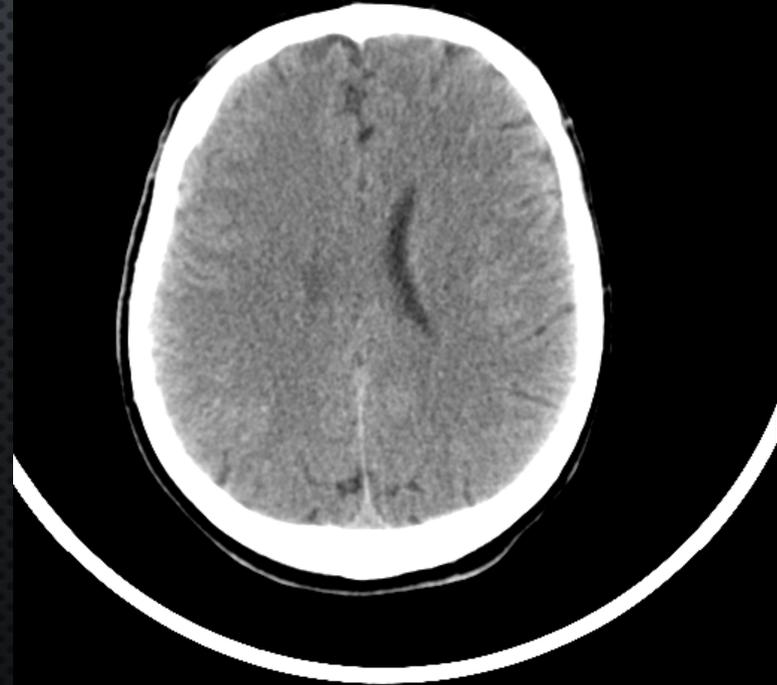
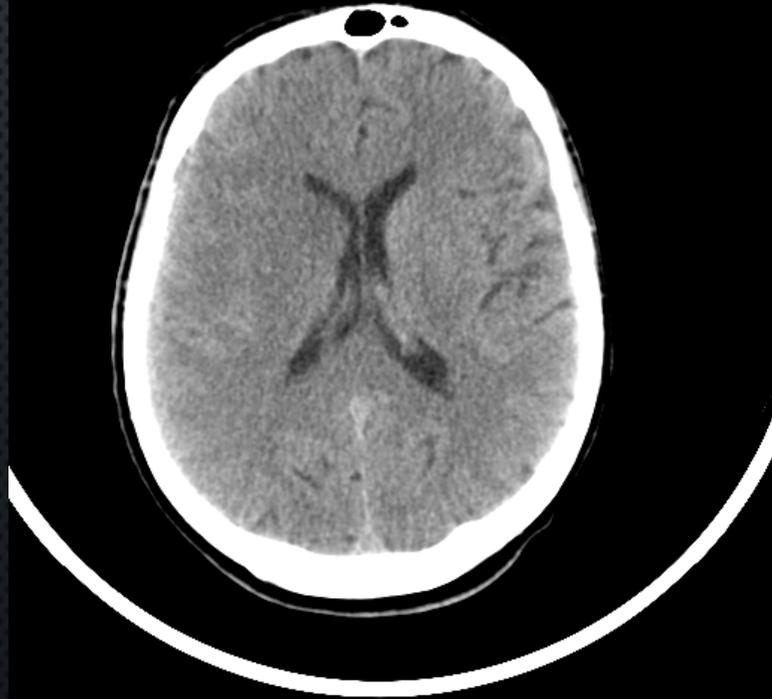
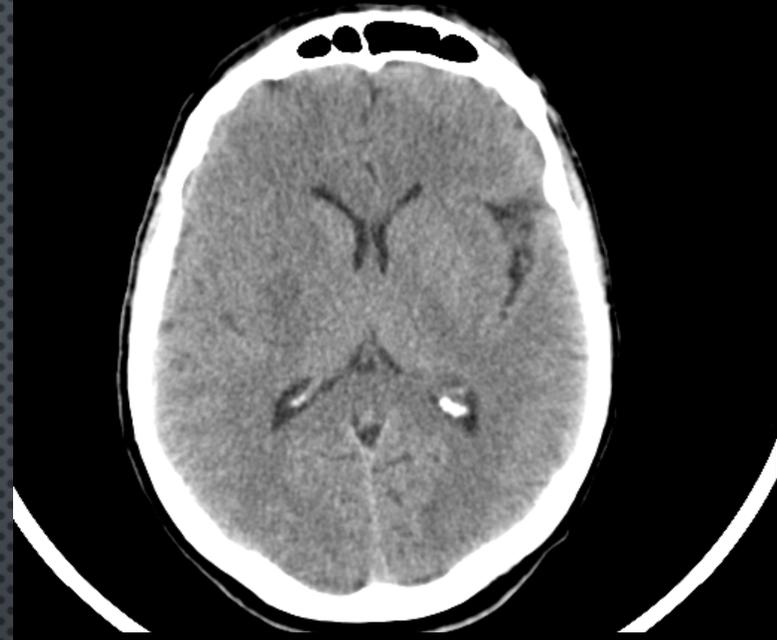
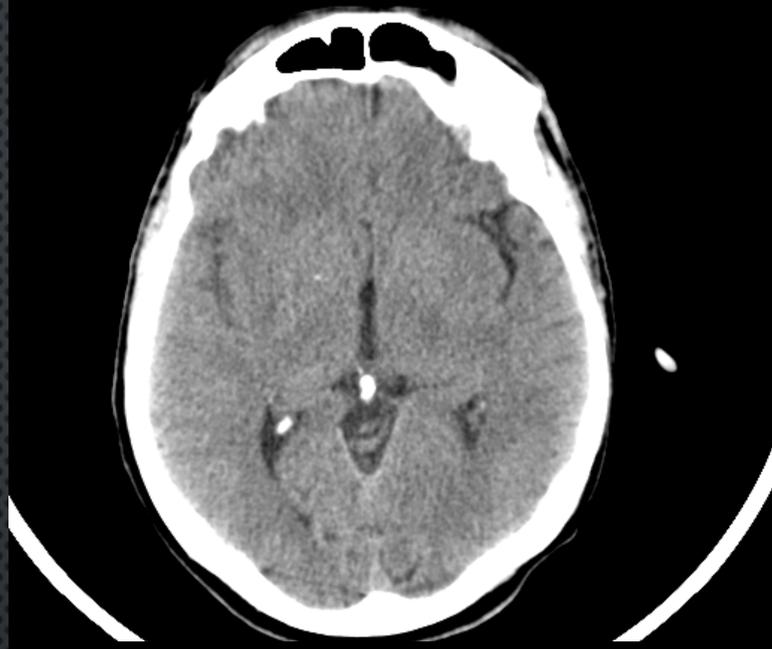
Post TROMBECTOMÍA



NIHSS 7



NIHSS 3





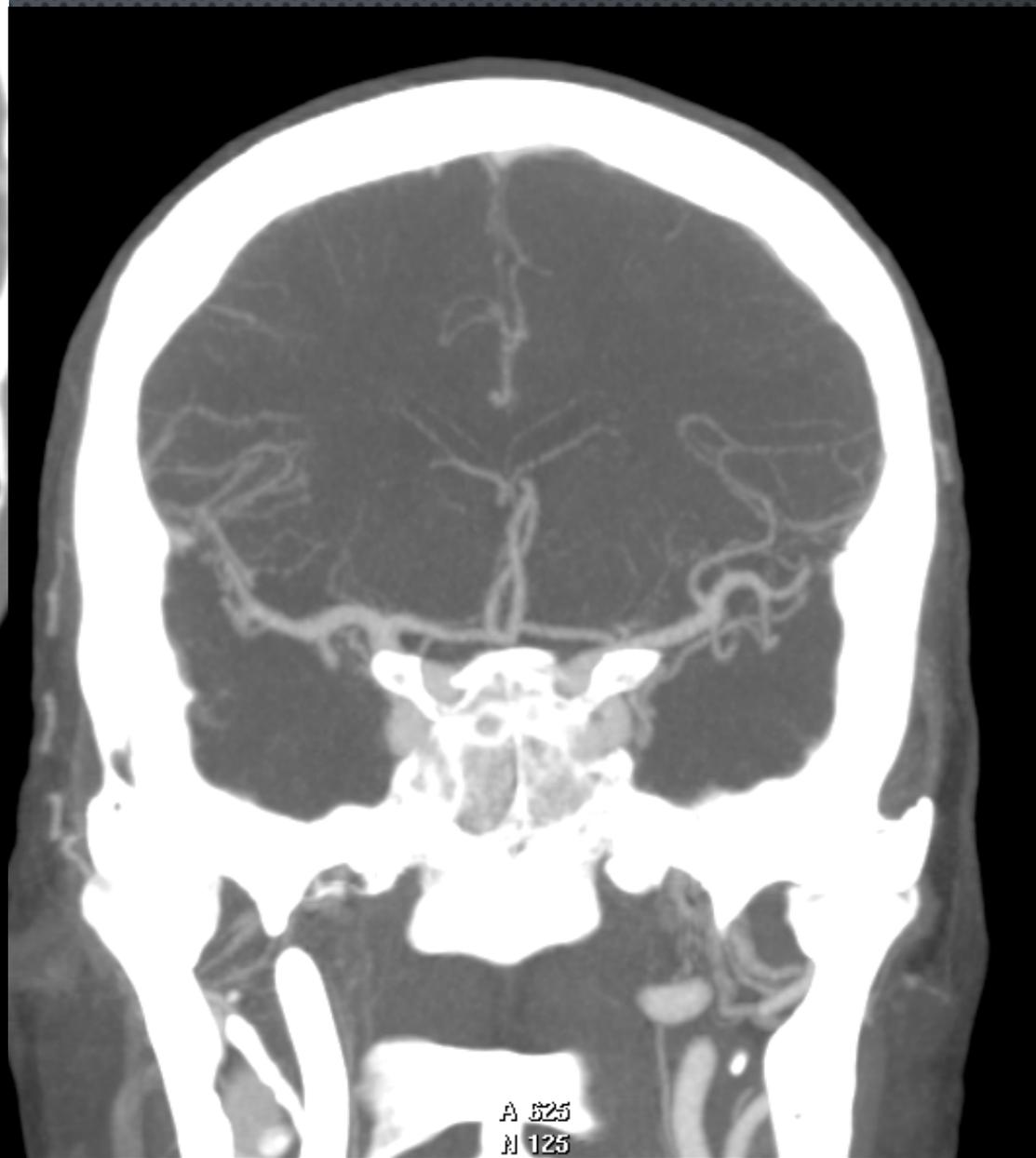
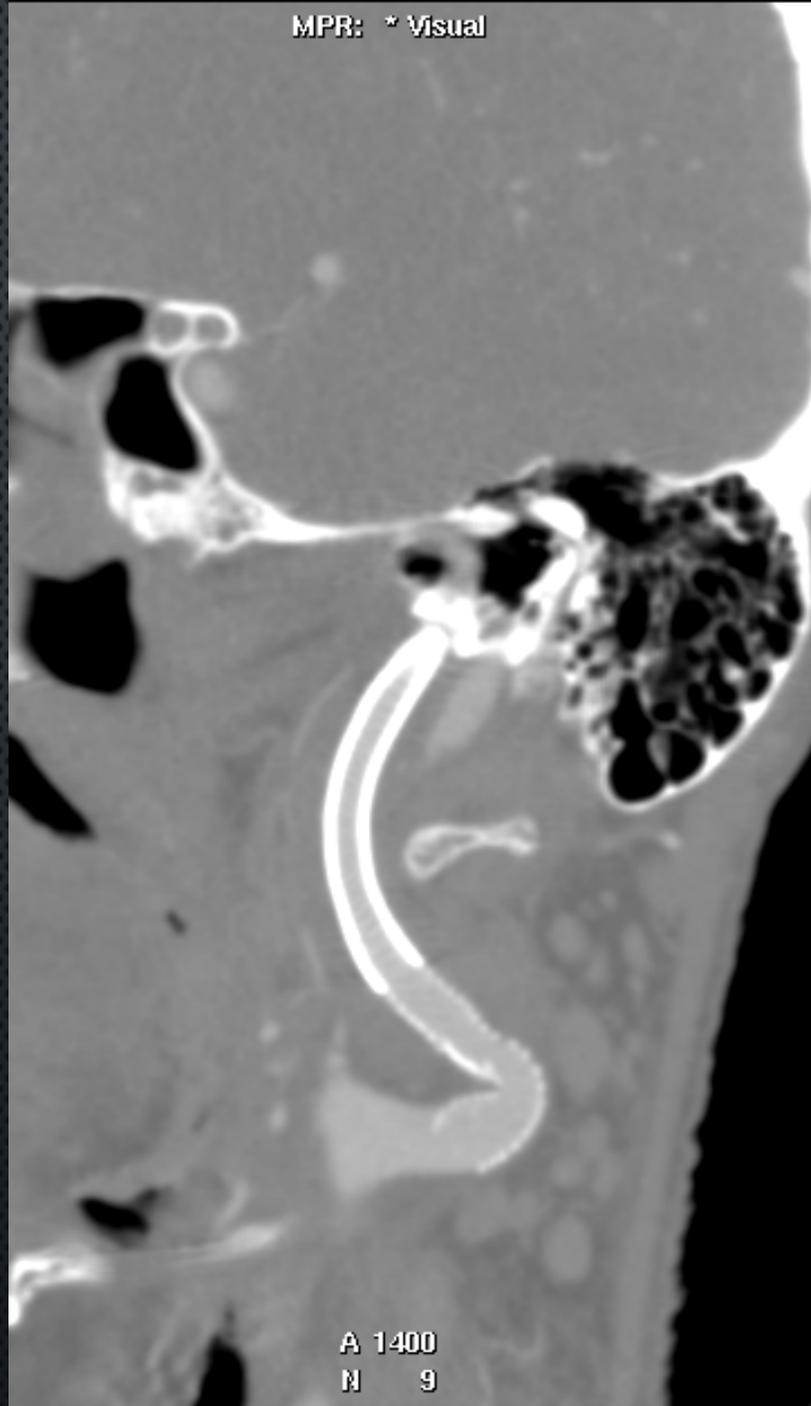
PRE



POST



MPR: \* Visual



A 1400  
N 9

A 525  
N 125

R1

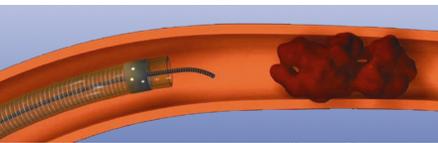
# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL :

- **VENTAJAS DE LA TÉCNICA:**

- INCREMENTA LA EFICACIA DEL PRIMER PASE (T CAROTÍDEA)
- PUEDE EVITAR EMBOLIAS A TERRITORIOS NO AFECTOS (DISTALES)

- **DESVENTAJAS:**

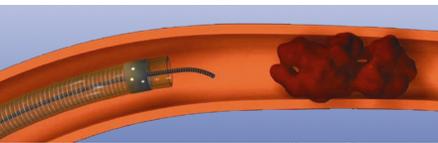
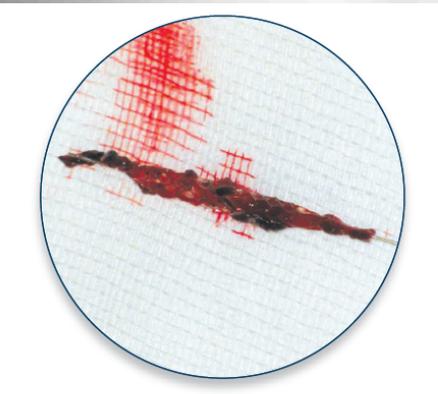
- ATRAVESAR EL TROMBO



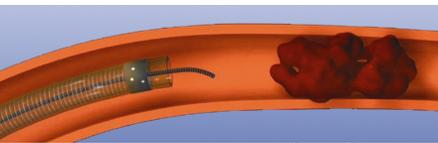
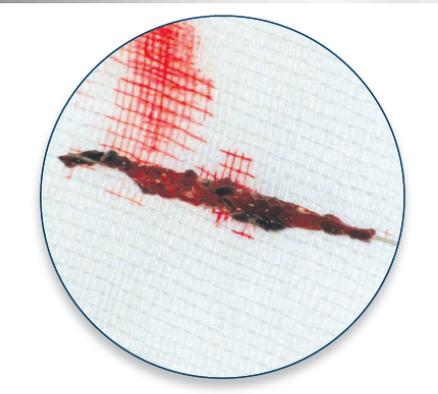
# TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL :

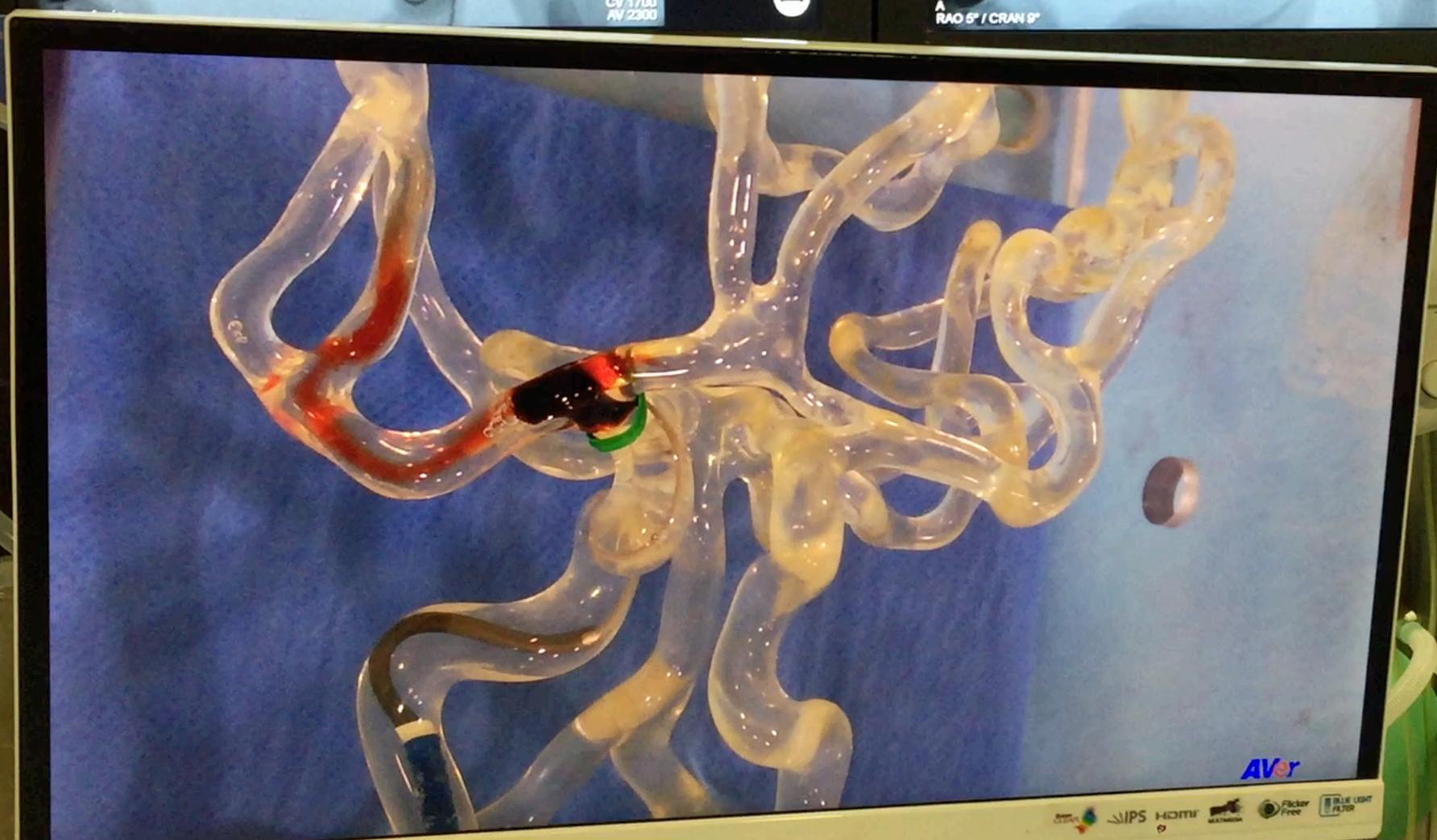
- **ASPECTOS TÉCNICOS:**

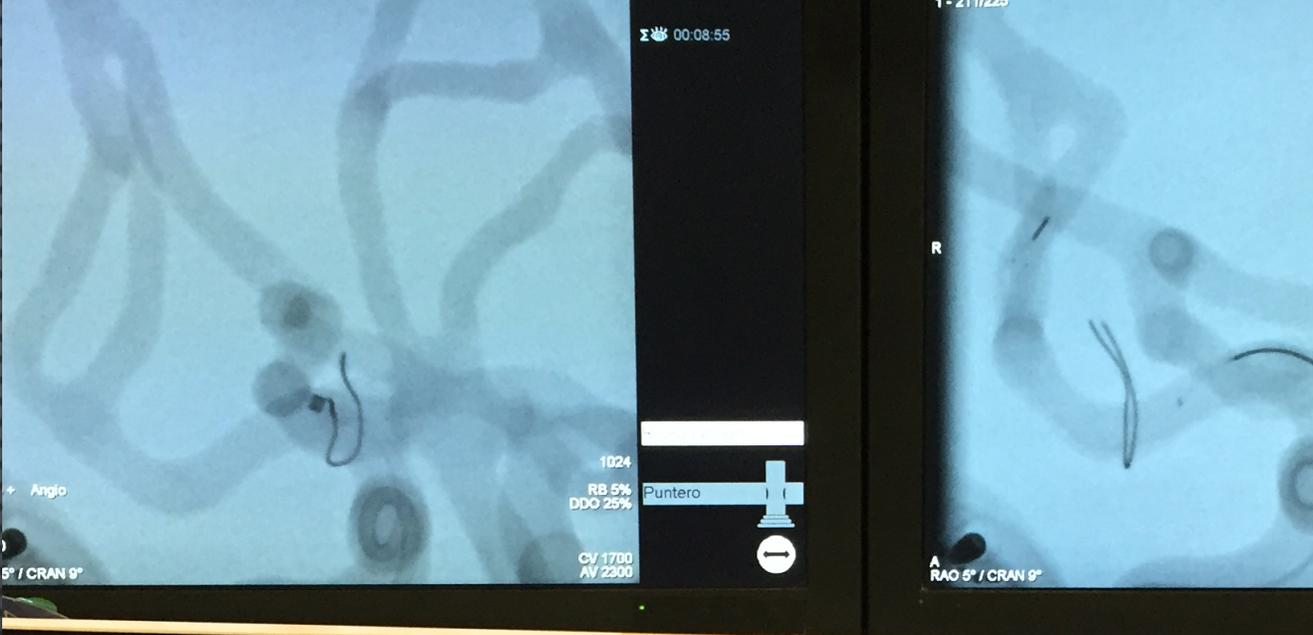
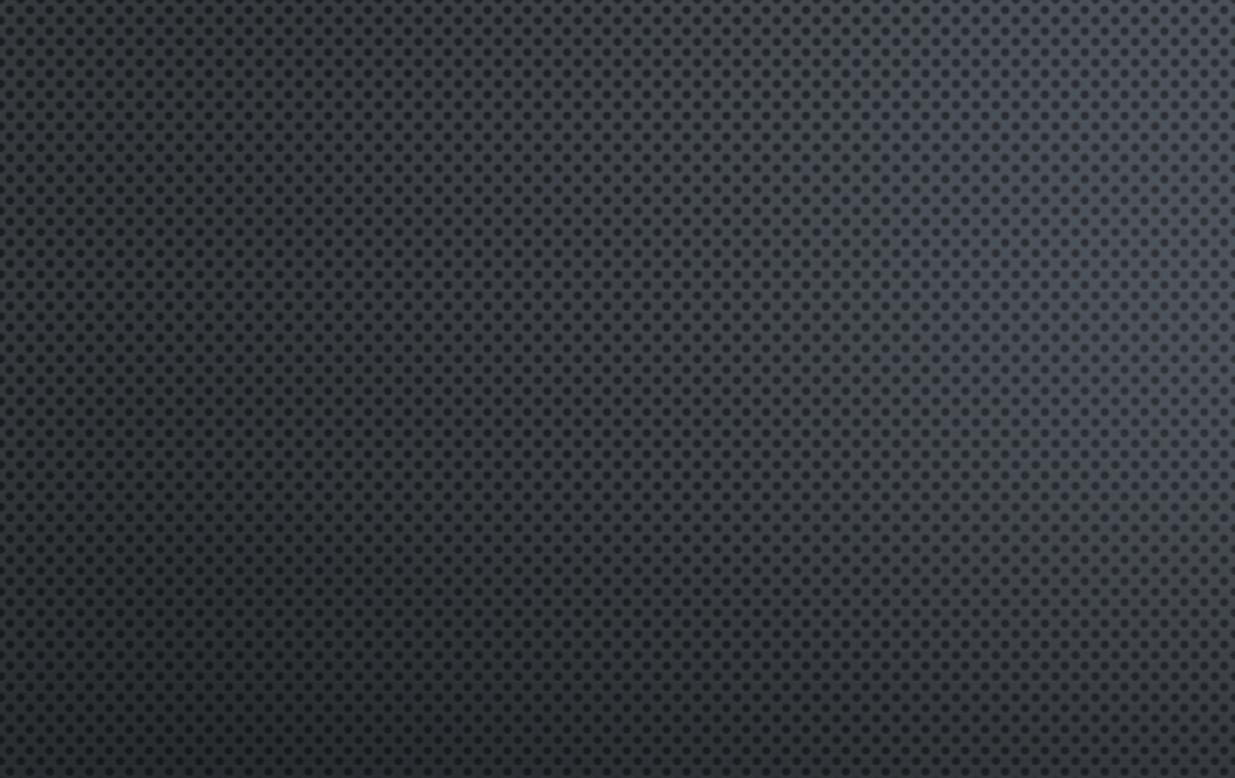
- ¿ CATÉTER BALÓN ?
- POSICIONAMIENTO
- MANIOBRA DE DESPLIEGUE DEL RETRIEVER
- ¿ EPIC/TRAP/SAFE O SOLUMBRA ?



# TROMBECTOMÍA POR ASPIRACIÓN DIRECTA

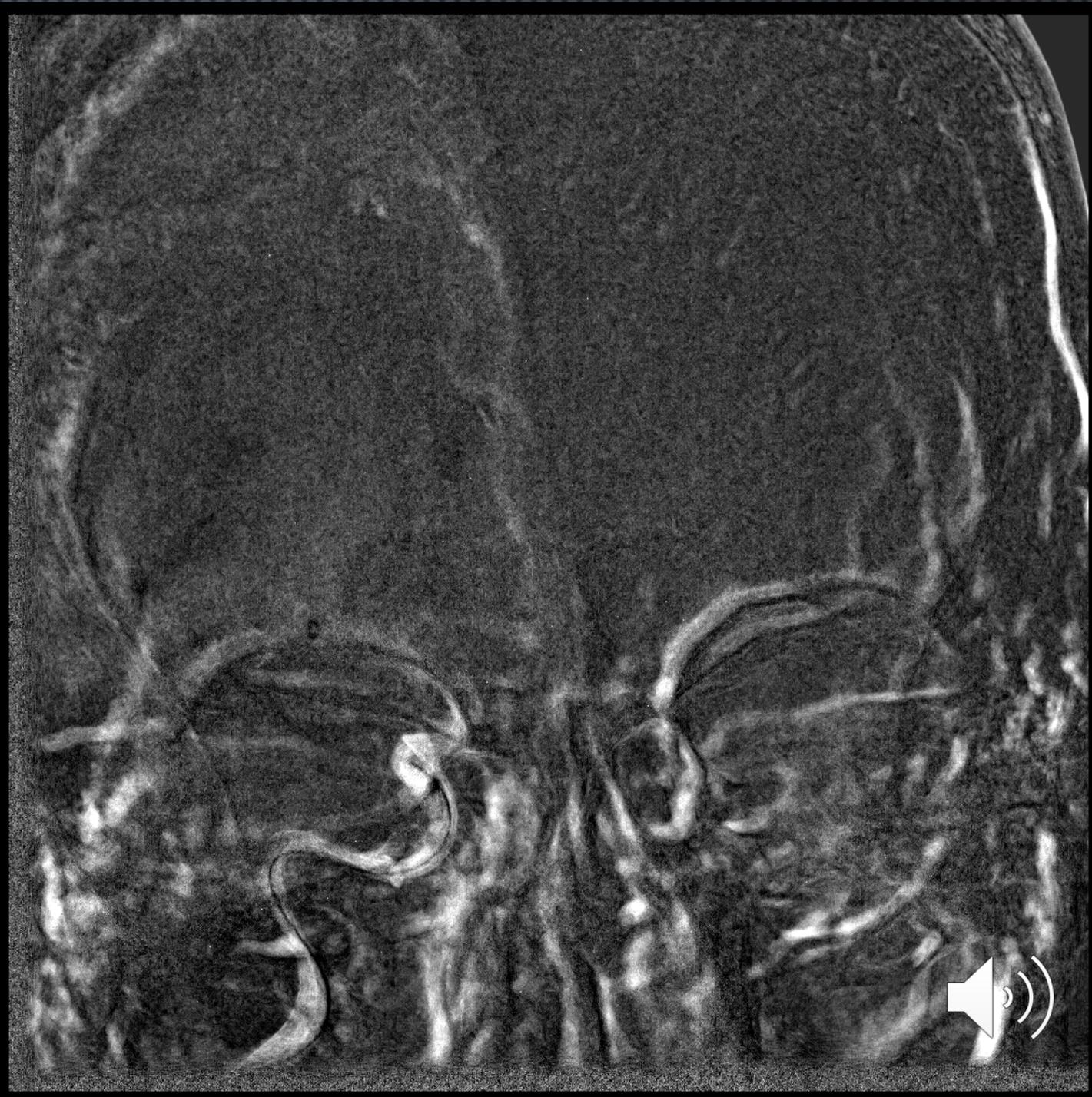








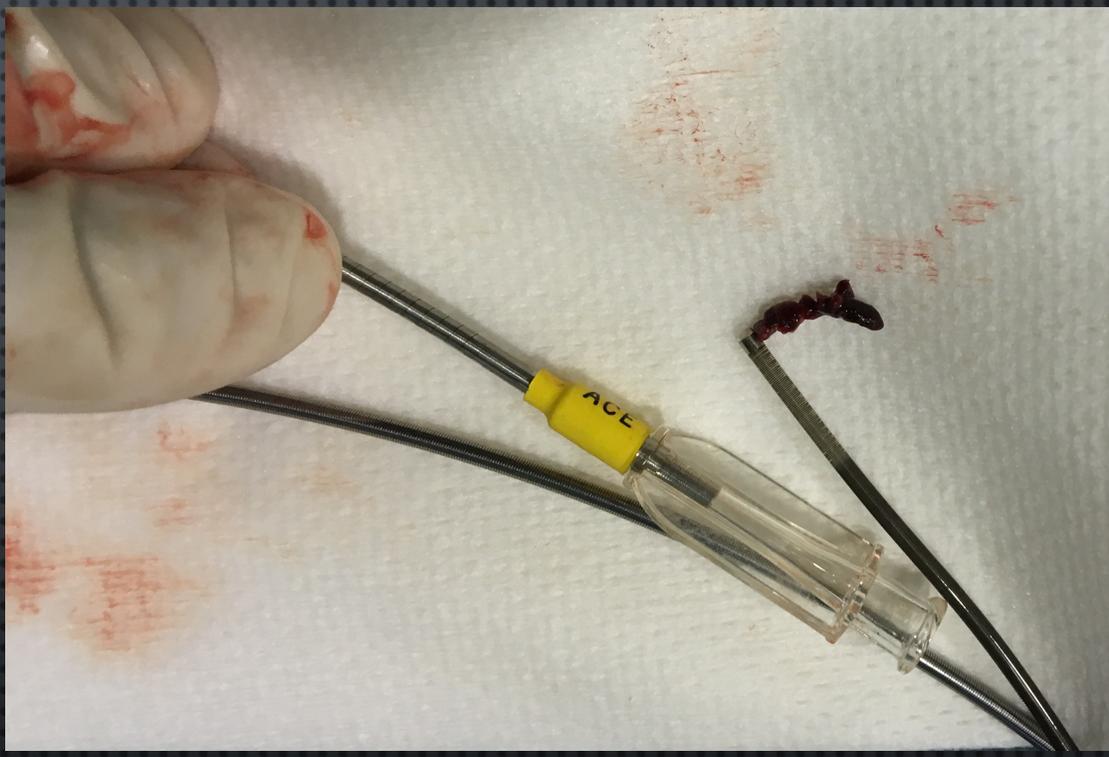


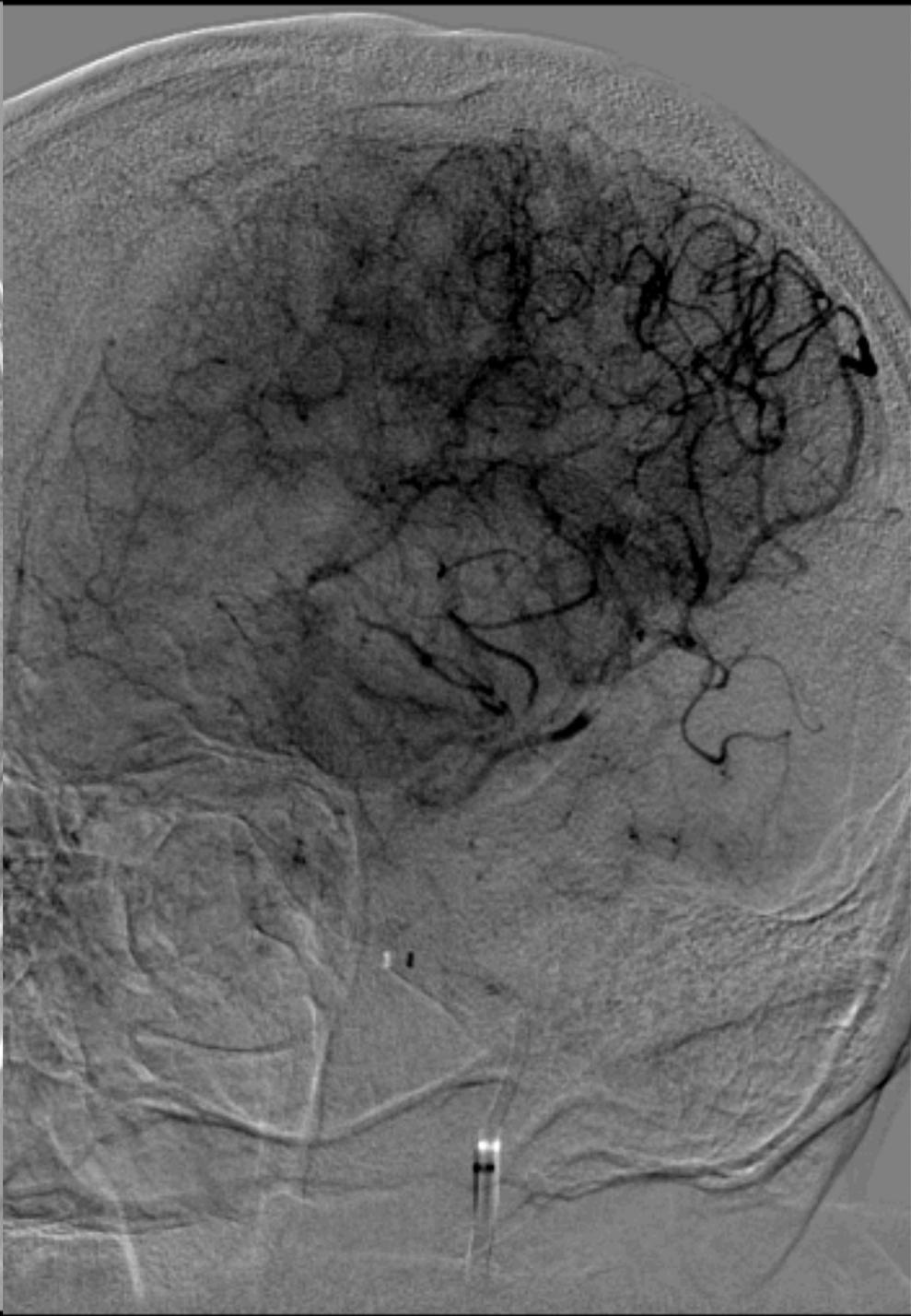






A. Carotida Dcha.  
Post-procedimiento













Pre



Post



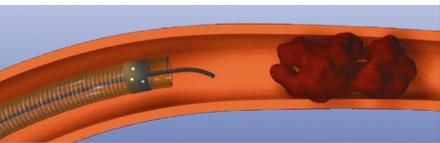
# TROMBECTOMÍA POR ASPIRACIÓN DIRECTA:

- **VENTAJAS DE LA TÉCNICA:**

- VELOCIDAD
- NO ATRAVIESA EL TROMBO
- PERMITE USAR TÉCNICAS ASOCIADAS (ASPIRACIÓN DISTAL)
- POCO TRAUMÁTICA EN TROMBOS DISTALES (NO TIENE EFECTO DE ANCLAJE DISTAL)

- **DESVENTAJAS:**

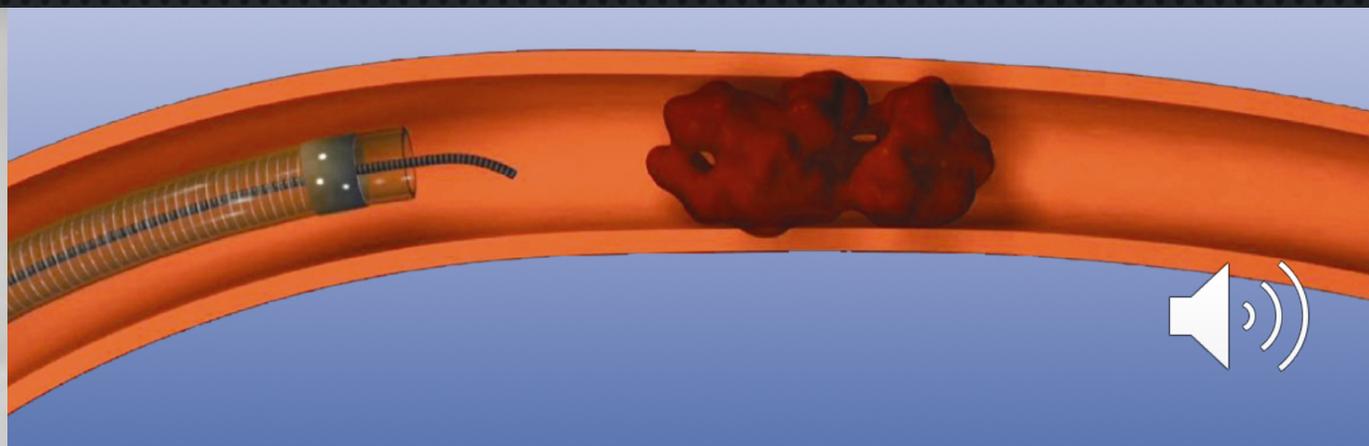
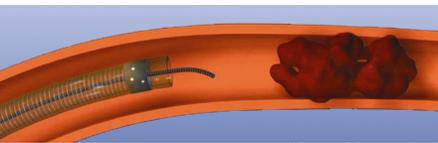
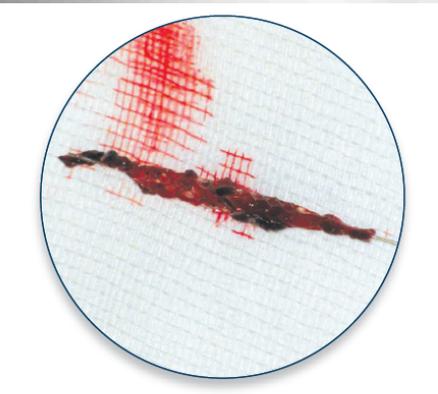
- COMPLEJIDAD DE CATETERIZACIÓN



# TROMBECTOMÍA POR ASPIRACIÓN DIRECTA:

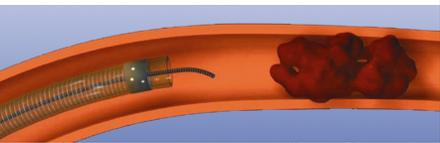
- **ASPECTOS TÉCNICOS:**

- ¿ CATÉTER BALÓN ?
- POSICIONAMIENTO
  - INTRODUTOR LARGO EN CARÓTIDA PETROSA-PARACLIVAL
  - ENFRENTAMIENTO DEL CATÉTER AL TROMBO



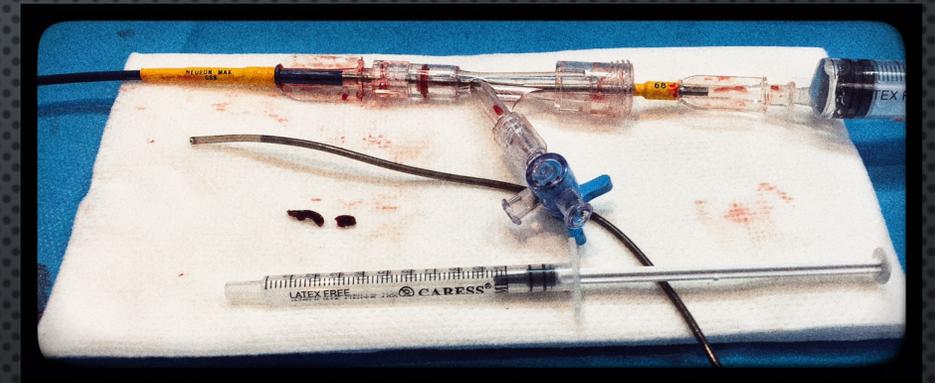
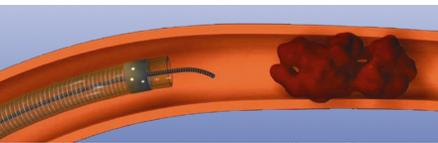
# CONCLUSIÓN:

- TÉCNICAS DE TROMBECTOMÍA:
  - TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN PROXIMAL
  - TROMBECTOMÍA CON STENTRIEVER Y ASPIRACIÓN DISTAL
  - TROMBECTOMÍA CON ASPIRACIÓN DIRECTA





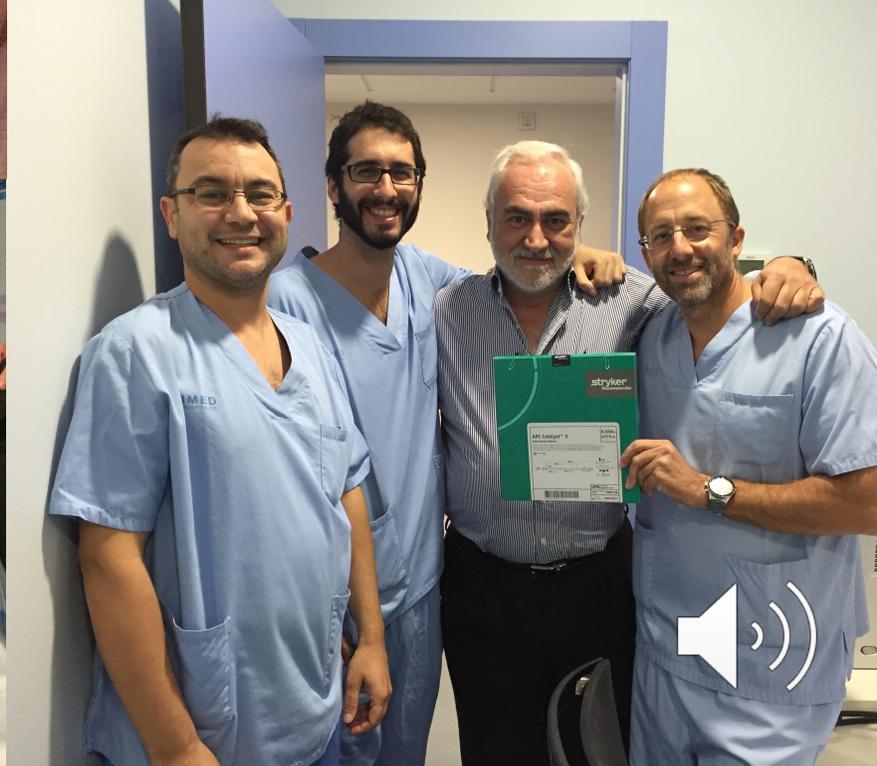
# TÉCNICAS DE TROMBECTOMÍA: ¿QUÉ HEMOS APRENDIDO? (2008-2021)



## CONCEPTOS GLOBALES

- SACAR TROMBO-ÉMBOLO EN BLOQUE
- MAXIMIZAR EFICACIA DE PRIMER PASE
- OCLUSIÓN DE GRAN VASO = MAL PRONÓSTICO INDEPENDIEMENTE DE LA MEJORA CLÍNICA
- IRREGULARIDADES-ESTENOSIS = ALTA TASA DE REOCLUSIÓN





# Gracias



¡¡DECID  
TROMBECTOMÍA!!





GRACIAS

