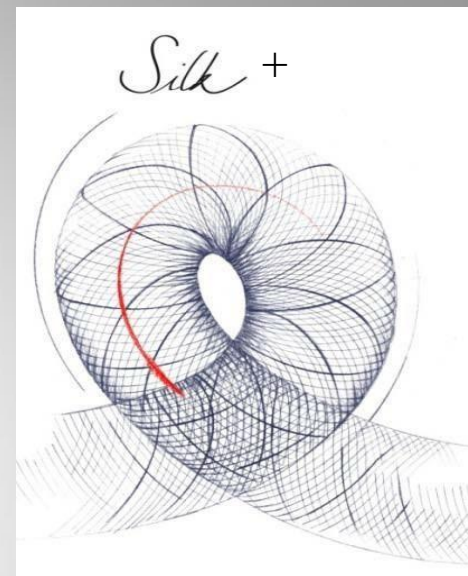


Esperienze nel trattamento degli aneurismi con flow diverter

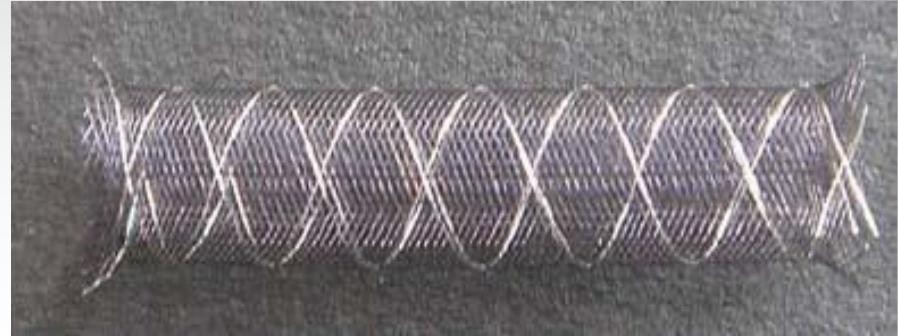


Dikran Mardighian UOC Neuroradiologia Spedali Civili Brescia
d.mardighian@gmail.com



SILK+ : caratteristiche

- **INTRECCIATO: 48 cavi**
- **AUTO-ESPANDIBILE**
- **CON ESTREMITÀ ALLARGATE**
- **REINSERIBILE NELLA GUAINA e RIPOSIZIONABILE** anche quando è aperto fino al 90%
- **NITINOLO, COMPATIBILE CON MIC 0,21"**

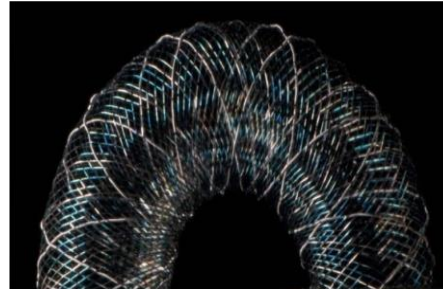


MA....

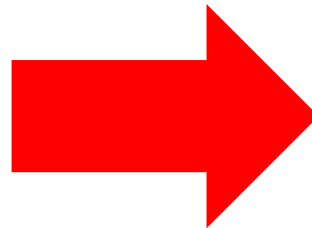


SILK+ : PROGRESSI

SILK +



**ELEVATA
RADIOPACITÀ
« EFFETTO BORDER »**



8 cavi più piccoli in Pt nell'intreccio dello stent + 4 marker radiopachi.

**ATTRITO
CONTROLLATO**

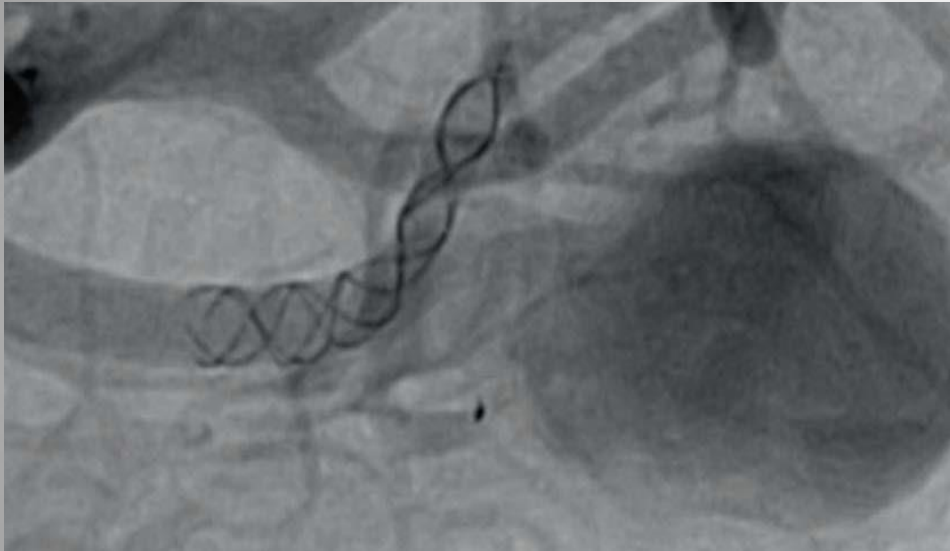


Grazie a

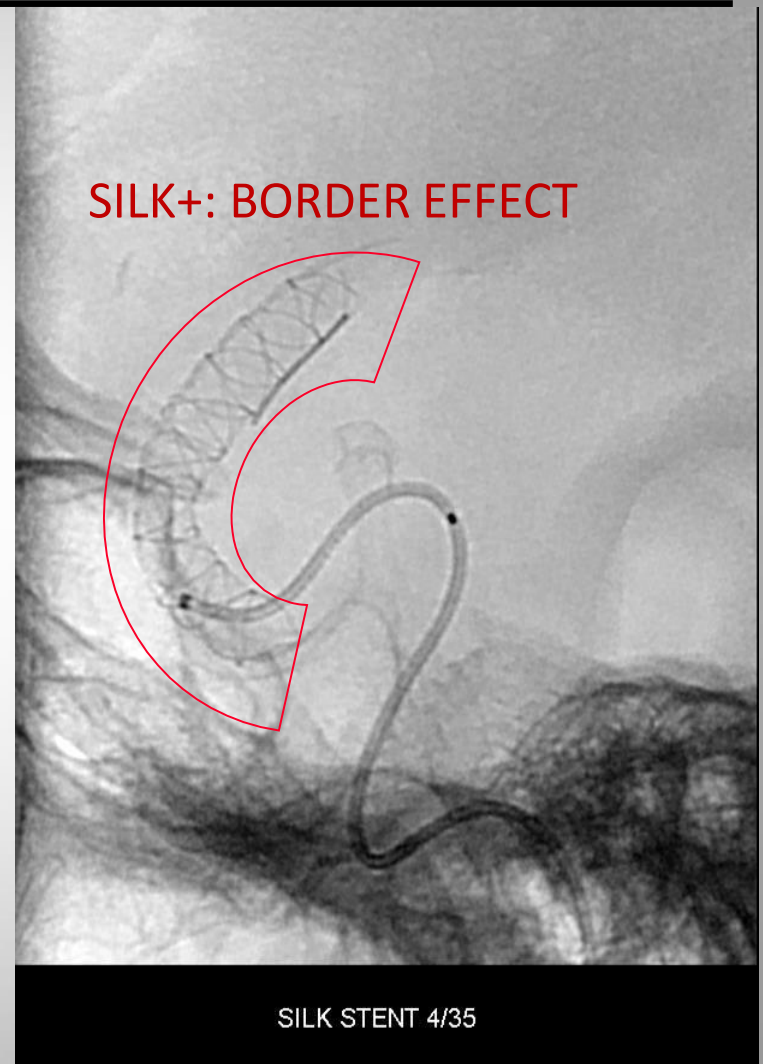
Progressi del pusher:
- **maggiore capacità di scorrimento,**
- **extra-flessibile e punta distale più corta (9mm).**



SILK+ : IL BORDER EFFECT



SILK PRECEDENTE: Nessun "border effect"





SILK+

CONSIGLI e SUGGERIMENTI



SILK+: Fasi dello Svolgimento 1/2

Fig.1

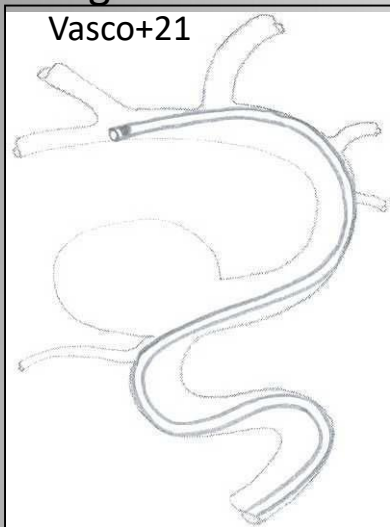


Fig.2

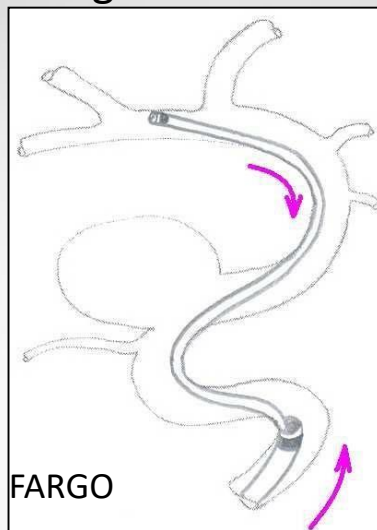
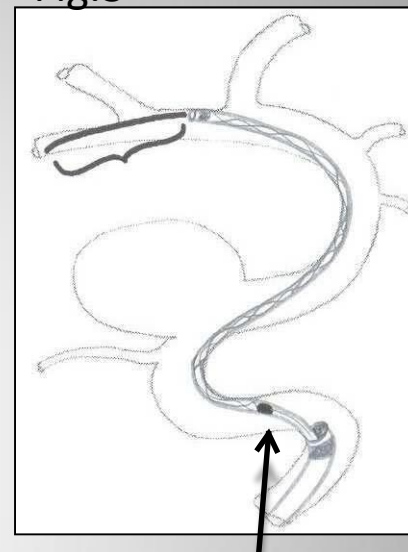


Fig.3



SILK+ marker prossimale

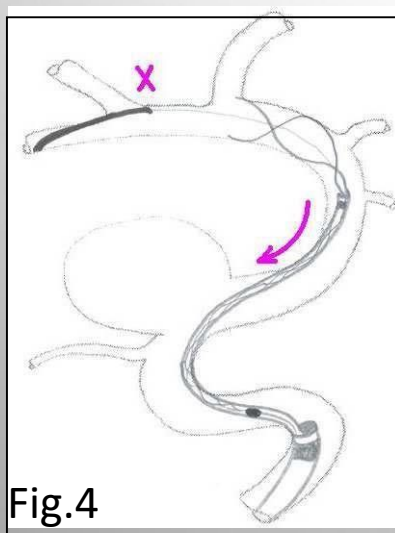


Fig.4

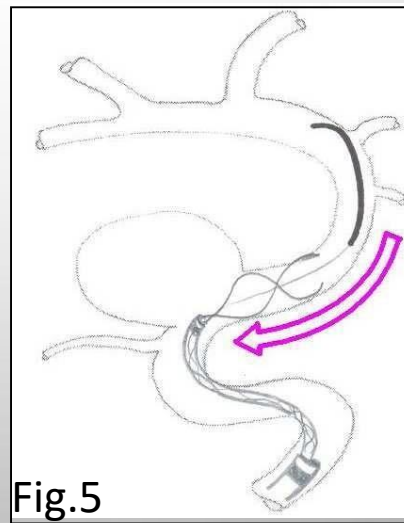


Fig.5



SILK+: Fasi dello Svolgimento 2/2

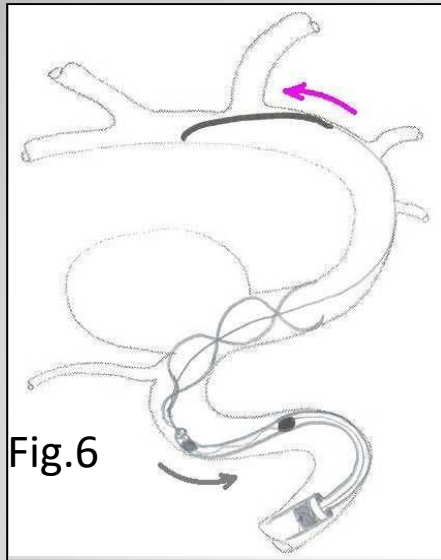


Fig.6

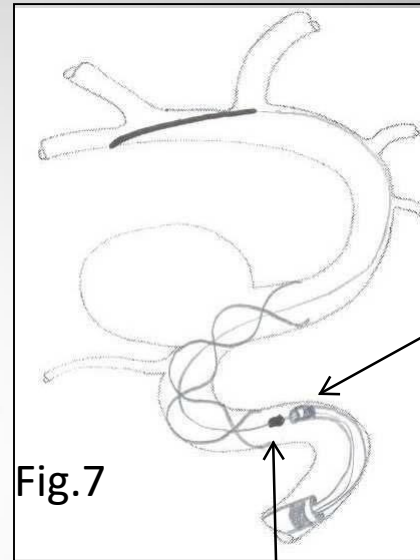


Fig.7

Vasco+ marker

SILK + marker prossimale

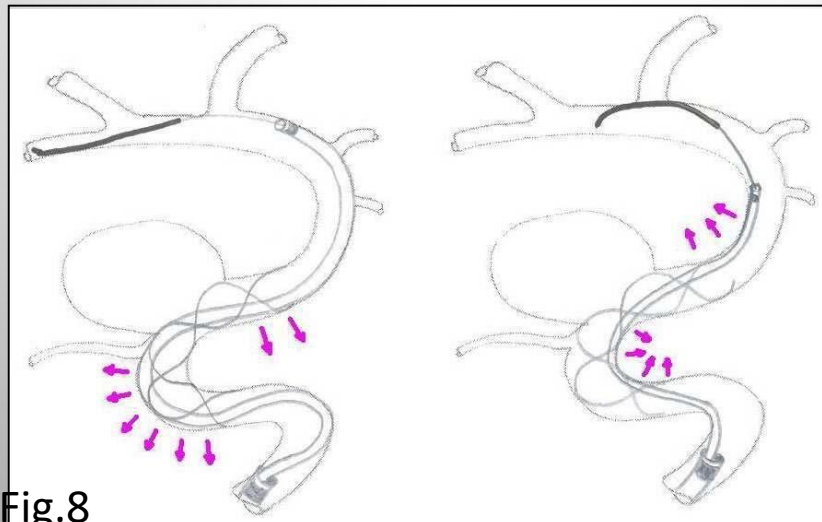


Fig.8



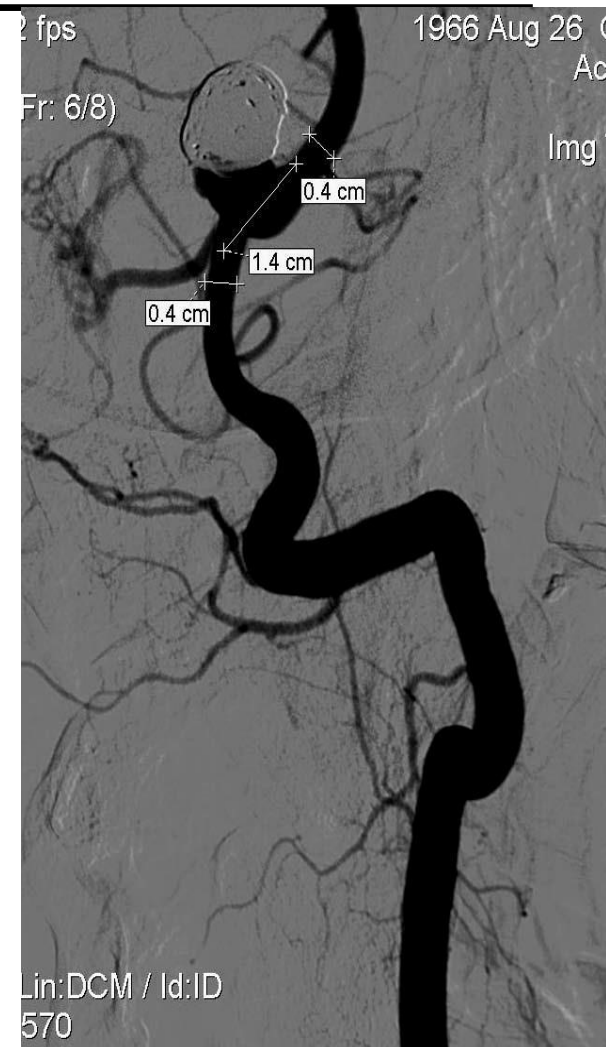
SILK+

3. DIMENSIONI



Scelta delle dimensioni di SILK+

Nella scelta delle dimensioni dello stent è preferibile una misura sulle ricostruzioni MPR



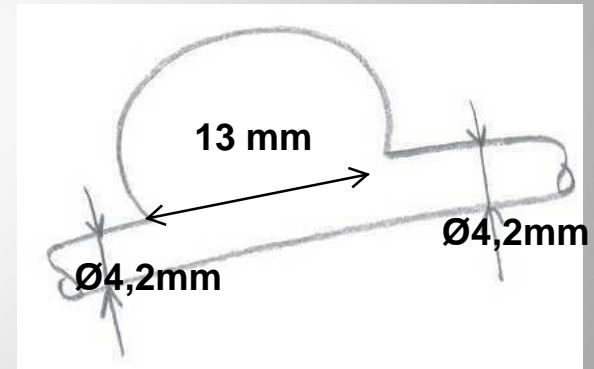


Scelta delle dimensioni di SILK+

- REGOLA 1: il diametro di SILK+ deve essere **il più piccolo tra quelli compatibili** con l'arteria.

- **Lunghezza:**

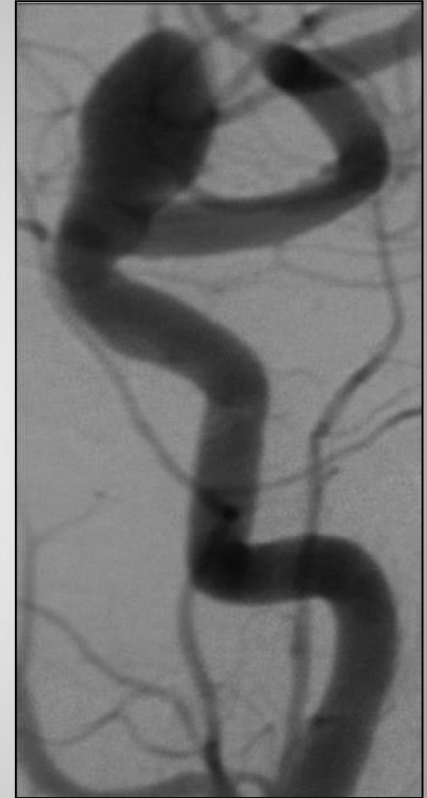
- Si consigliano **10 mm su ogni lato**.





Scelta delle dimensioni di SILK+

- **REGOLA 2:** Se le arterie distale e prossimale **differiscono nel diametro** in modo significativo:
 - Deve essere scelto **con il diametro più piccolo** purchè il diametro maggiore non superi il diametro di SILK completamente aperto
 - Se la differenza tra i diametri è estremamente significativa, il SILK+ scelto deve avere un **diametro "Fully Open" pari al diametro maggiore.**



Ø Dist.: 3,9
Ø Pross.: 4,4
Lunghezza: 10mm

Preparazione farmacologica

- **Elezione** : doppia antiaggregazione plavix e ASA 7-10 gg prima. Sacche eparinate, 2 mg Nimodipina
- **Urgenza** : appena rilascio lo stent-bolo ev di abiciximab + 5mg in 250 ml NaCl in pompa + 75 mg Plavix al termine dell'infusione di abiciximab.

Aneurisma rotto

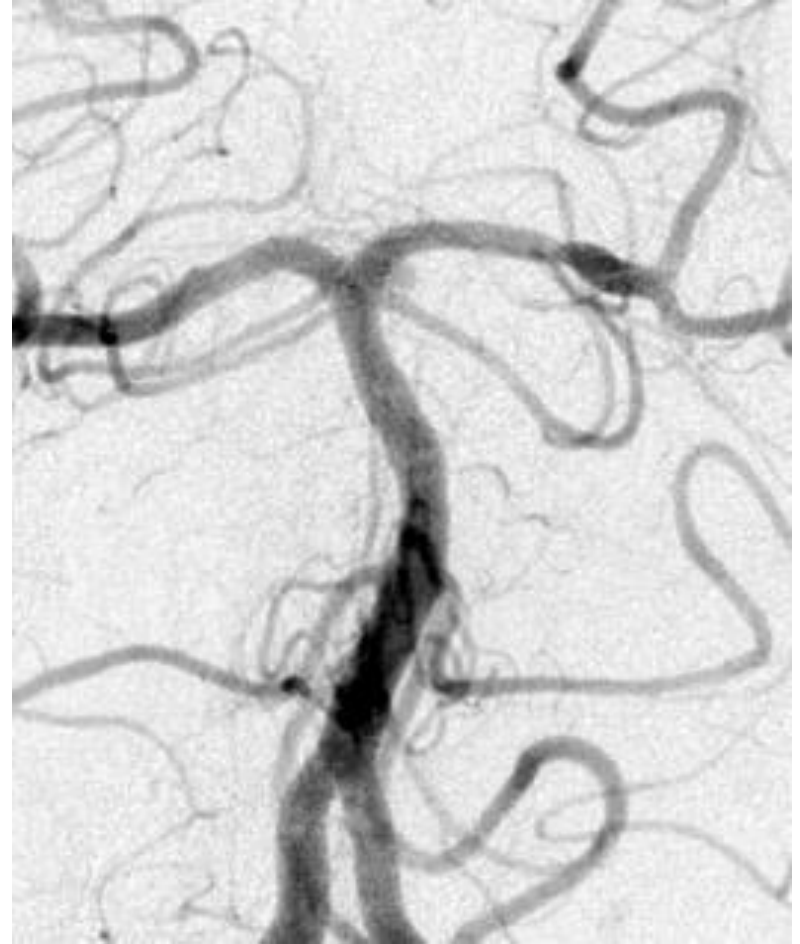
- Stent FD ultima scelta
 - Vasospasmo post ESA
 - Antiaggregazione pesante
 - **FD solo per Blister o disseccanti BA**

Prima di posizionare lo stent valutare se è necessaria la DVE (meglio posizionarla prima della doppia antiaggregazione)

Blister ACI



Aneurisma rotto



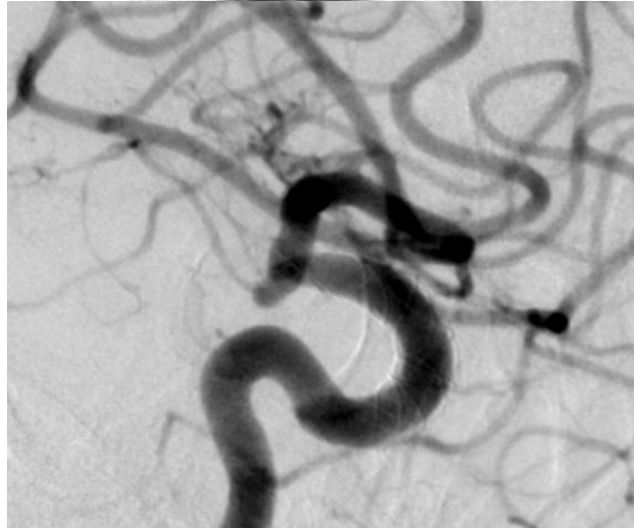
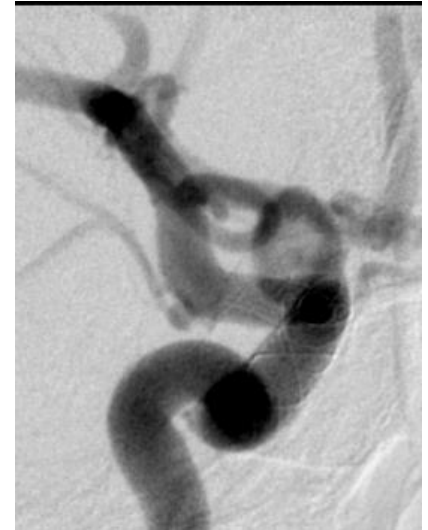
ELEZIONE SIFONE

- Colletto ampio (spt all'inizio dell'esperienza FD)
- Carotido-oftalmico
- Parete posteriore (attenzione alla PCom)

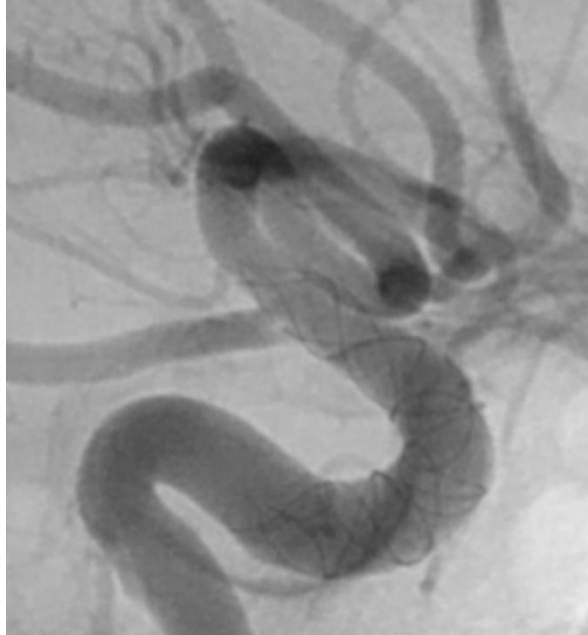
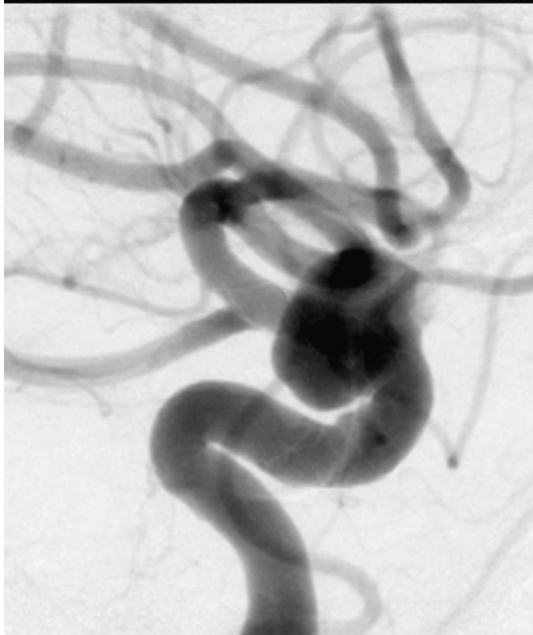


Prima scelta FD

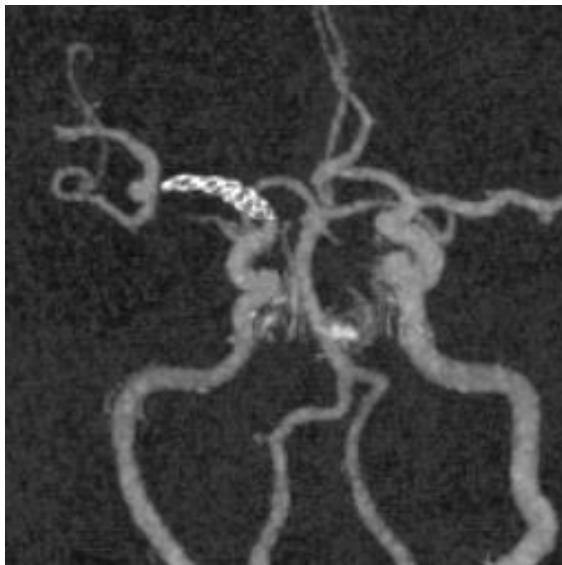
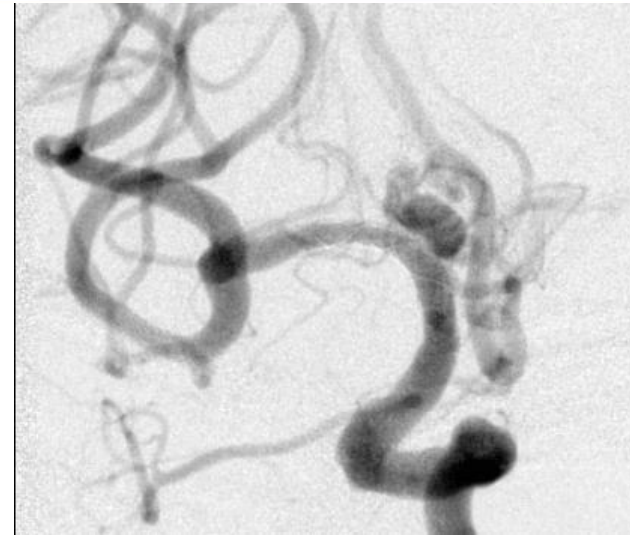
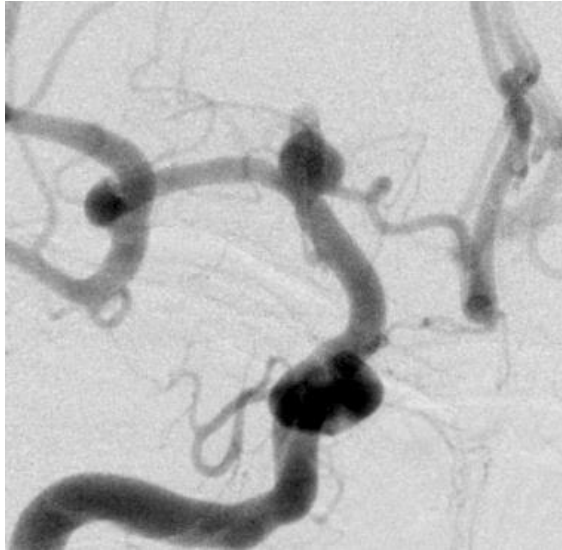
Elezione sifone



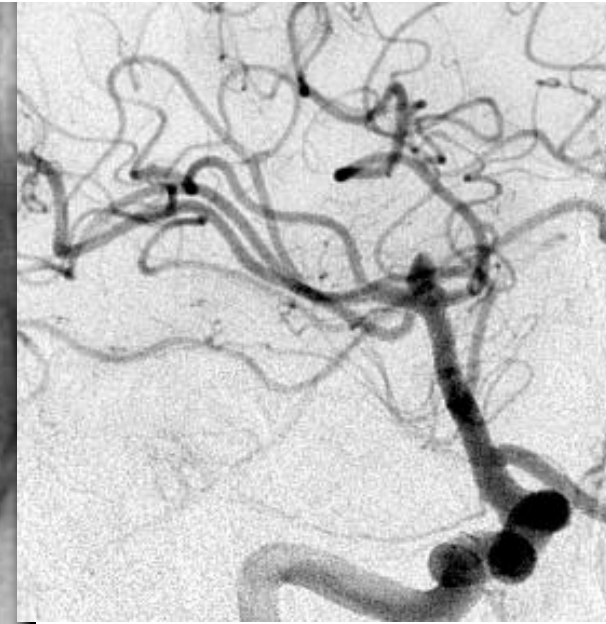
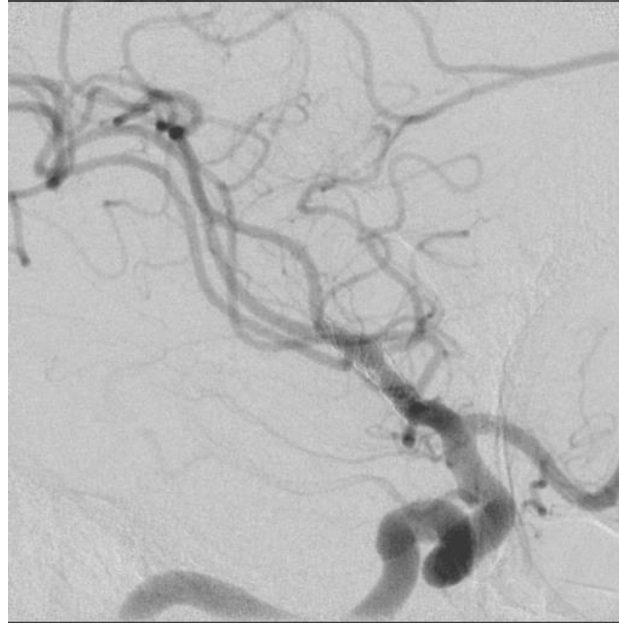
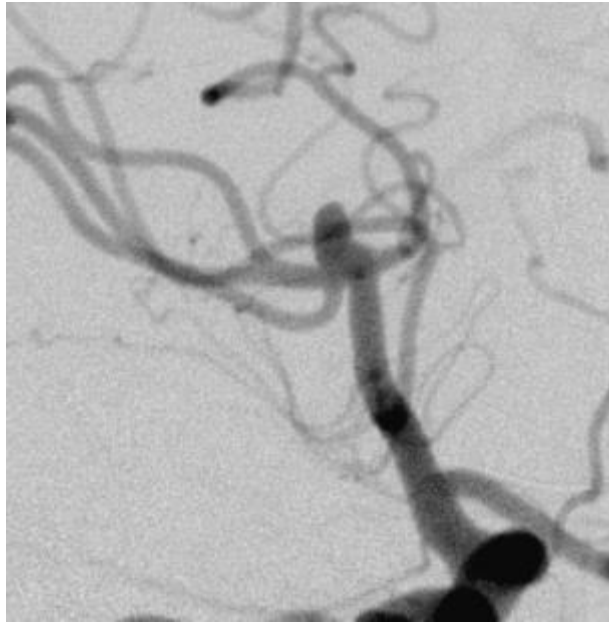
Elezione sifone



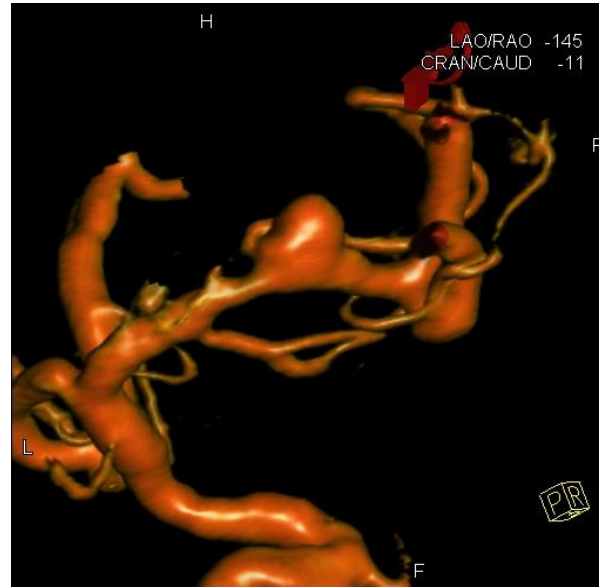
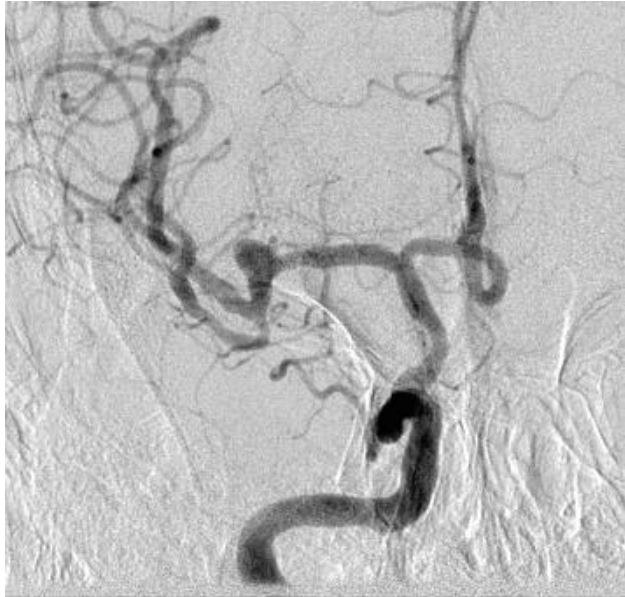
ELEZIONE APICE ACI

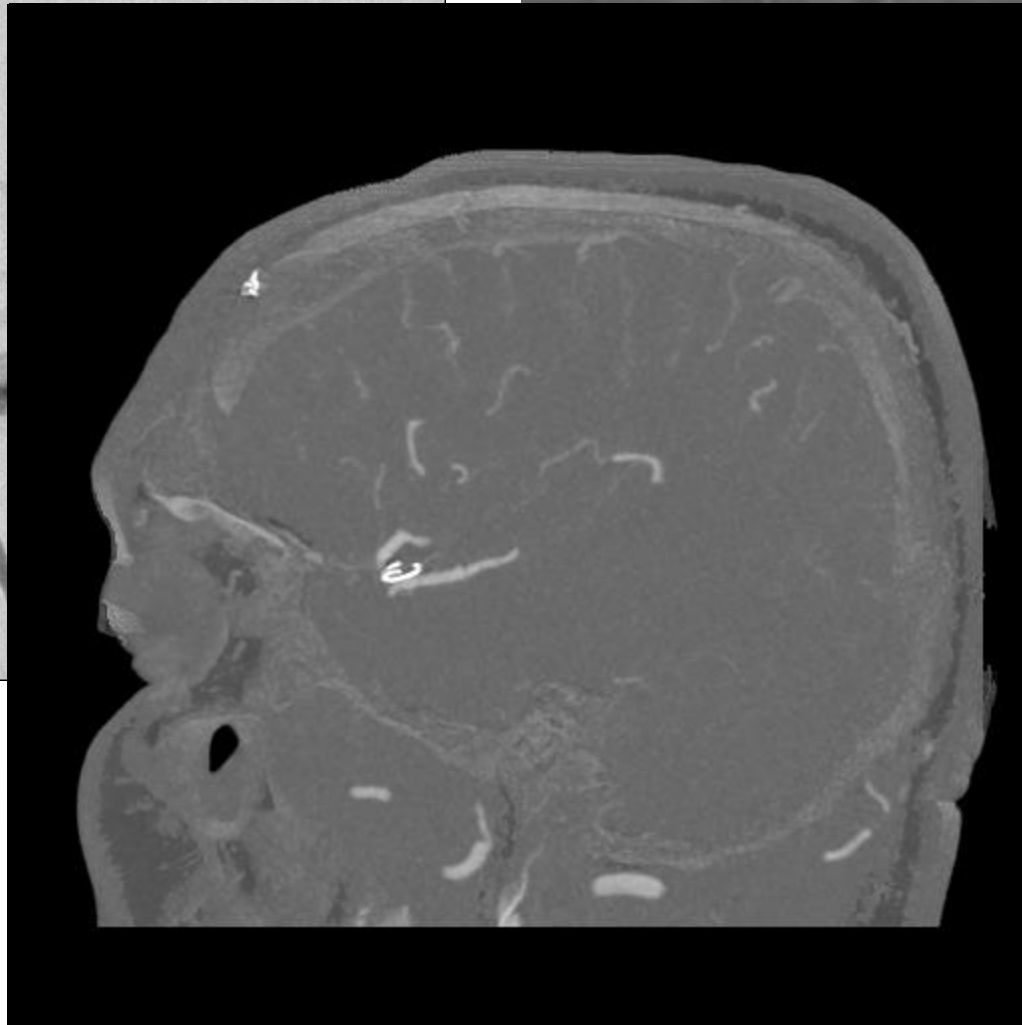
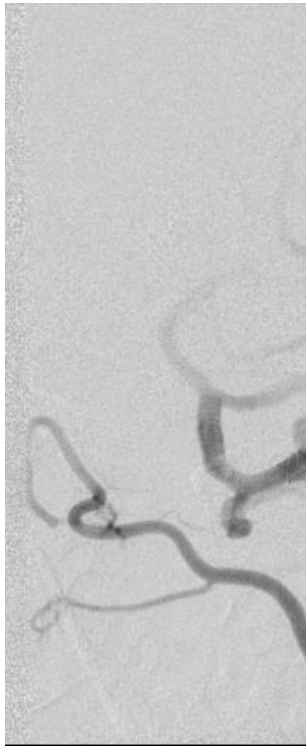


ELEZIONE ACM



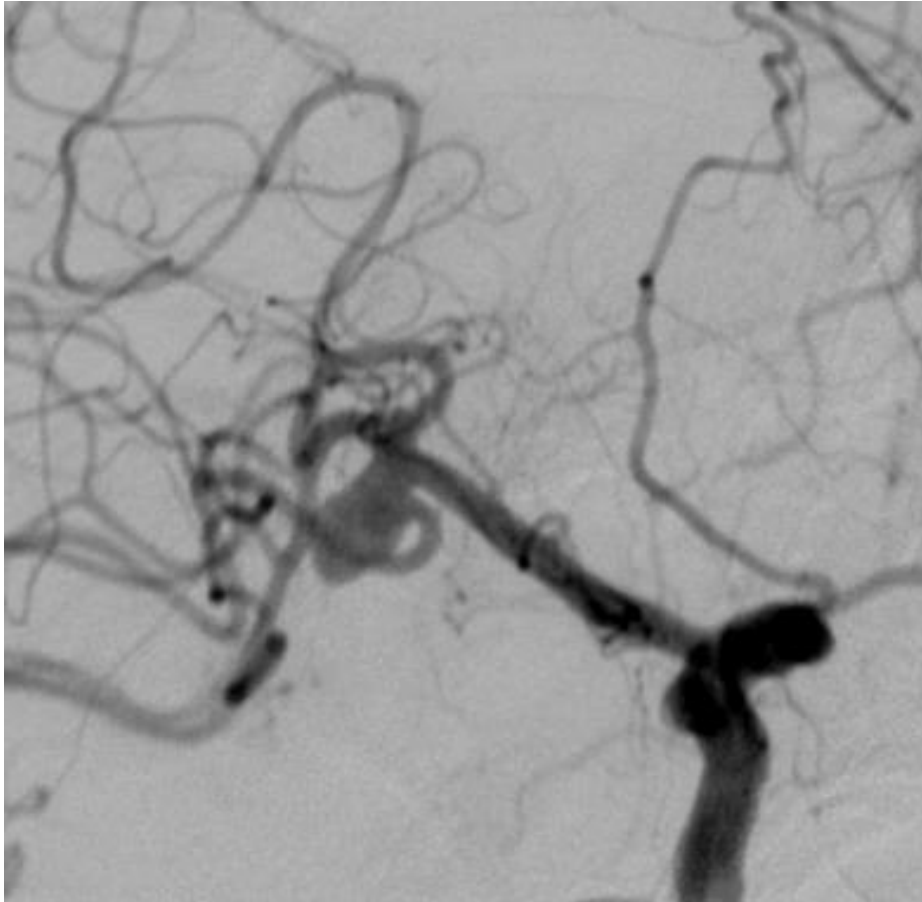
ELEZIONE ACM

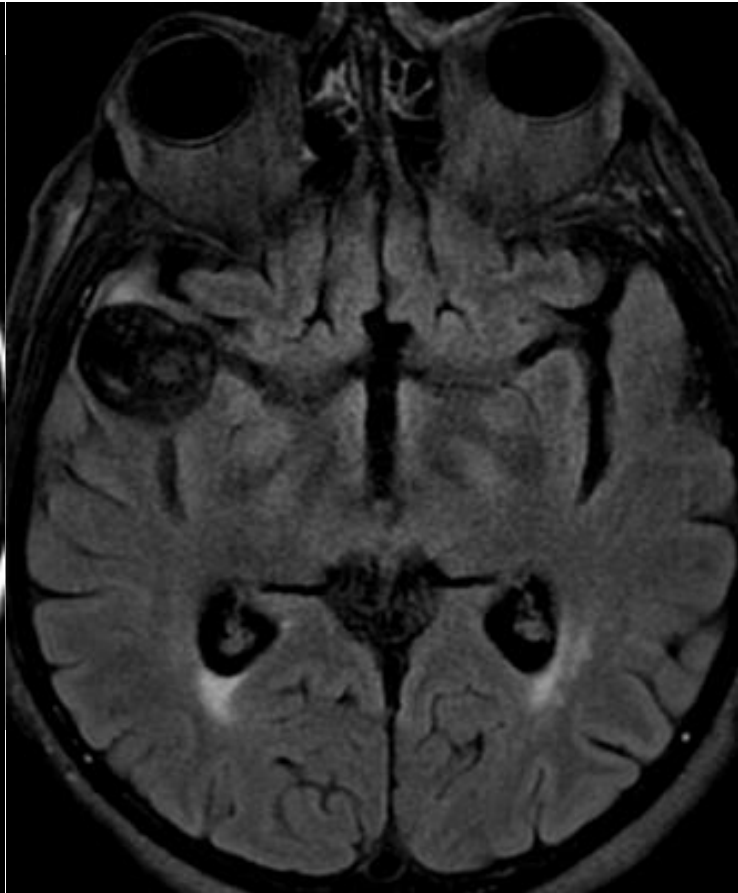
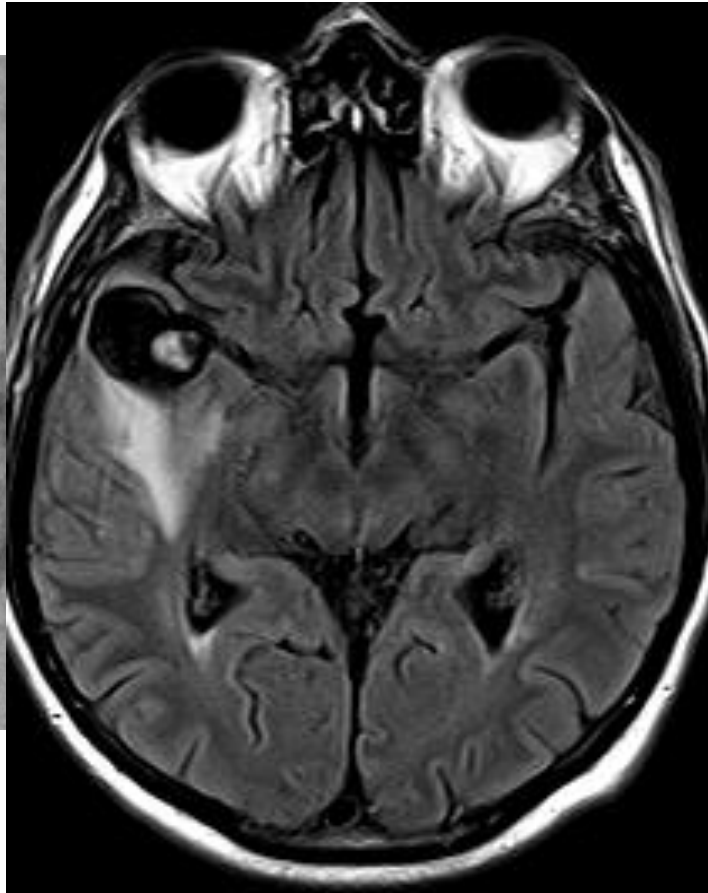




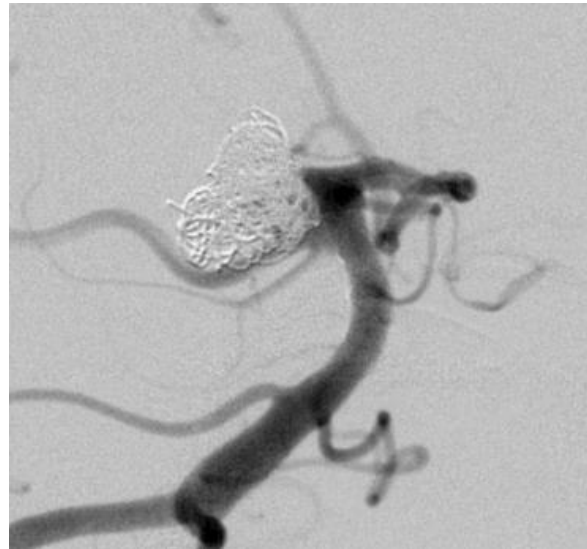
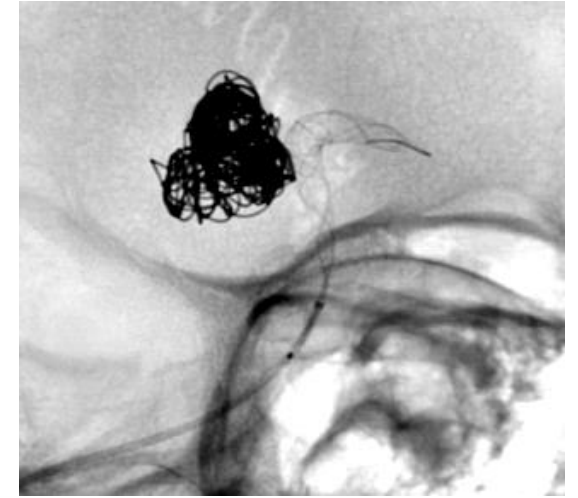
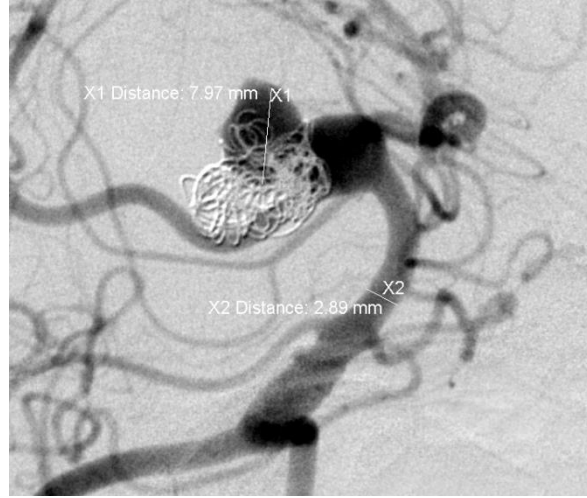
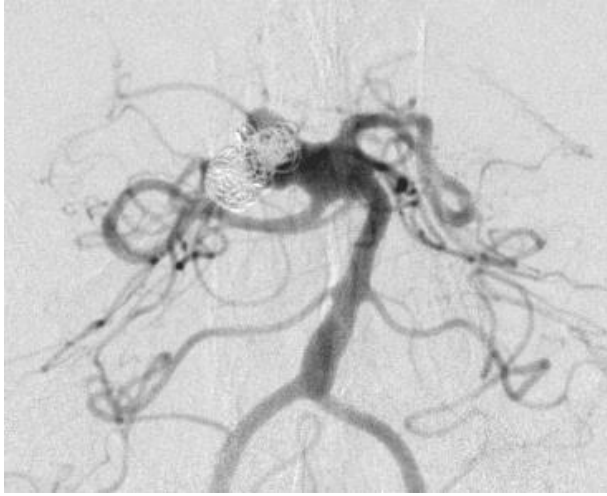
ELEZIONE ACM



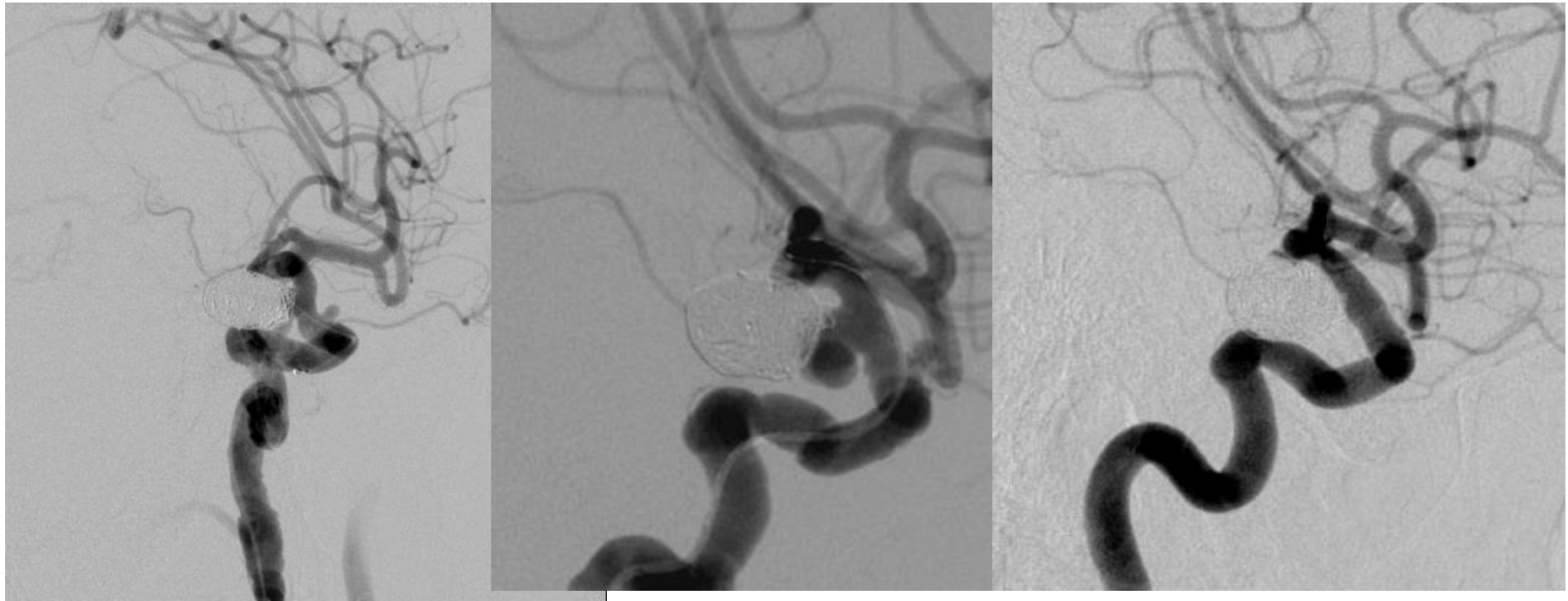




REMNANTS



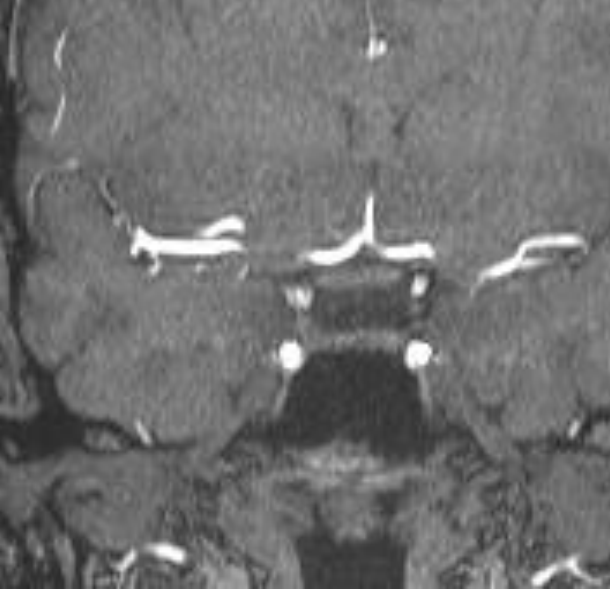
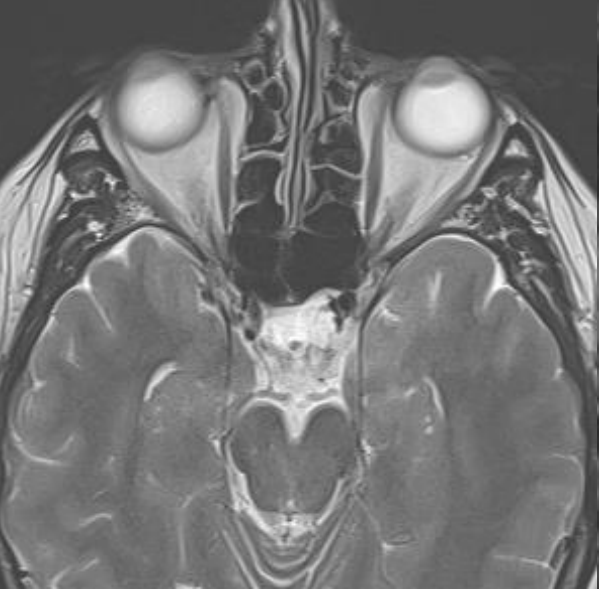
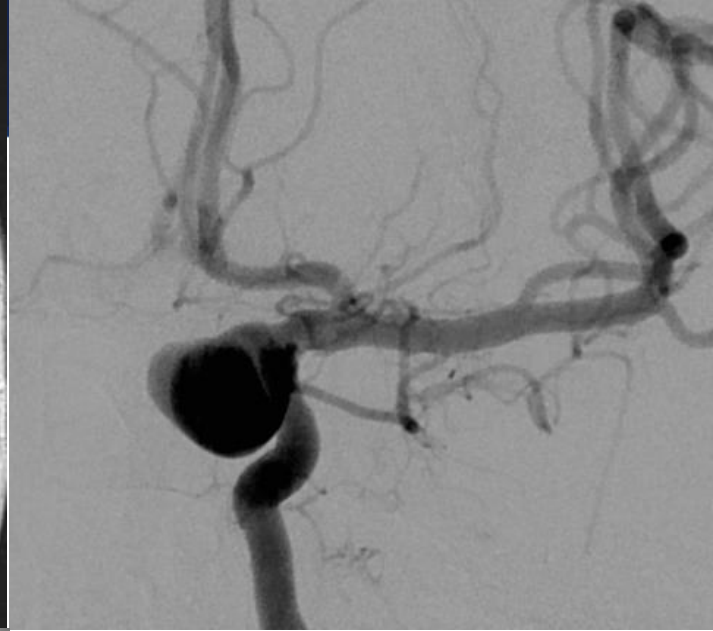
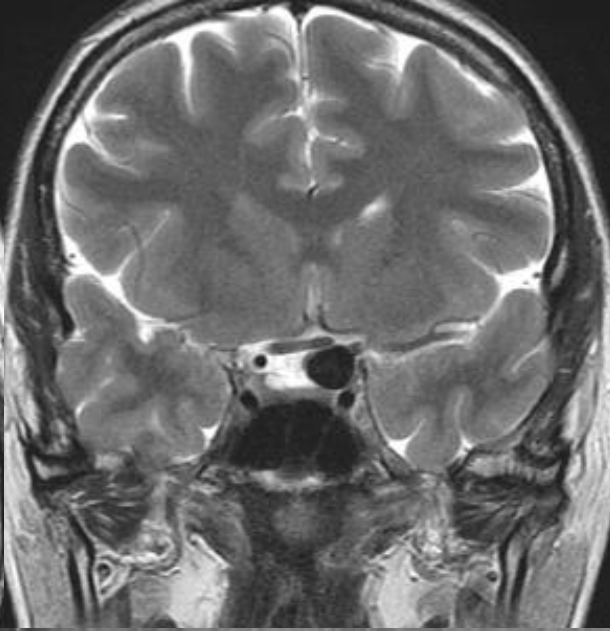
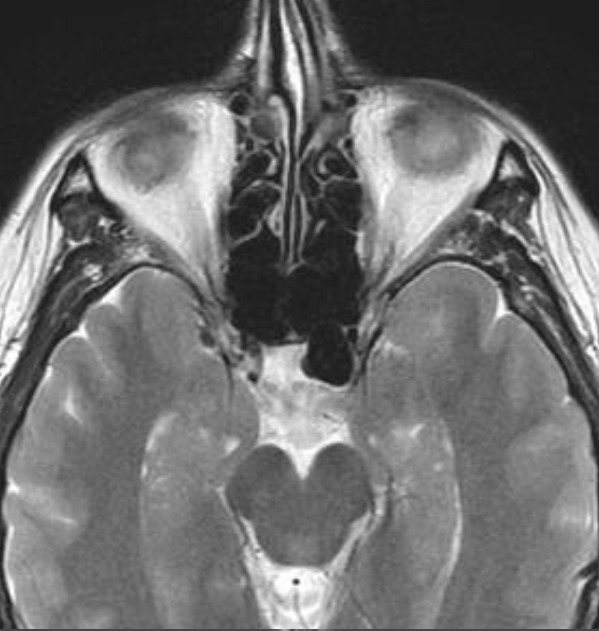
REMNANTS ACI



Come effettuare il follow-up

Doppia antiaggregazione fino al 3° mese

- Angio-TC o Angio RM CE sospendo Plavix
 - Angiografia a 6 mesi, Pz giovani sospendo ASA
 - **Sempre RM !!!!**



Complications associated with the use of flow-diverting devices for cerebral aneurysms: a systematic review and meta-analysis

Geng Zhou, PhD,¹ Ming Su, MD,² Yan-Ling Yin, MD,³ and Ming-Hua Li, PhD¹

¹Department of Diagnostic and Interventional Radiology, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai; ²Shandong Academy of Chinese Medicine, Lixia, Jinan; and ³Department of Anesthesiology, The Military General Hospital of Beijing PLA, Beijing, China

G. Zhou et al.

Neurosurg Focus 42 (6):E17, 2017

TABLE 2. Summary of complication and mortality rates of FDDs stratified by different categories

Complication	% Type of Device						% (Total) of All Complications
	PED (n = 1570)	Silk (n = 360)	FRED (n = 62)	Surpass (n = 202)	Multiple Devices (n = 614)	Other Devices (n = 317)	
Minor	3.7 (58)	0.2 (1)	4.8 (3)	5.9 (12)	2 (12)	3.2 (10)	16.1 (96/596)
Intermediate	13.7 (215)	15 (54)	0	34.7 (70)	5.7 (35)	12 (38)	69.1 (412/596)
Severe	3.1 (49)	2.2 (8)	4.8 (3)	4 (8)	2.4 (15)	1.6 (5)	14.8 (88/596)
Death	1.8 (29)	2.8 (10)	0	2 (4)	4.6 (28)	0.3 (1)	

3125 pazienti

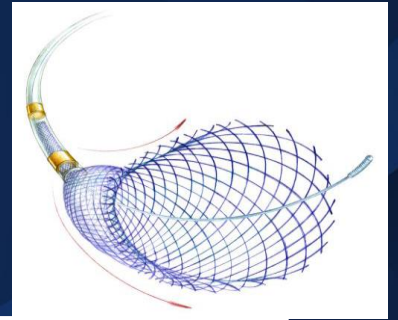
Conclusions

According to the preliminary series, the complication and mortality rates associated with the use of FDDs appears to be satisfactory, specifically in the context of complex aneurysms. However, the mechanism of delayed

Conclusioni

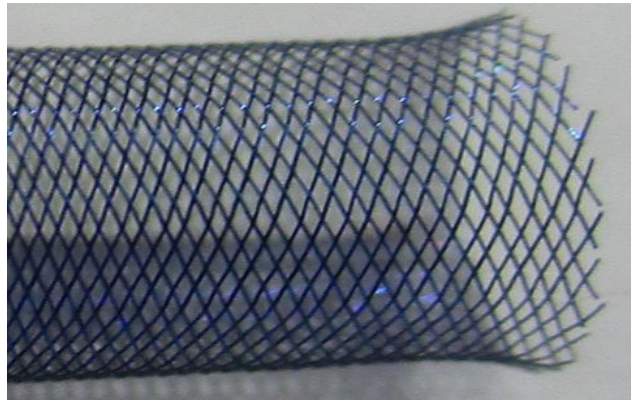
- Stent FD impiantati circa 170
- Stent non rilasciati 3 (1 per estrema prudenza)
- Occlusione al controllo (asintomatica) 3
- Trombosi tardiva sintomatica 3
- 1 decesso
- Indicazione estesa non solo ad aneurismi grandi
- Rischi maggiori circolo posteriore

SILK Vista Baby Flow Diverter



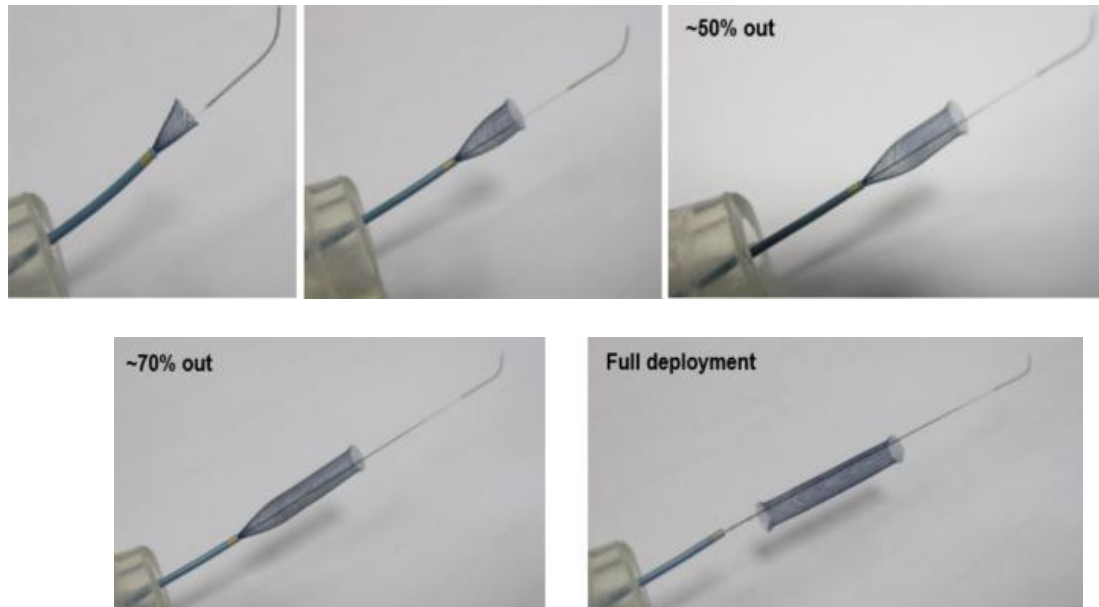
Silk Vista Baby: Design

- Superficie omogenea, apertura dello stent più stabile
- 48 fili intrecciati con maggiore densità
- Flares corti per un ancoraggio delicato alle pareti dell'arteria.



Silk Vista Baby: Profilo

- Profilo ridotto per consentirne l'impianto attraverso microcateteri da 0.017" per il trattamento di porzioni più distali
- Il pusher in nitinolo per maggior pushability e resistenza al kinking



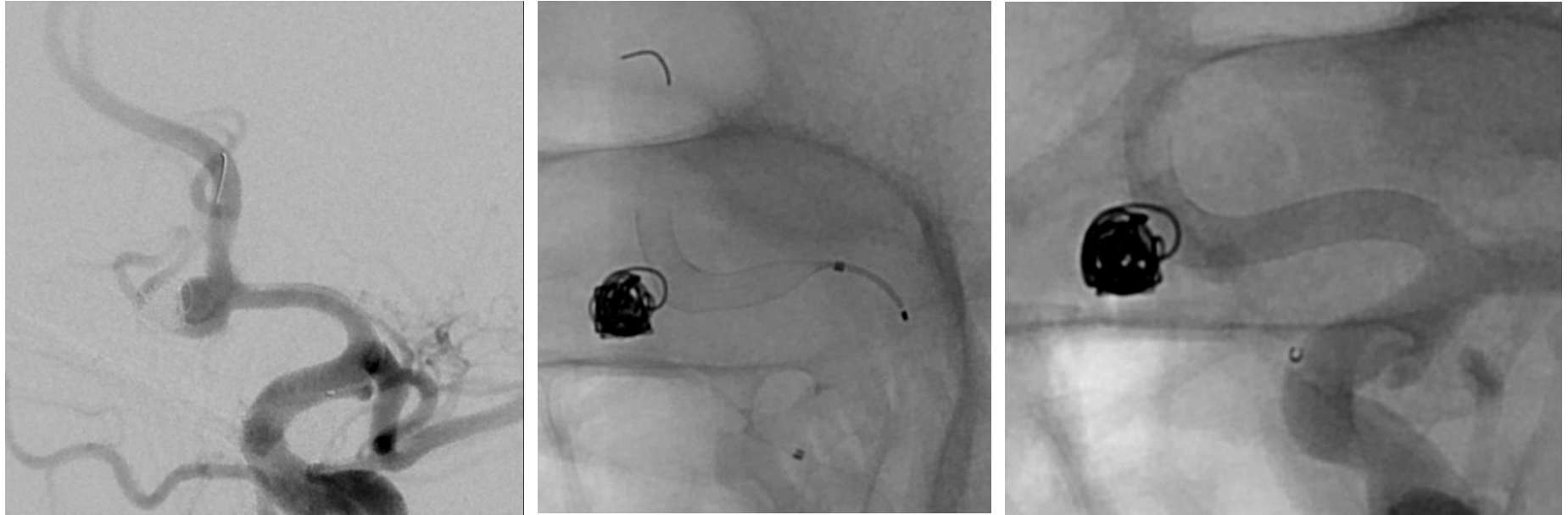
Silk Vista Baby: Visibilità

Stent realizzato con tecnica DTF (Drawn Filled Tube): maglie in nitinol cave e riempite con platino

- Proprietà elastiche del nitinol
- Rimozione dell'ingombro dei marker
- Completa visibilità



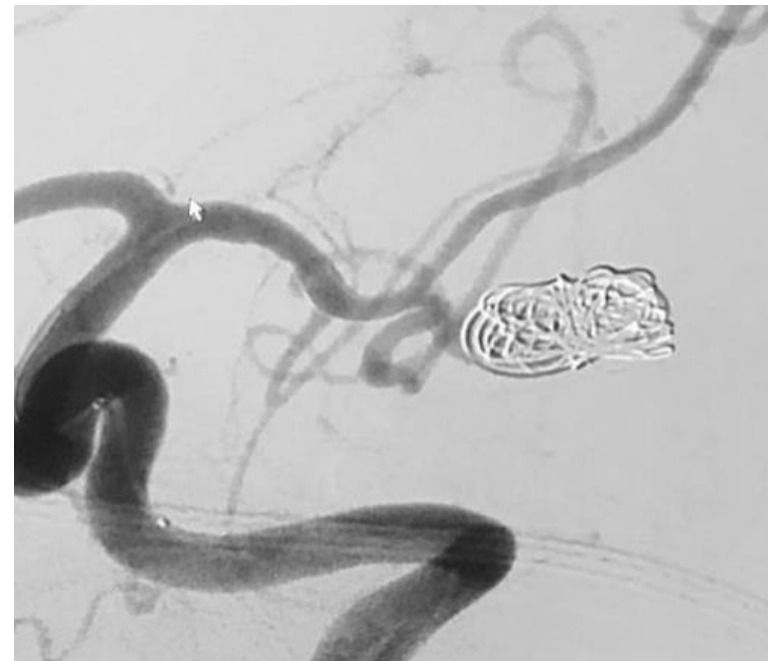
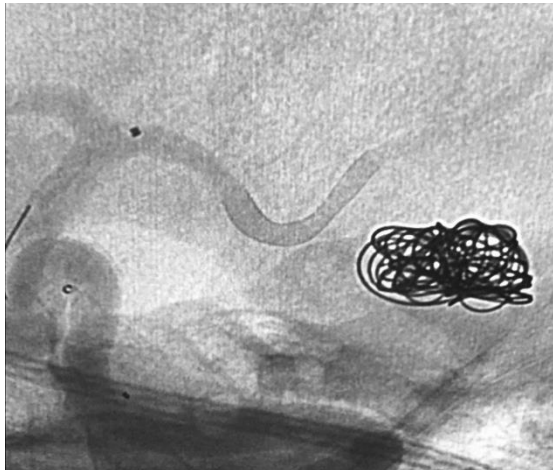
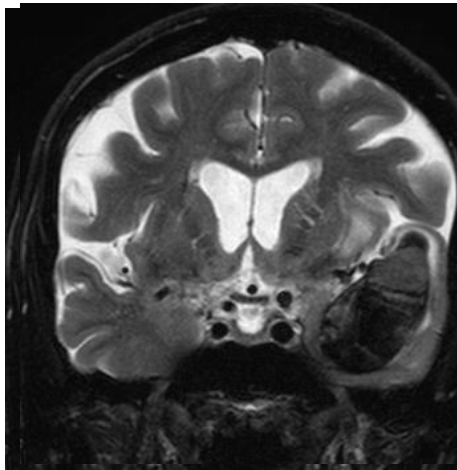
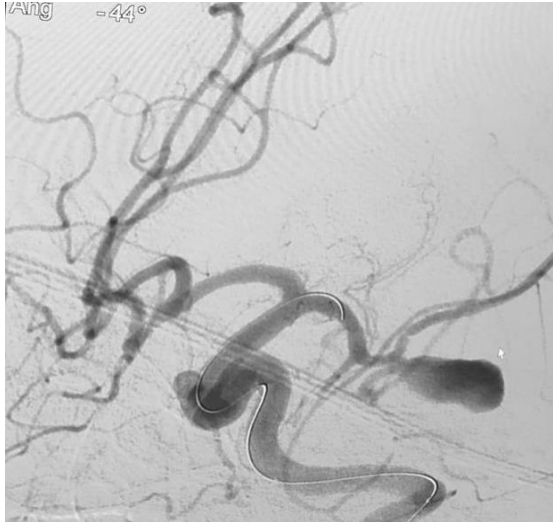
Silk Vista Baby: Visibilità



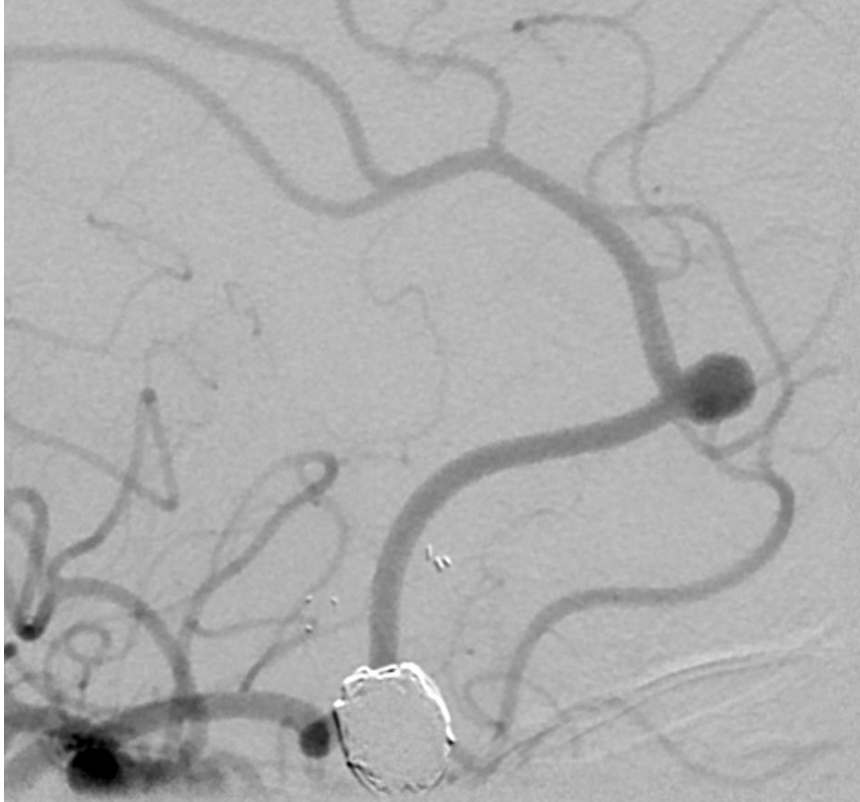
Ricanalizzazione aneurisma Acom SilkVista Baby 2,75x15

Silk Vista Baby: Visibilità

Aneurisma 9mm di biforcazione
M1/M2 sinistra, trattato con SilkVista
Baby (2,25x15) e spirali Optima



60,f, aneurismi multipli: 1° trattamento spigolo A1-A2 stent&coiling
2° trattamento aneurisma di a.pericallosa con FD



Pz antiaggregata con ASA e Plavix,
Sacche eparinate + 2 mg Nimodipina,
Pas 130-70

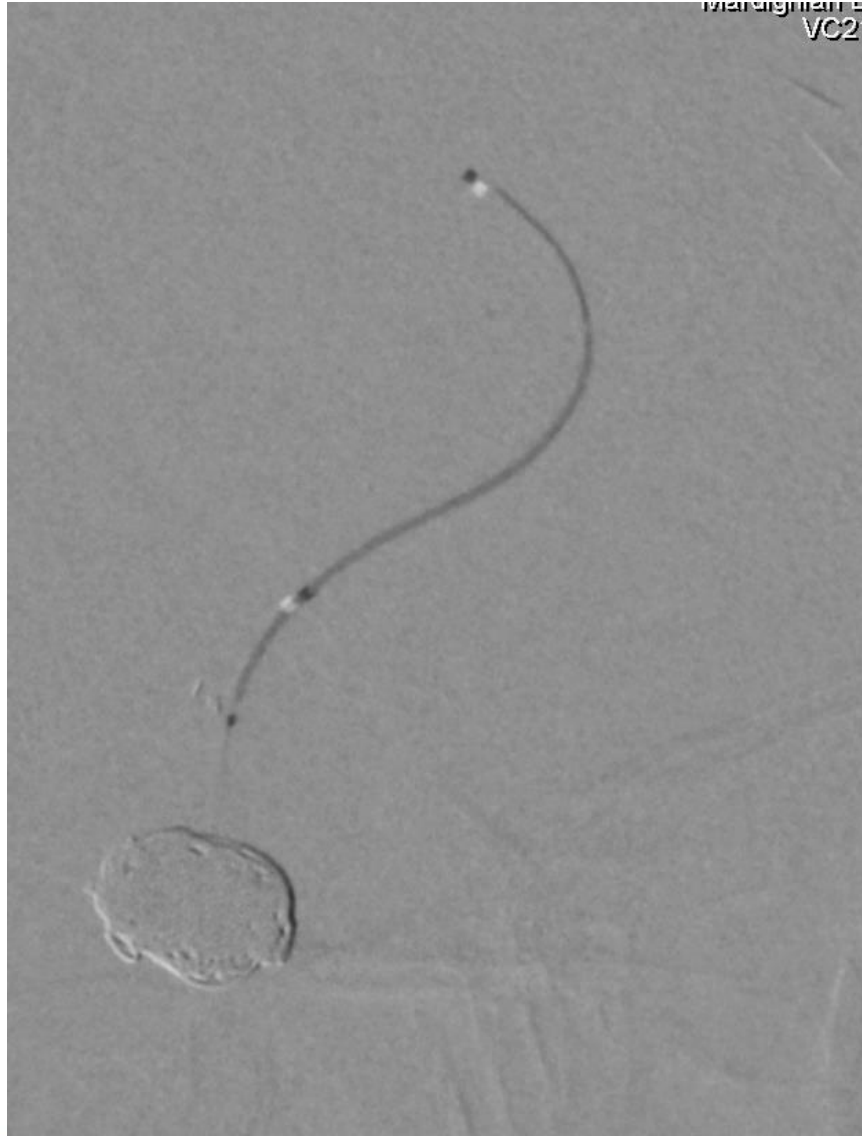
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SPEDALI CIVILI BRESCIA NEURORADIOLOGIA
Mardighian Dott. Dikra
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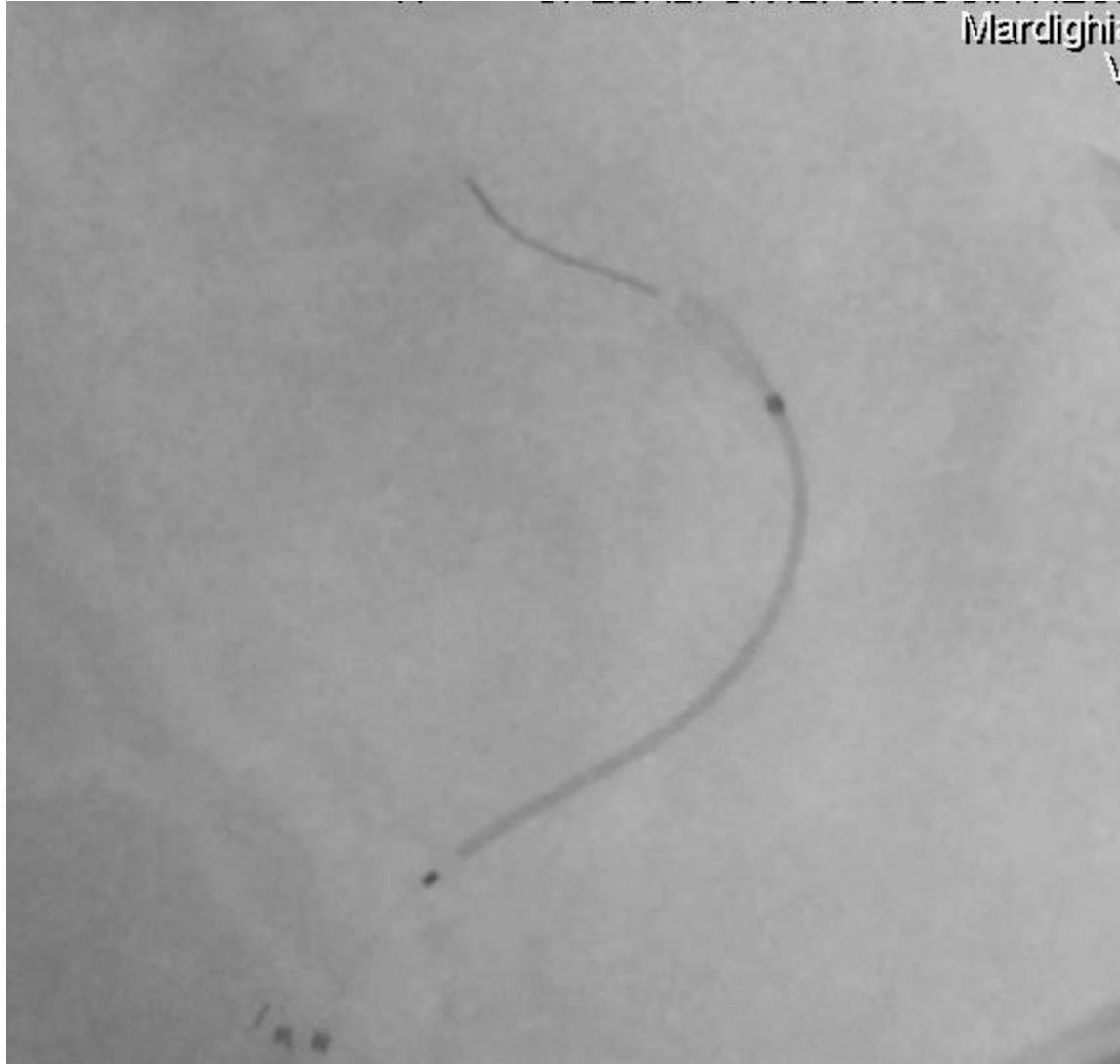


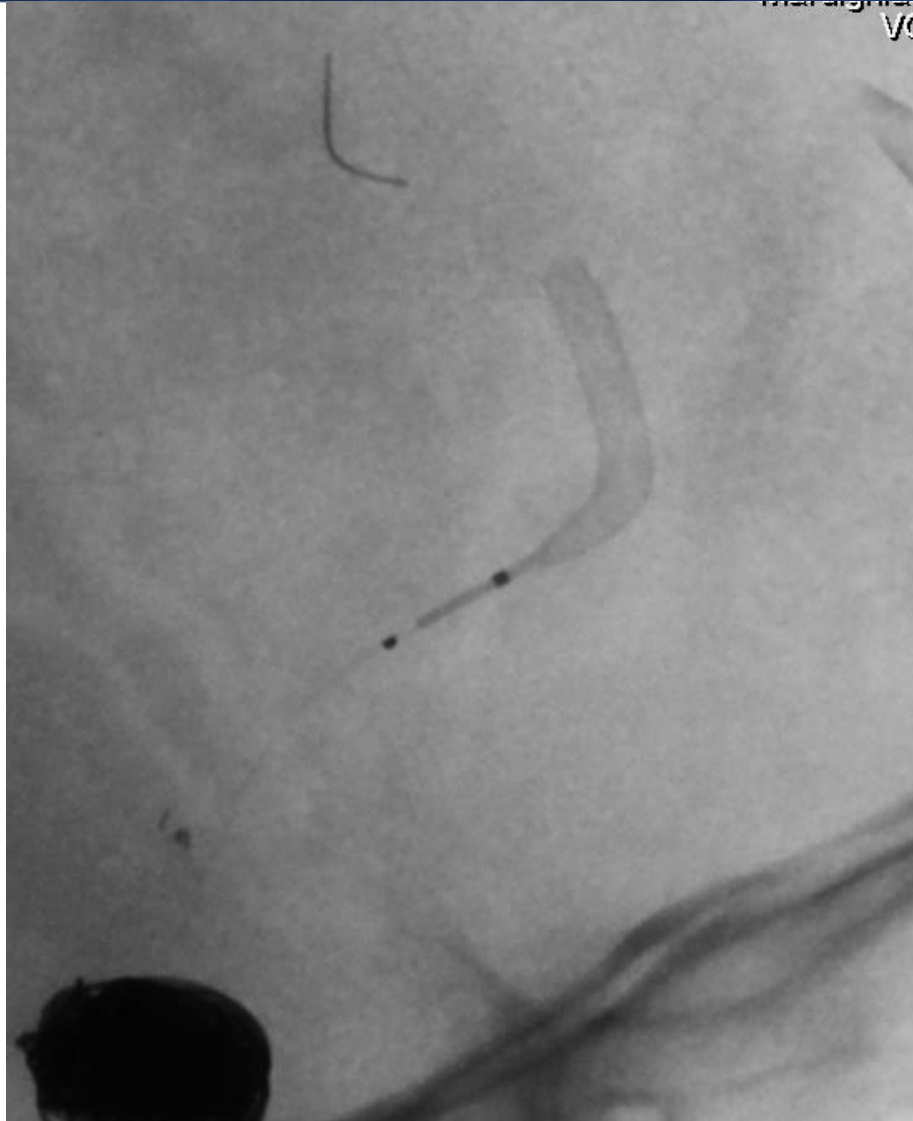
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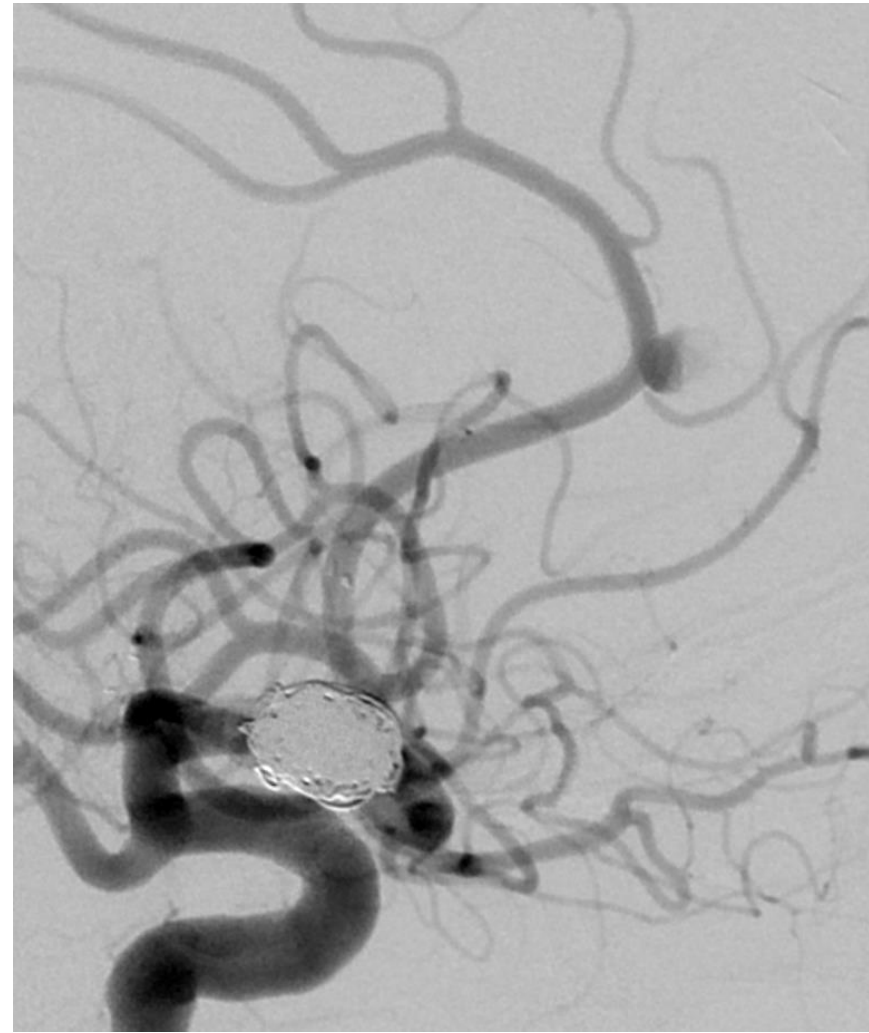
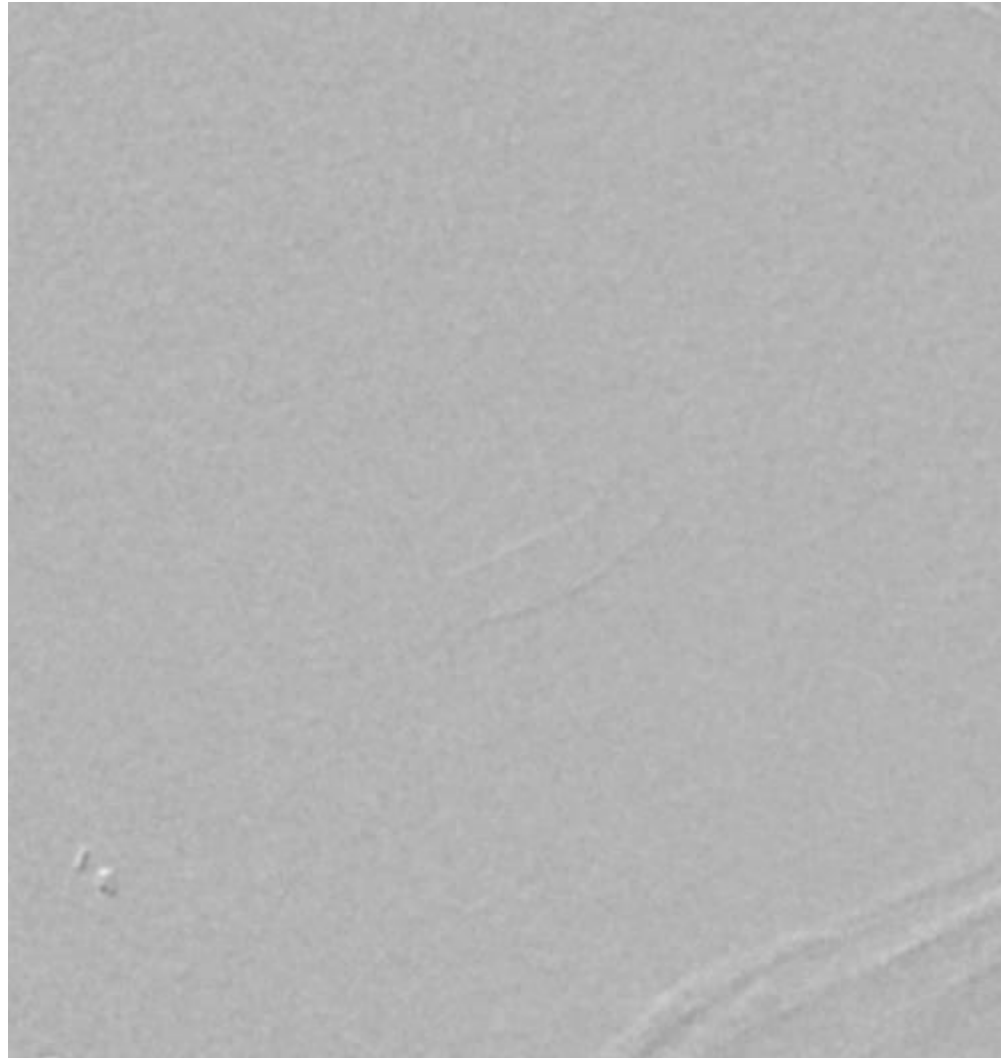
EE 119

transcript 5
VC2











Lago Sevan Armenia

d.mardighian@gmail.com

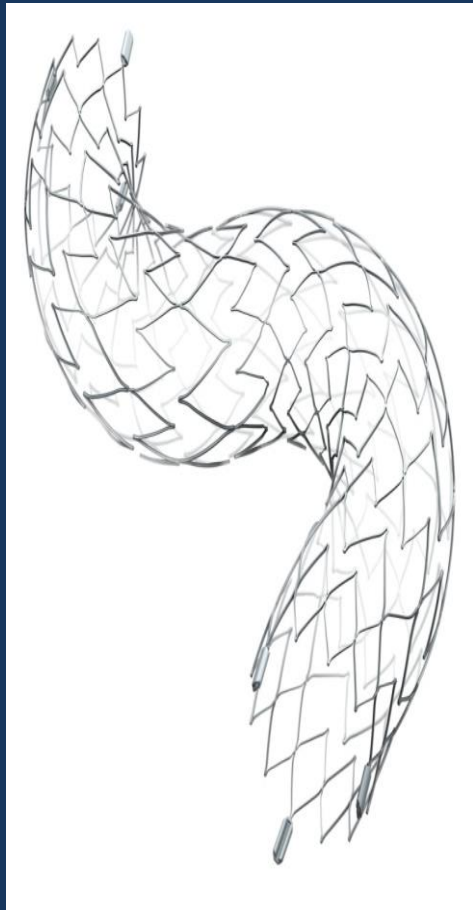
CAMPO BASE FIRENZE 2018

STENT ASSISTED COILING SAC

D.Mardighian

Neuroradiologia interventistica Spedali Civili Brescia

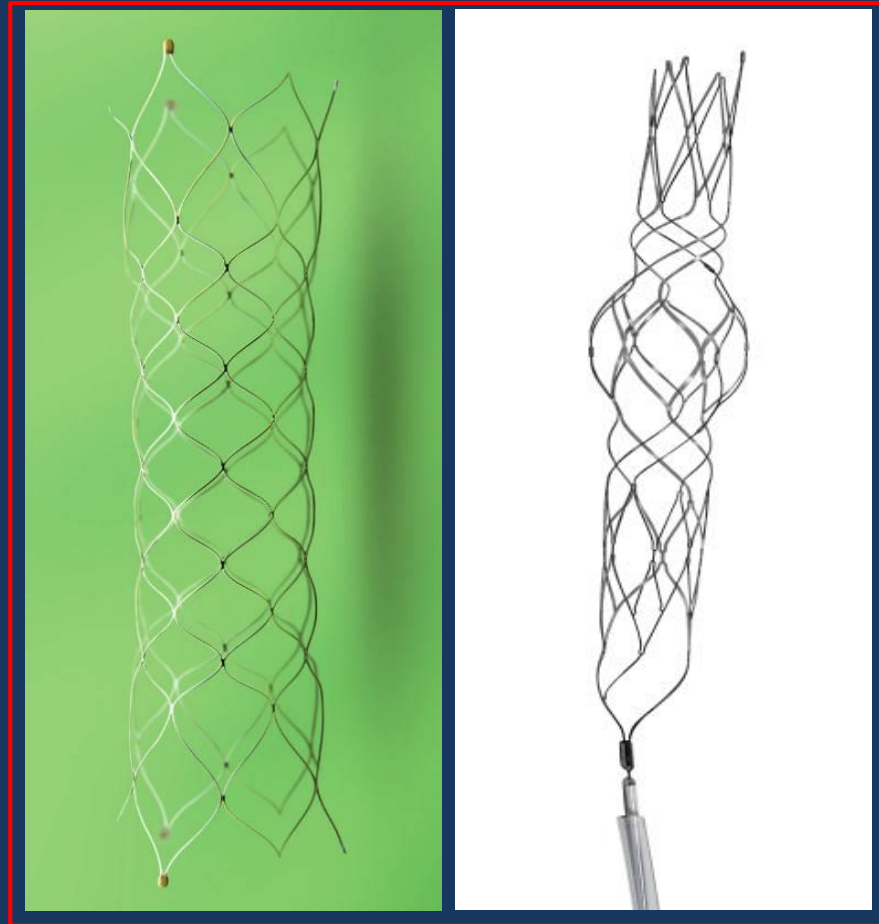
Laser cut a celle
indipendenti
“aperte”



Stent intrecciati



Stent laser cut
non a celle aperte



Laser cut a celle indipendenti

Vantaggi

- Adattabile anatomie tortuose
- No tendenza al kinking
- Lunghezza costante
- Poca copertura metallica
- Posizionamento del mic attraverso le maglie molto semplice

Svantaggi

- Non è ricatturabile
- Non riposizionabile
- Scarsa radiopacità

ADJUNCTIVE STENT ARE NOT FLOW DIVERTERS: A COMPUTATIONAL FLOW DYNAMICS STUDY
COMPARING FLOW DIVERTERS TO ADJUNCTIVE STENTS
Jankowitz

There was no statistically significant difference in the flow diversion capabilities between the two adjunctive stents.

Stent intrecciato

Vantaggi

- Adattabile anatomie tortuose
- No tendenza al kinking
- Mini diversione

Svantaggi

- Posizionamento del Mic attraverso le maglie non sempre agevole
- Lunghezza vaso dipendente (possibile allungamento/accorciamento)
- Maggior trombogenicità

Indicazioni

Aneurismi non rotti

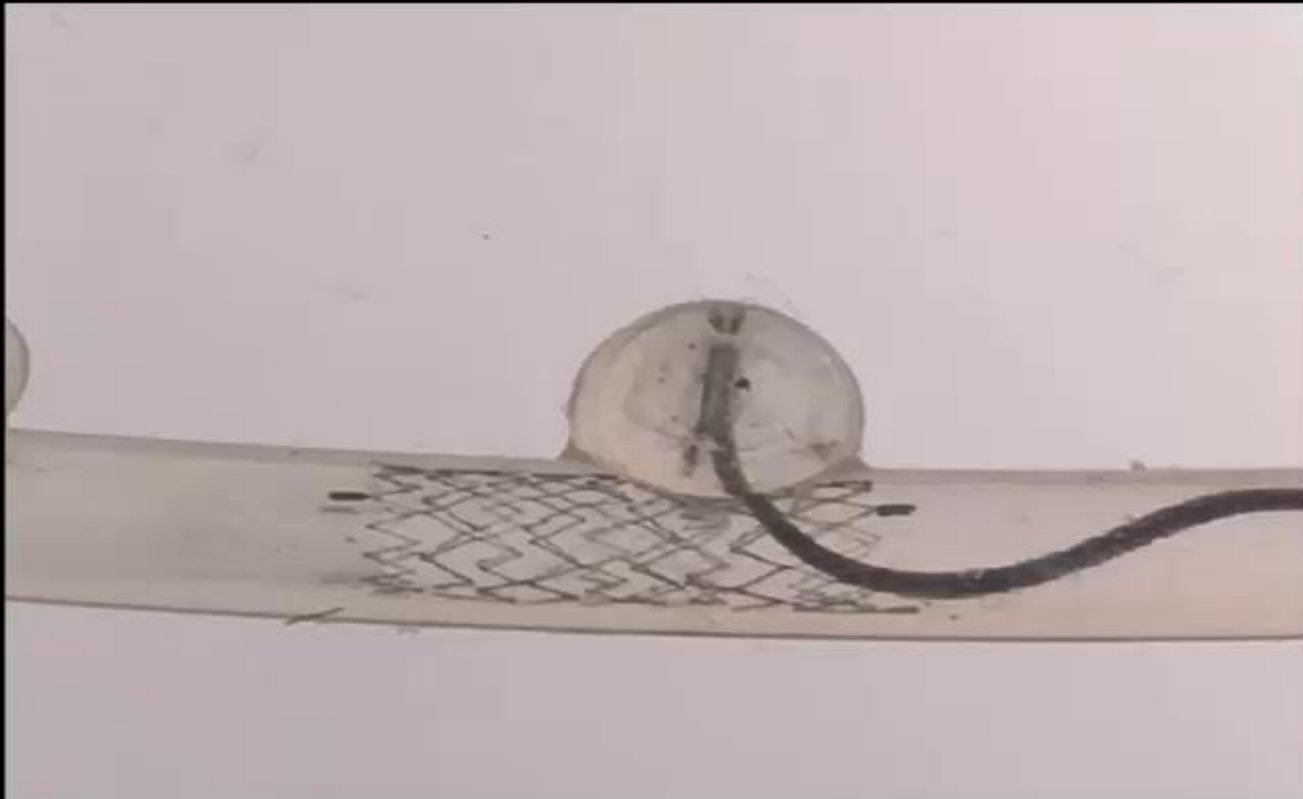
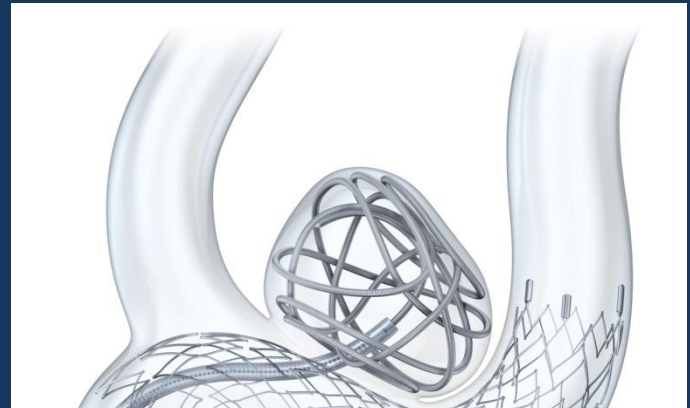
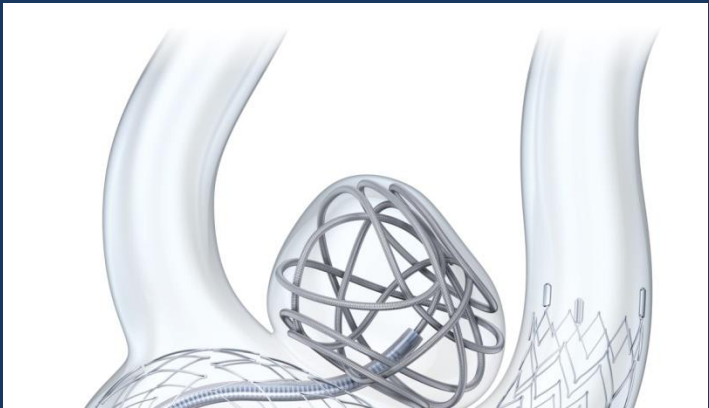
1° scelta stent intrecciati

2° laser cut

Aneurismi rotti stent laser cut (casi selezionati)

Stenting semplice

X, Y stenting

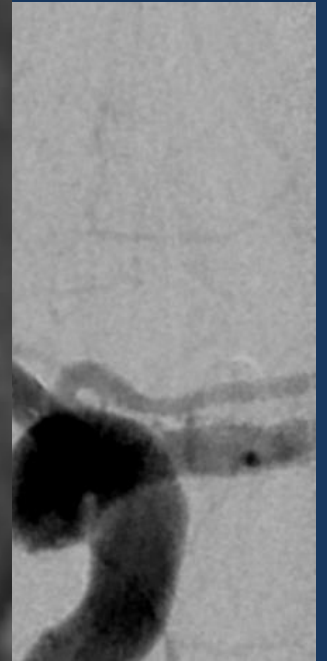
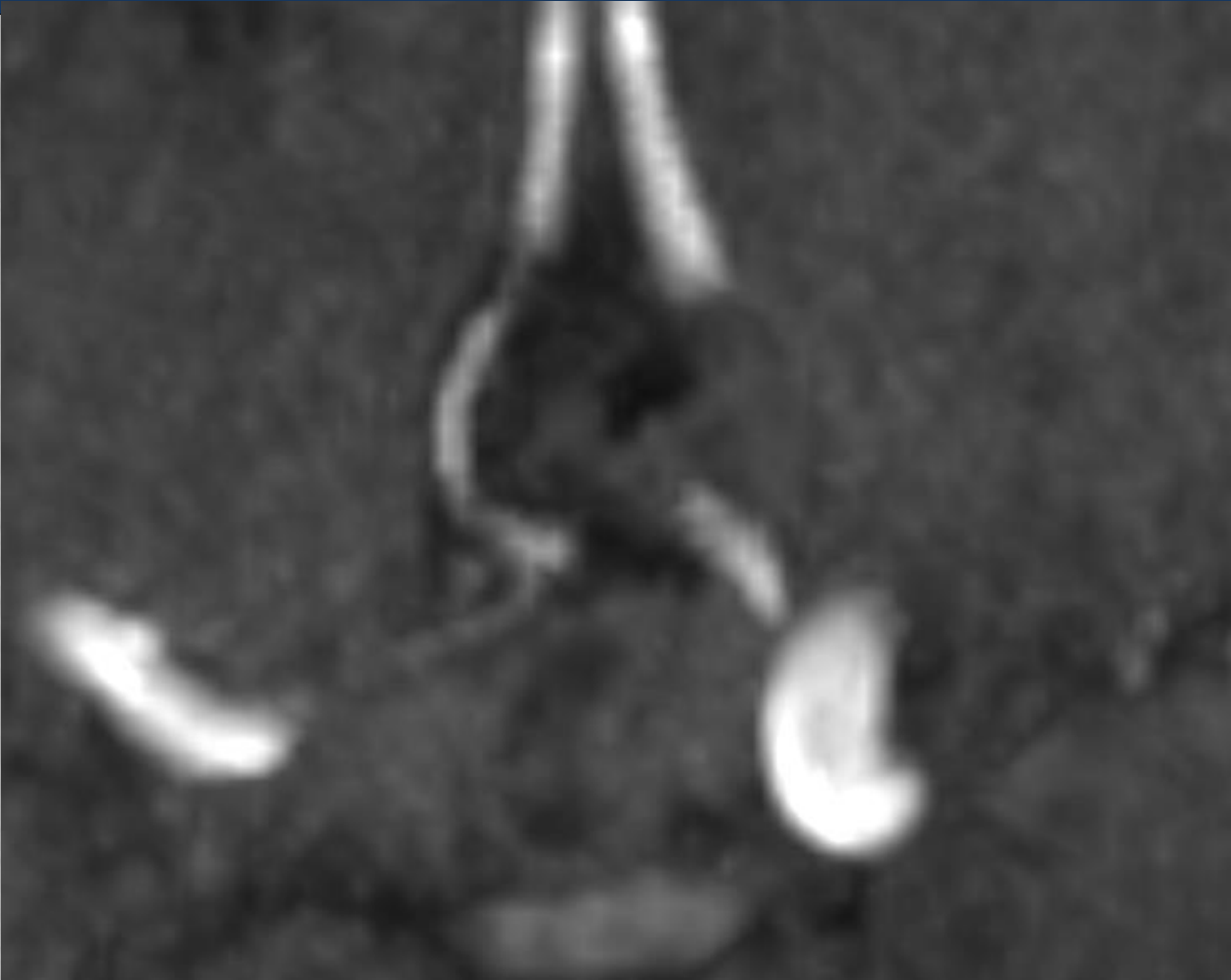


Stenting semplice, microcatetere attraverso le maglie, aneurisma rotto

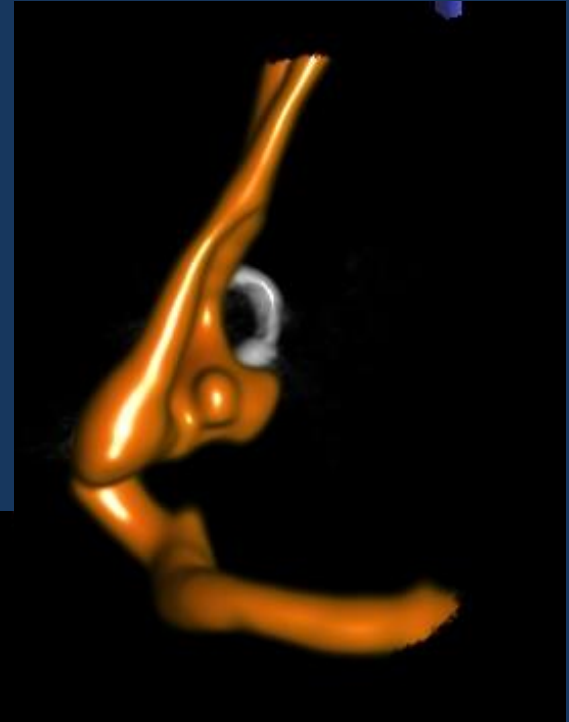
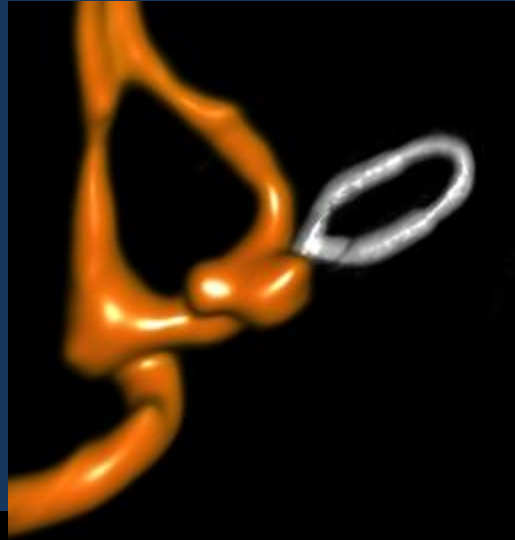
Pre-Treatment

500 mg Flectadol ev.

Post-Treatment

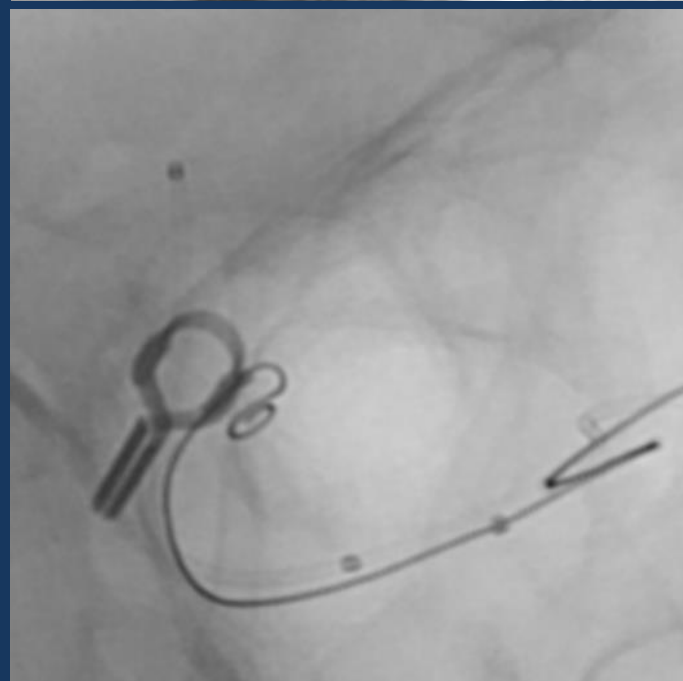
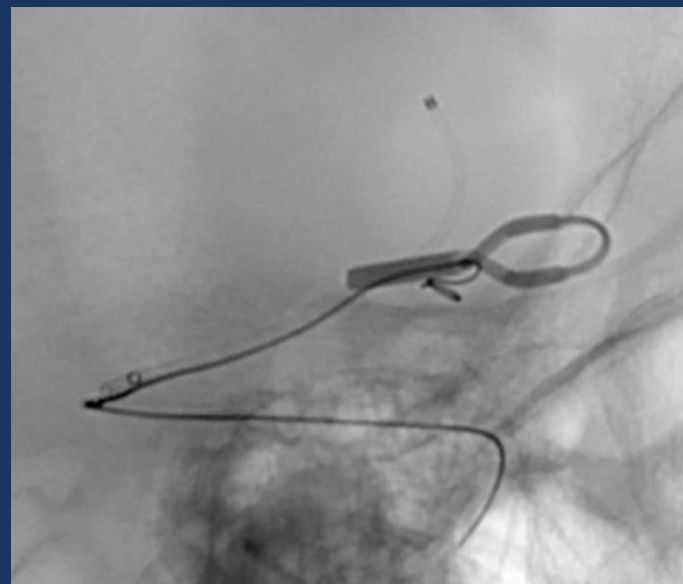
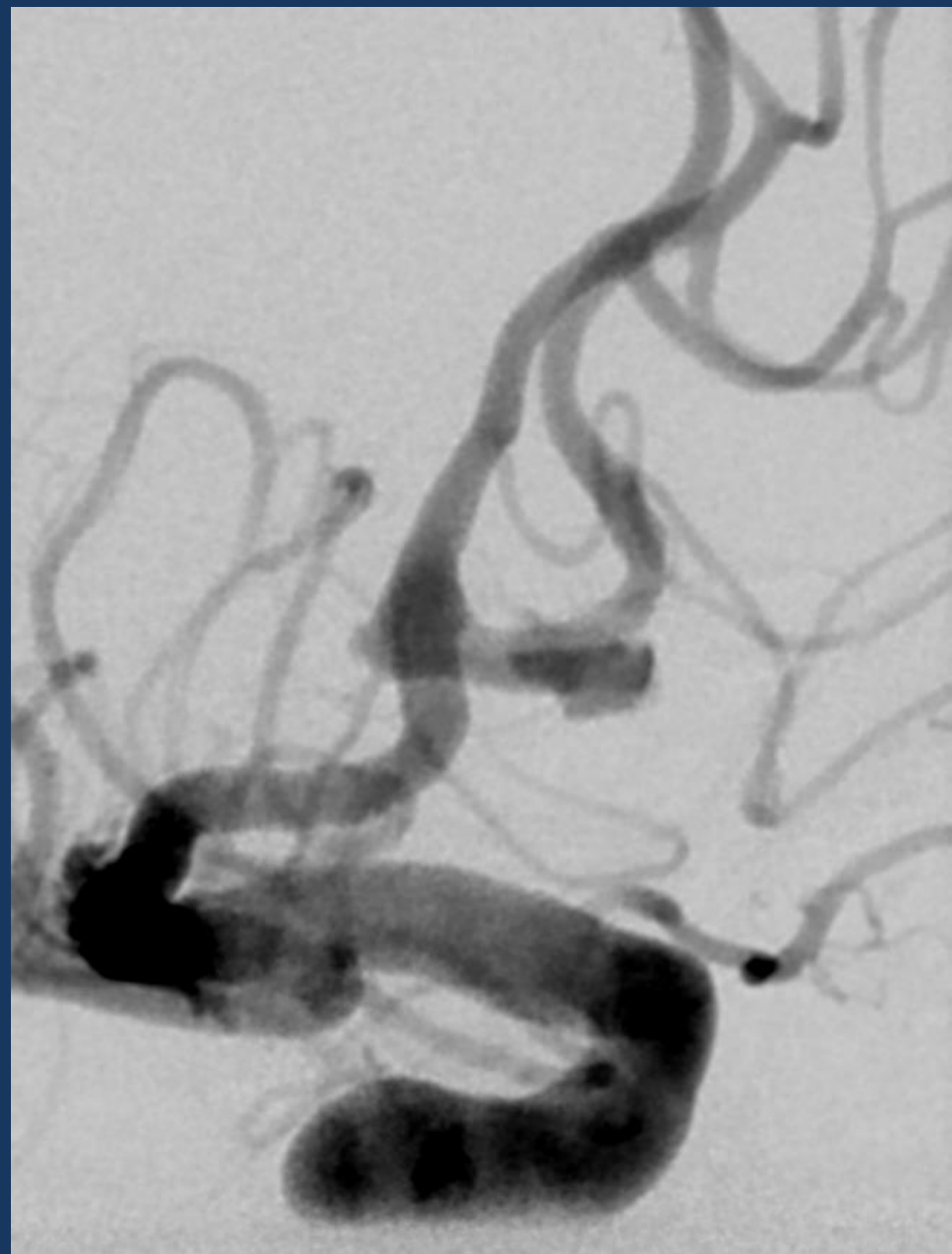


Clipping 20 anni prima Stenting semplice jailing technique



RA





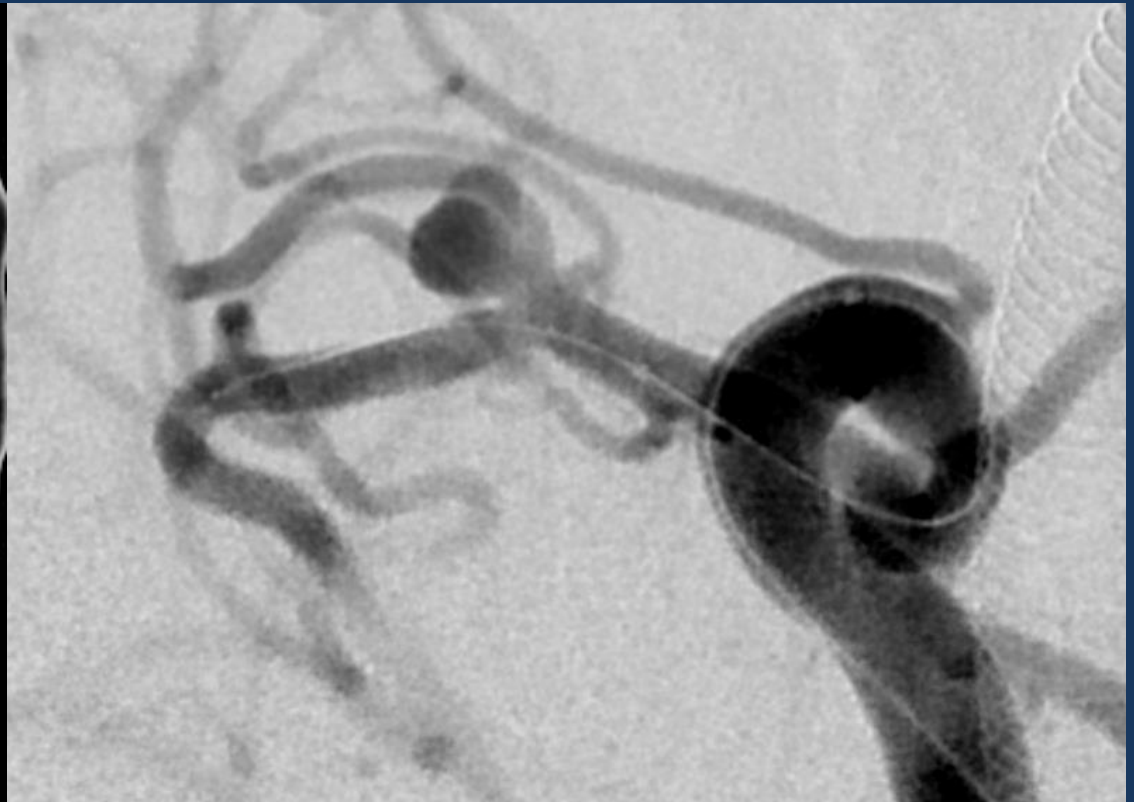


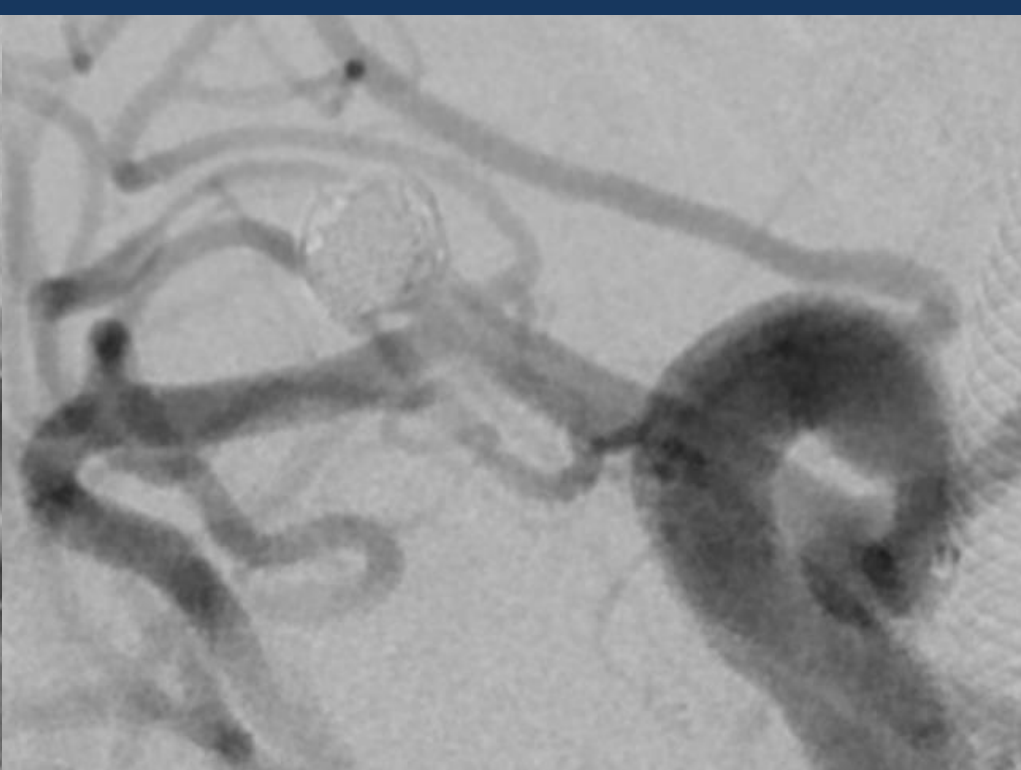
300 mg Plavix 4 ore prima

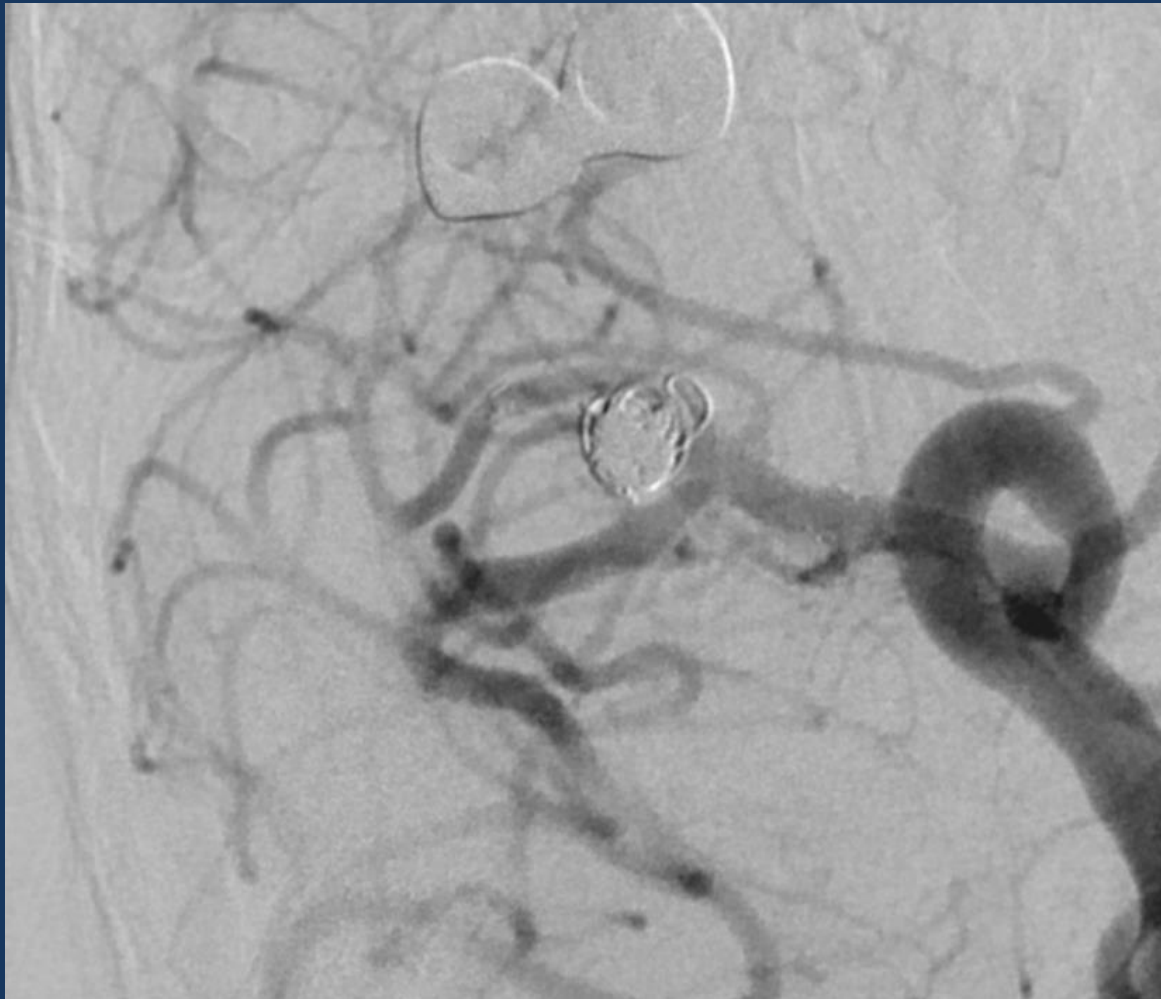


Controllo 12
mesi

RESCUE STENTING

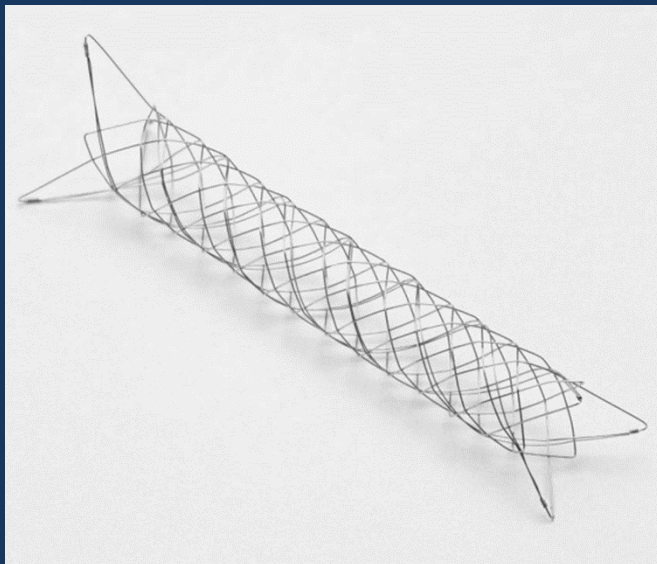




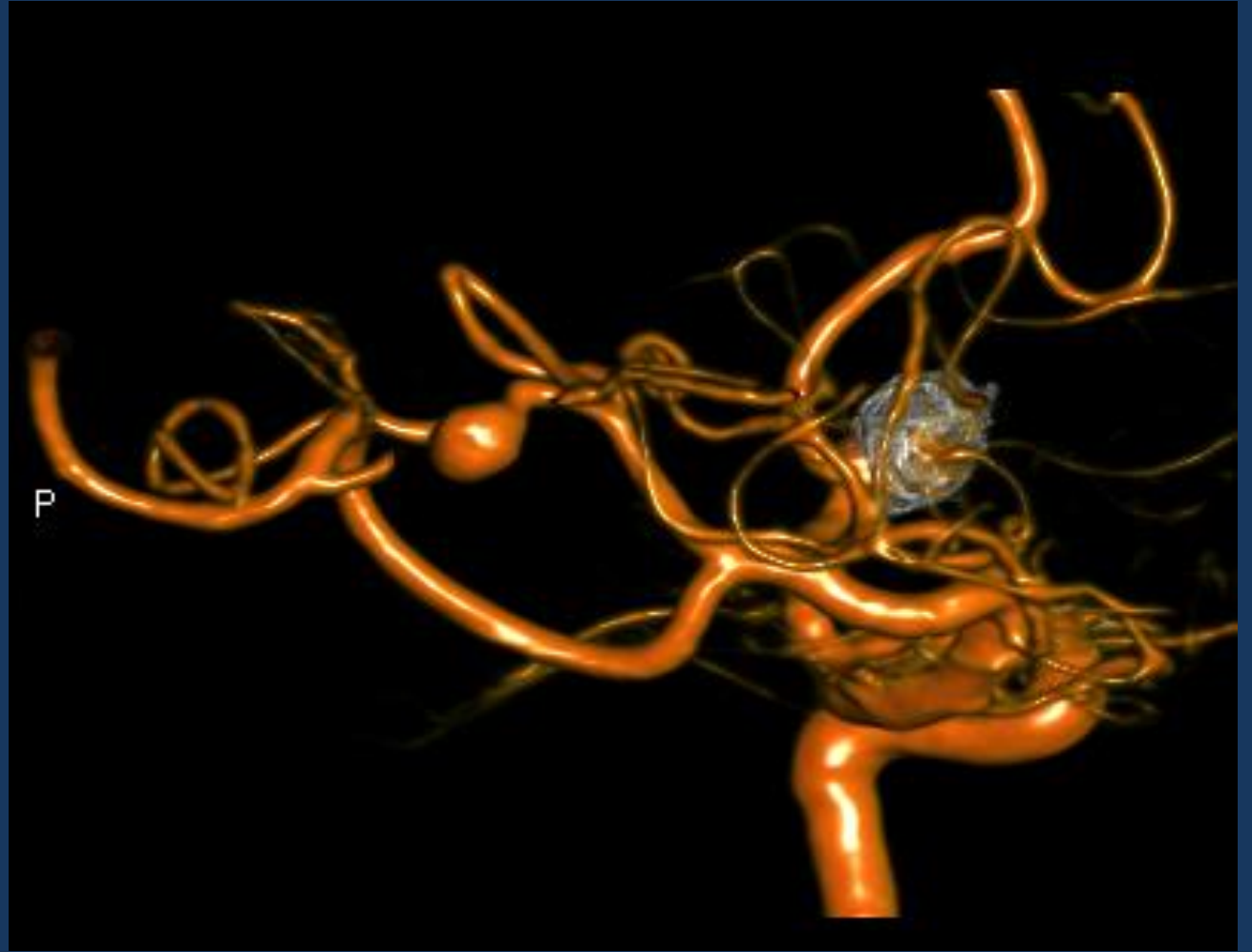
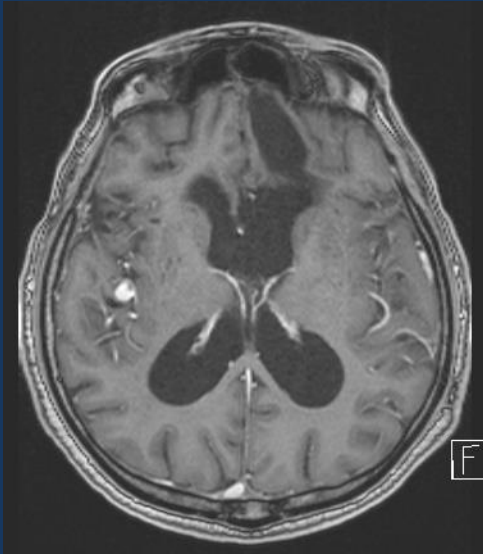
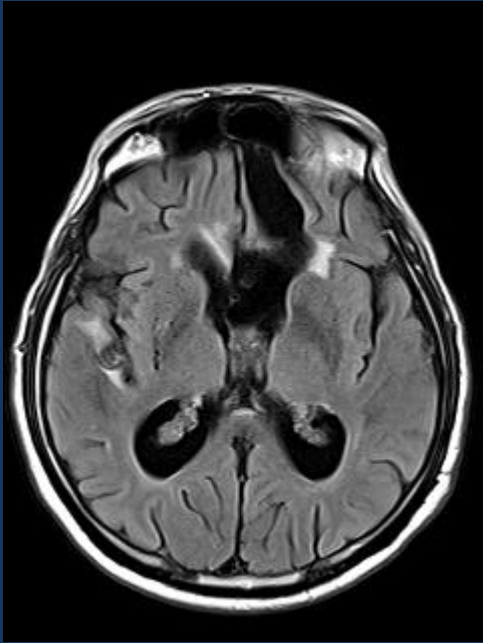


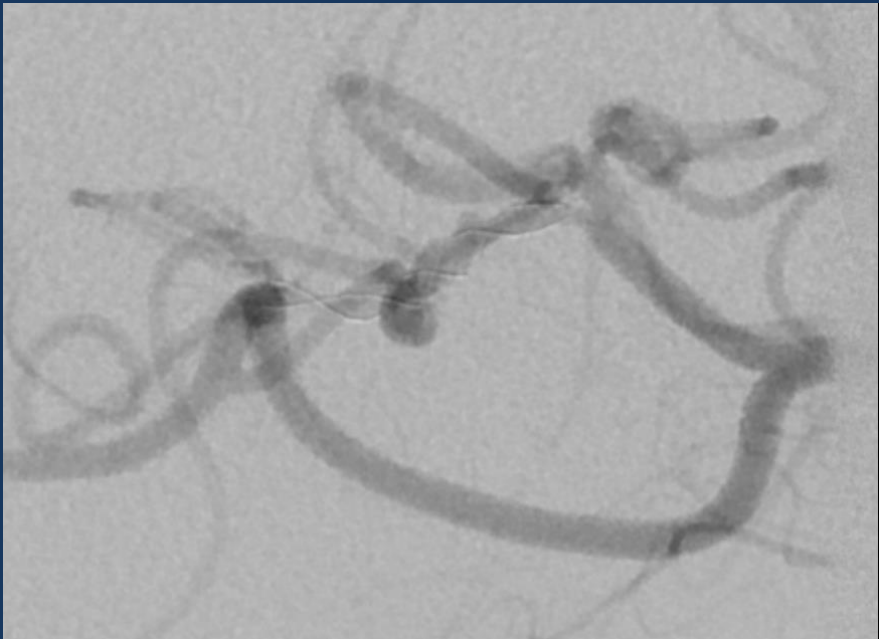
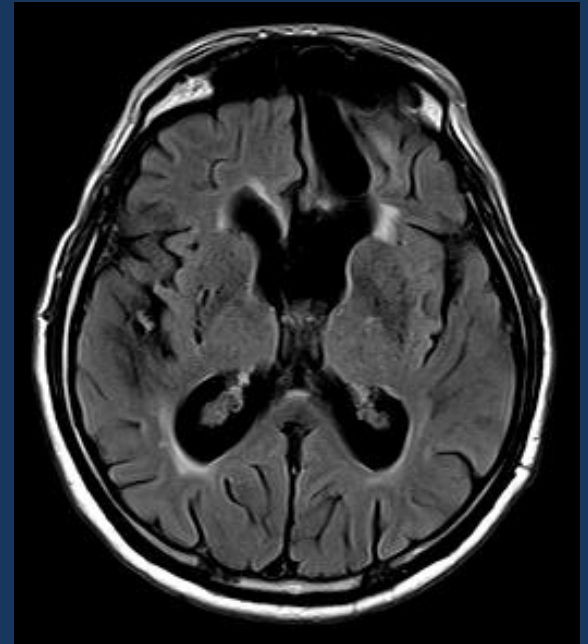
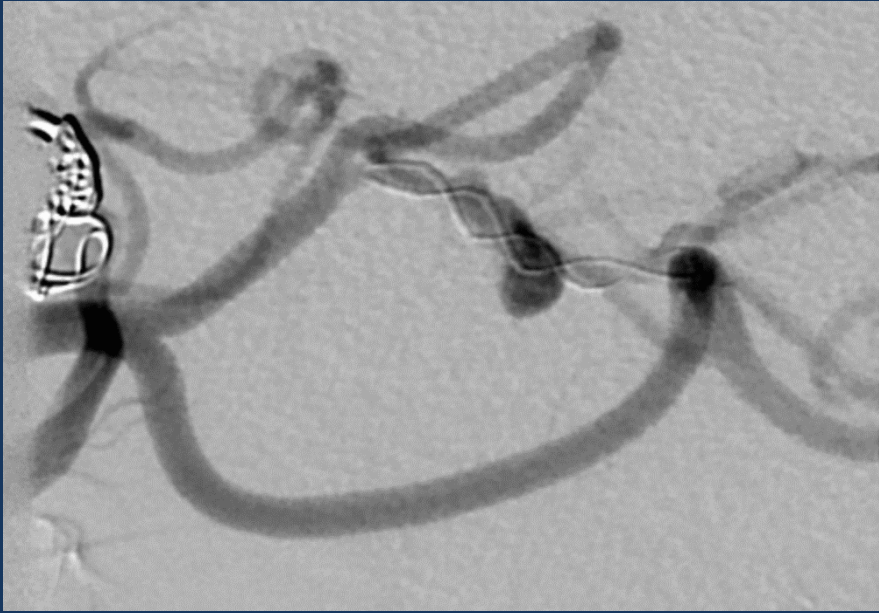
AGF 6 mesi

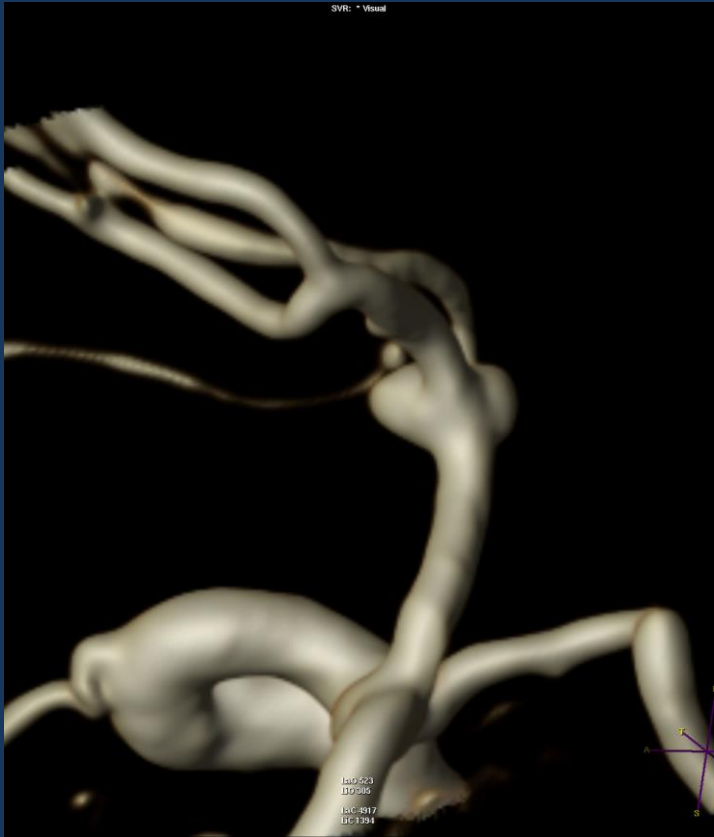
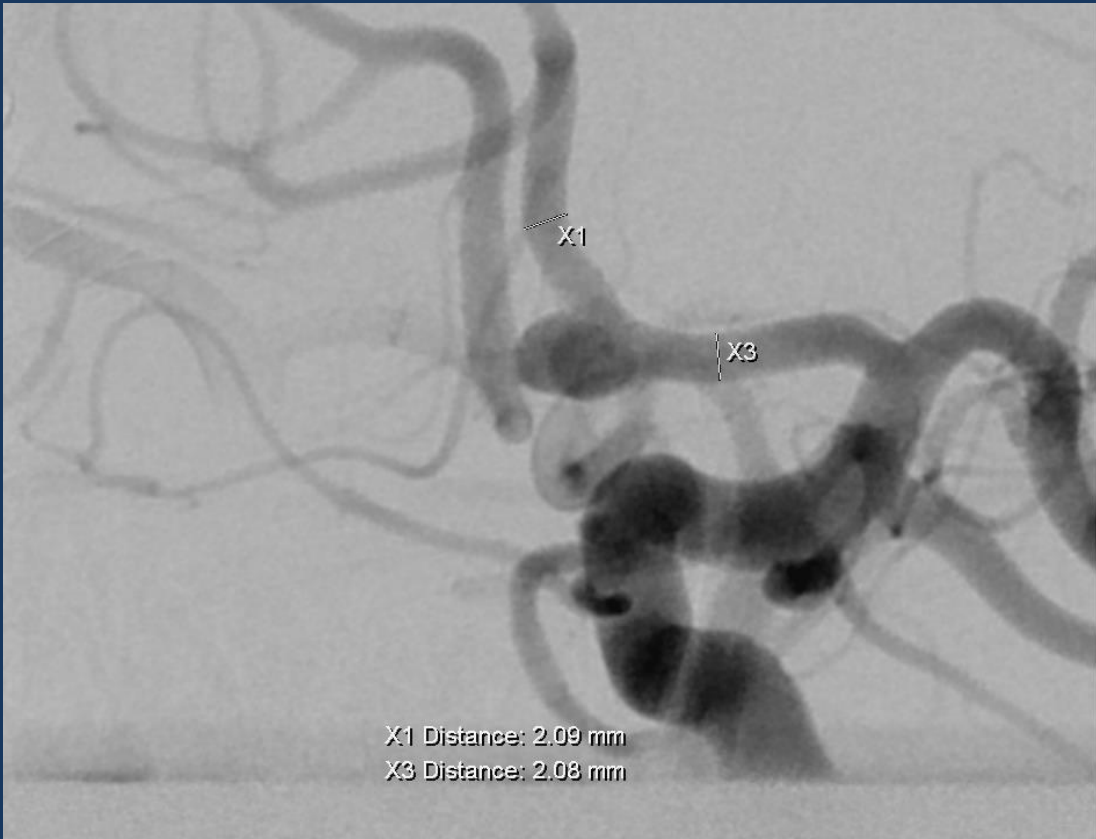
Stent intrecciati

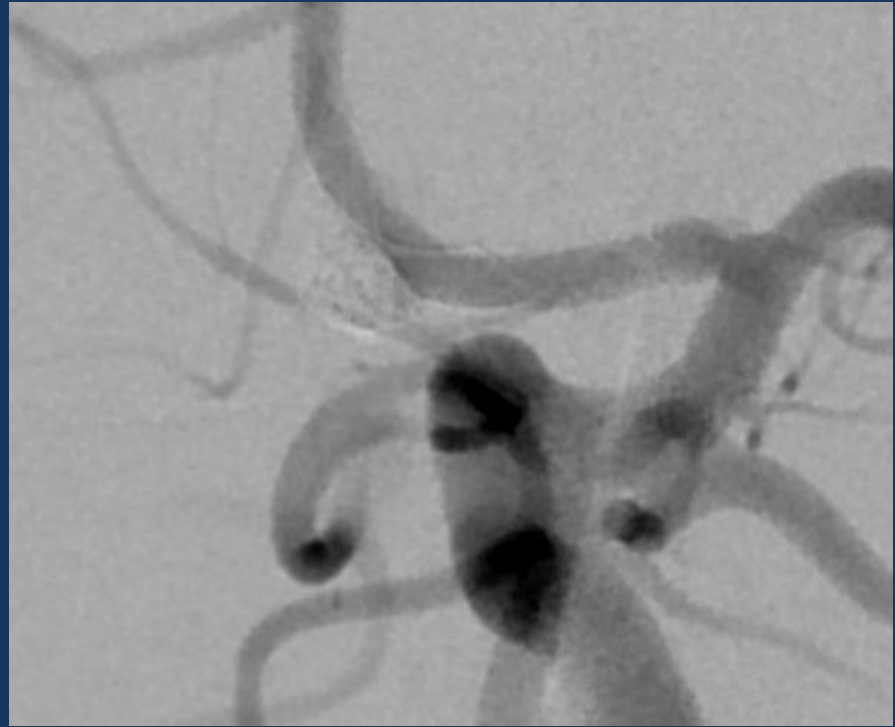
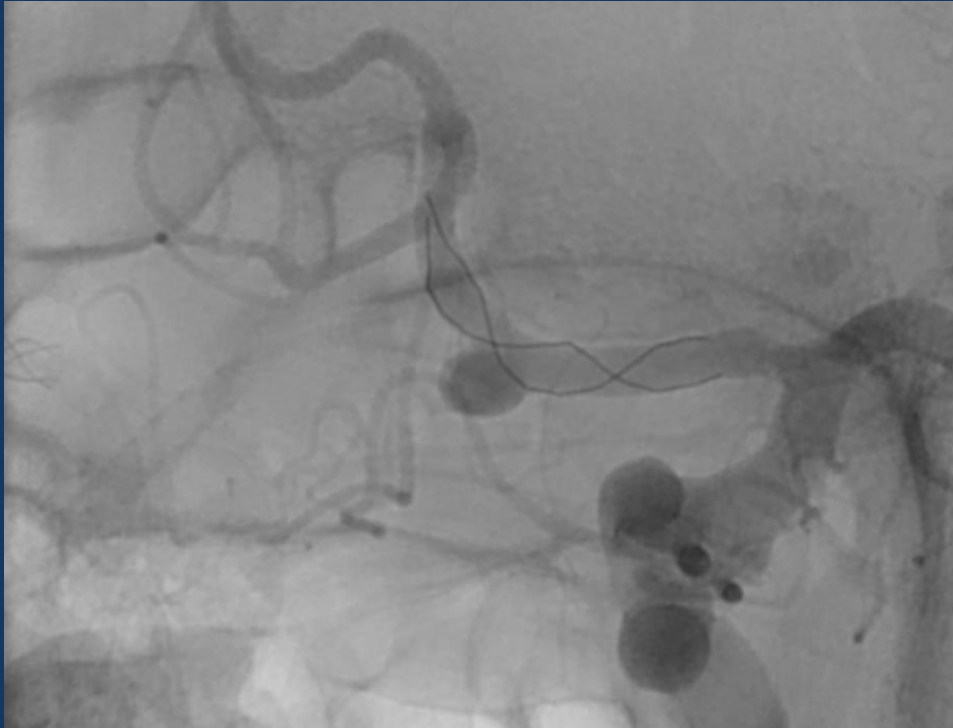


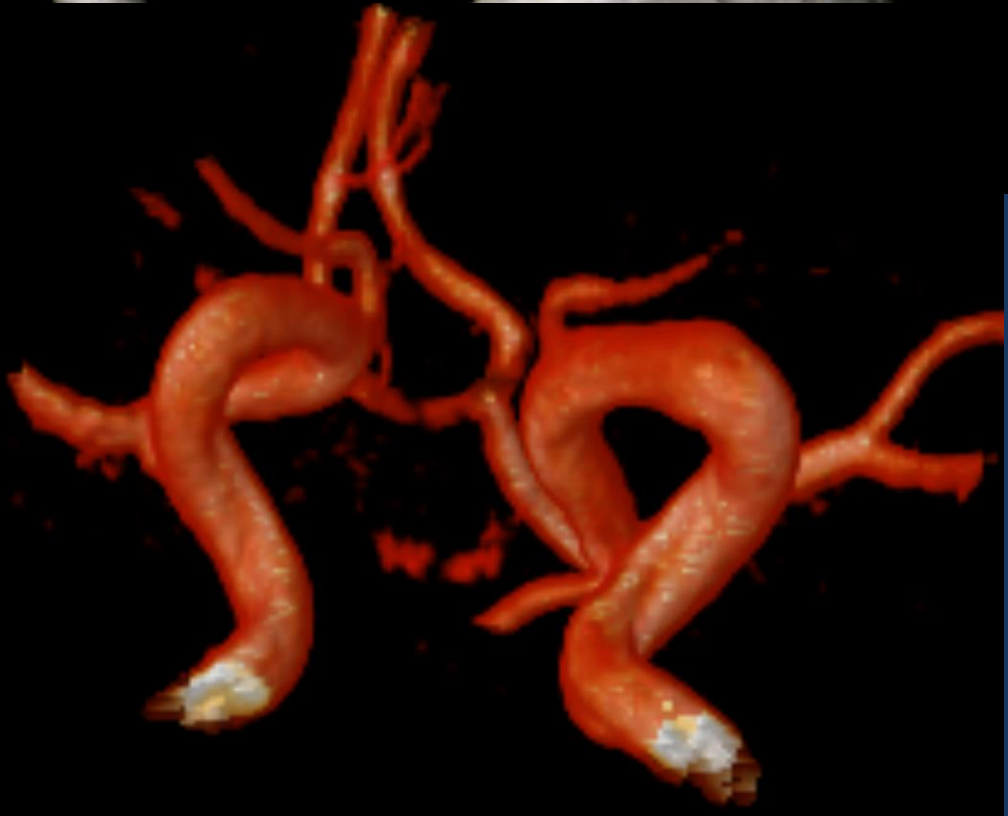
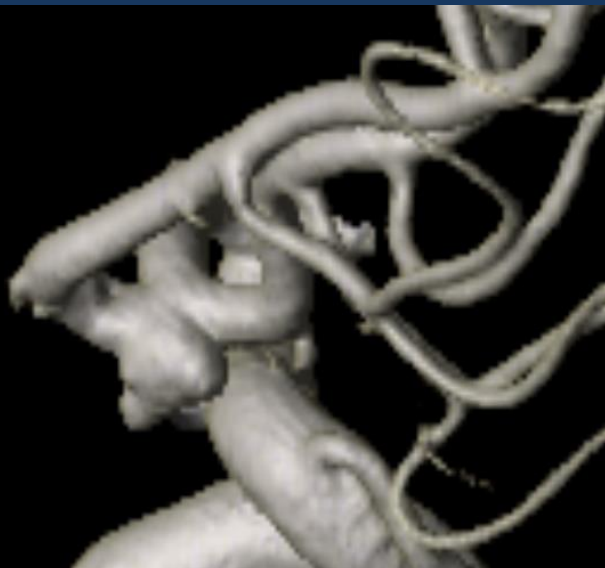
Prima scelta in elezione
Generalmente Jailing technique
Doppia antiaggregazione







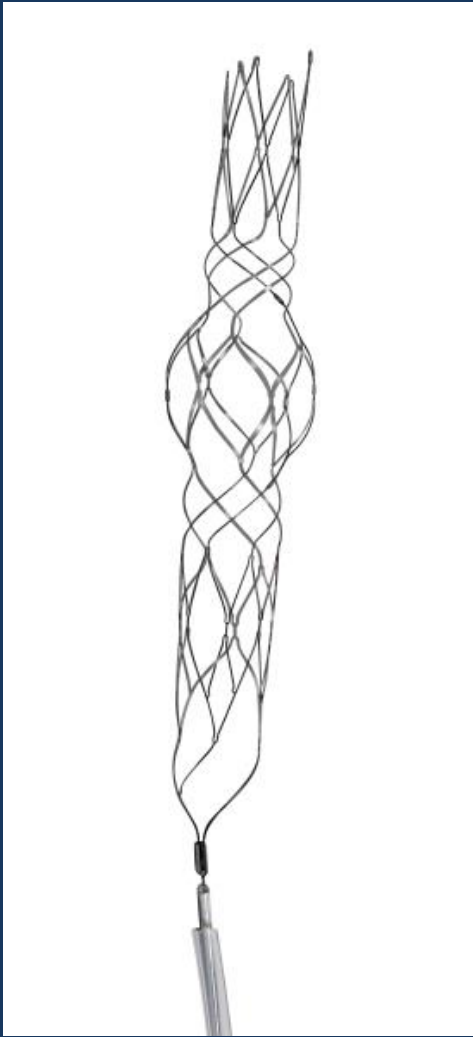




BARREL

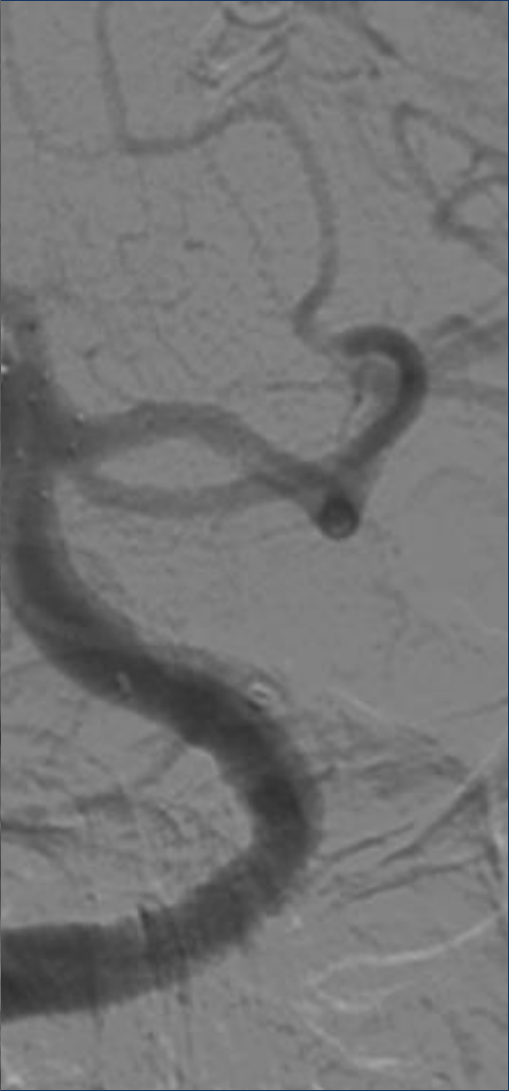
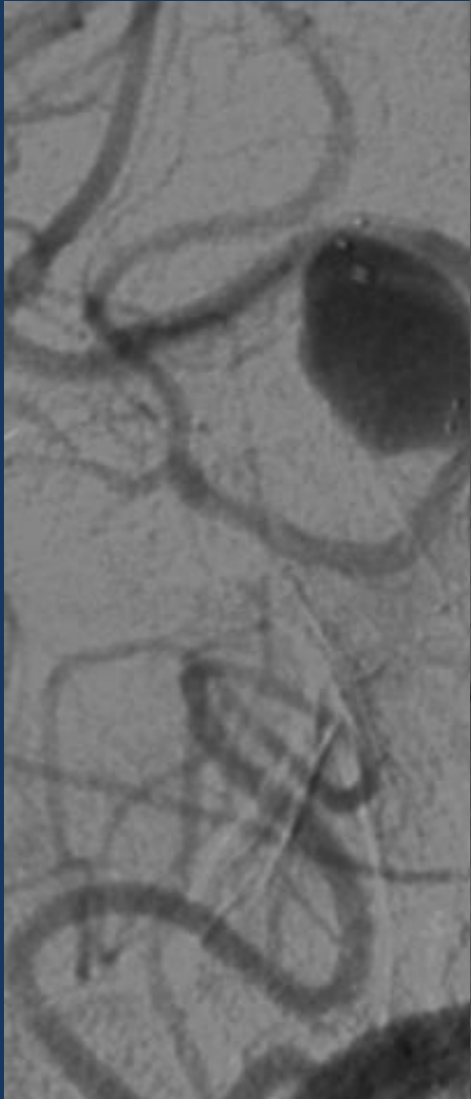
Stent in nitinolo, simile ad un Solitaire ma con porzione centrale con morfologia a “botte”

- ★ Retraibile completamente
- ★ Distacco elettrolitico
- ★ Microcatetere 0,21”
- ★ Facilmente rinavigabile con Mic 0.17
- ★ Visibilità solo dei markers

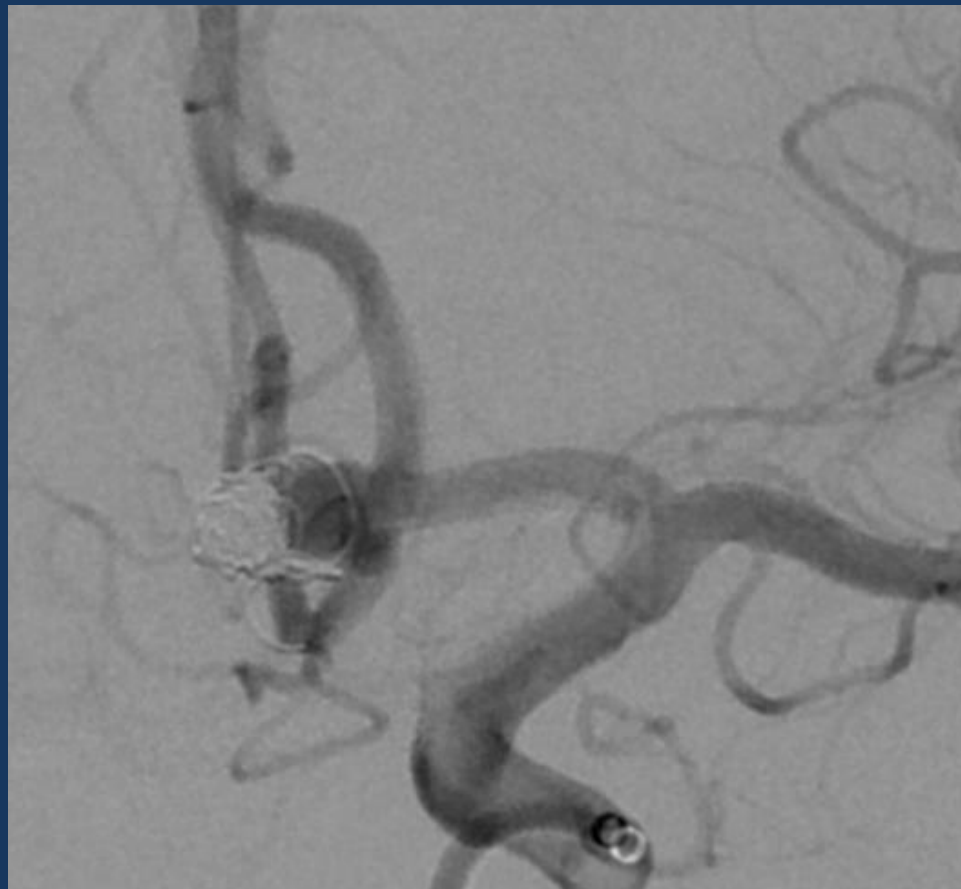


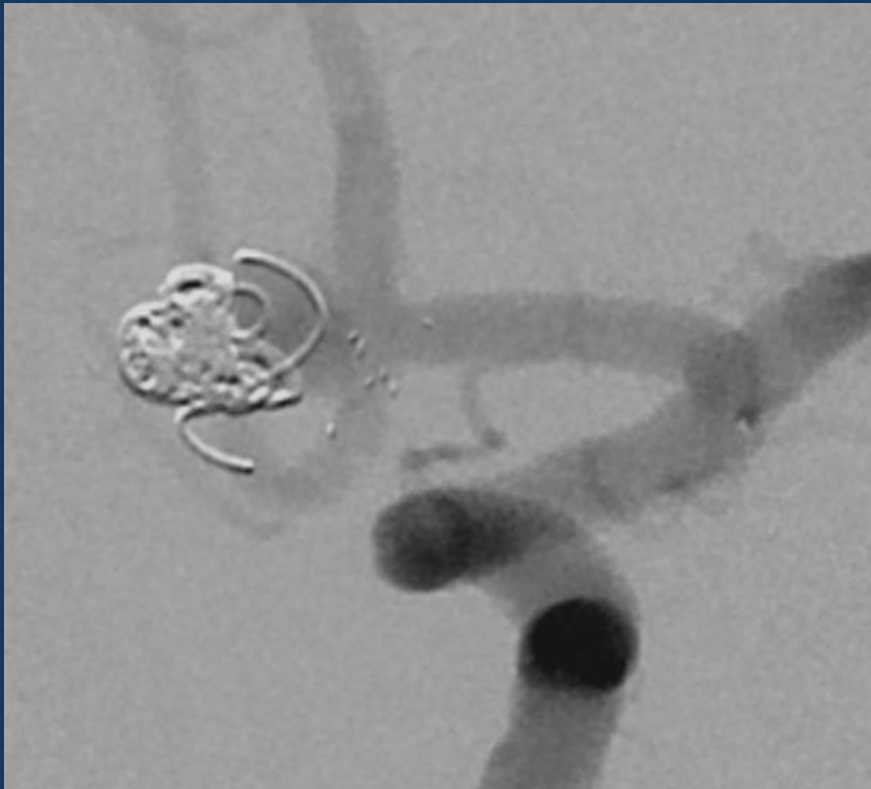
57 aa, aneurisma SCA-P1 in progressa ESA e clipping di ACM





F, 60, ESA da rottura Acom, embolizzazione e ricanalizzazione
a 6 mesi





Grazie

d.mardighian@gmail.com