

# Anastomoses dangereuses: la jonction atlanto-occipitale

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# cas clinique

- épilepsie récente
  - Fistule durable du sinus latéral à drainage veineux cortical
  - cathéterisme sélectif de la branche postérieure de l'AMM
  - injection de cyano acrylate (70%)
- 
- courtesy of A Gaston et coll J of Neuroradiology 2005

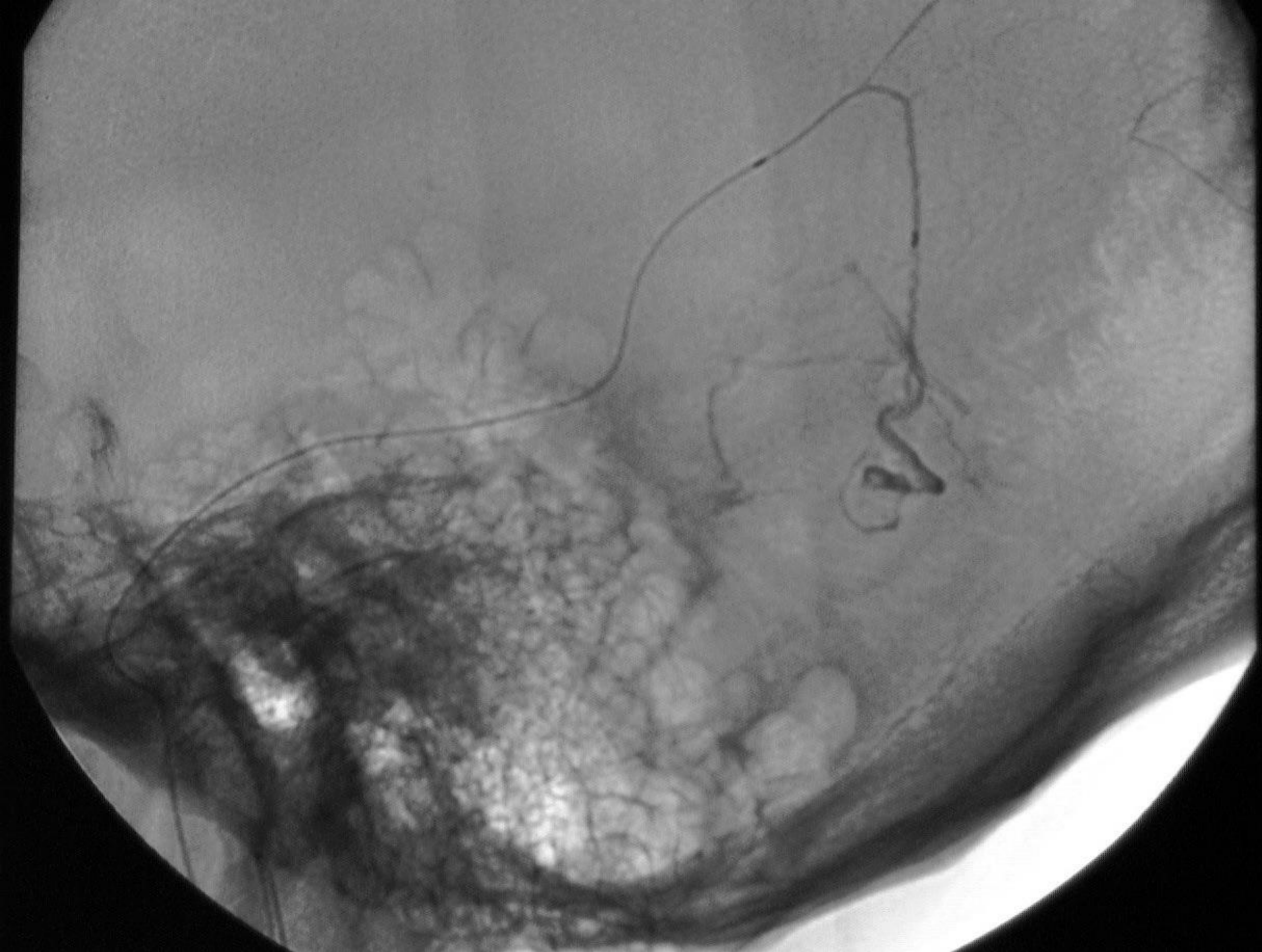


CAROTIDE EXTERNE COHE

CONTRÔLE POST-OPÉRAIRE

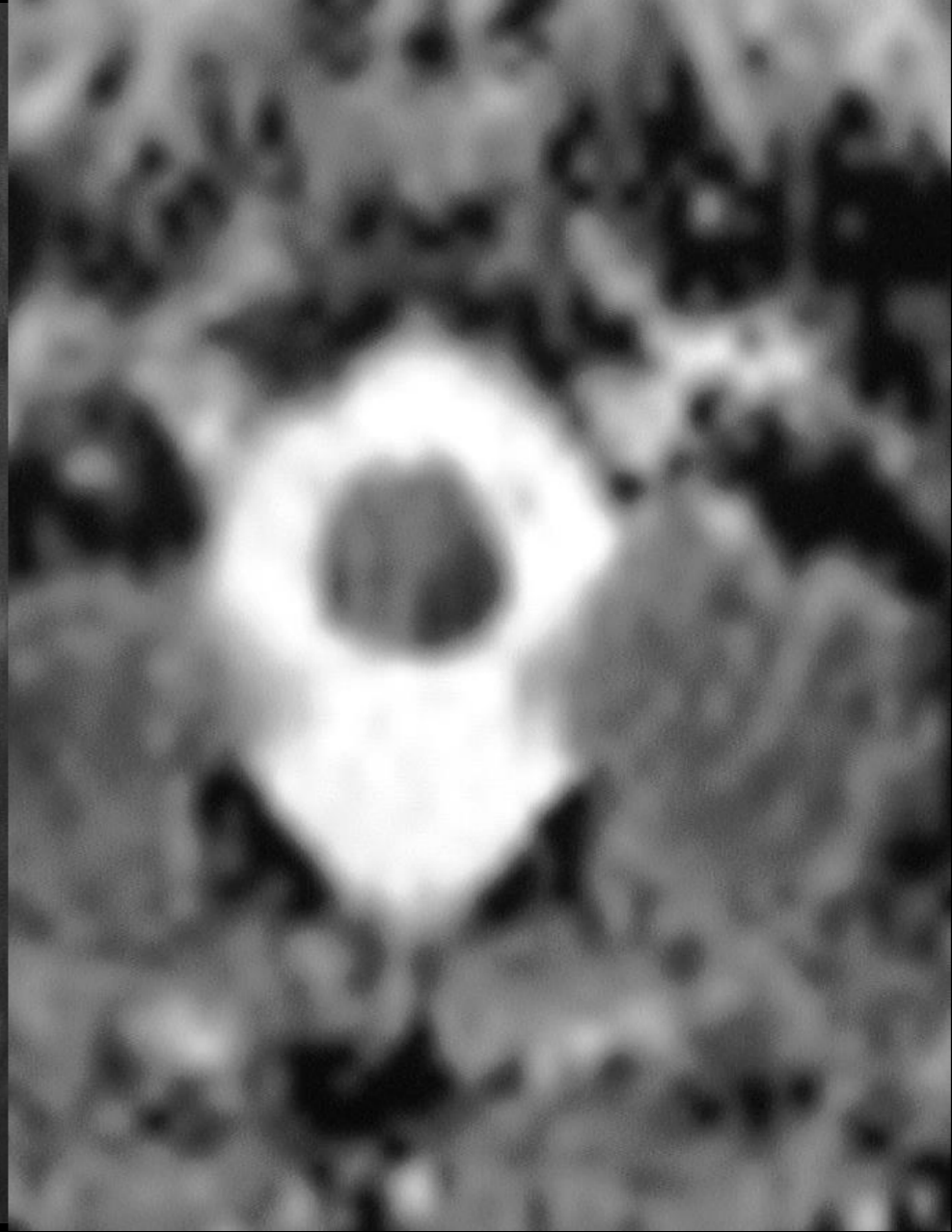
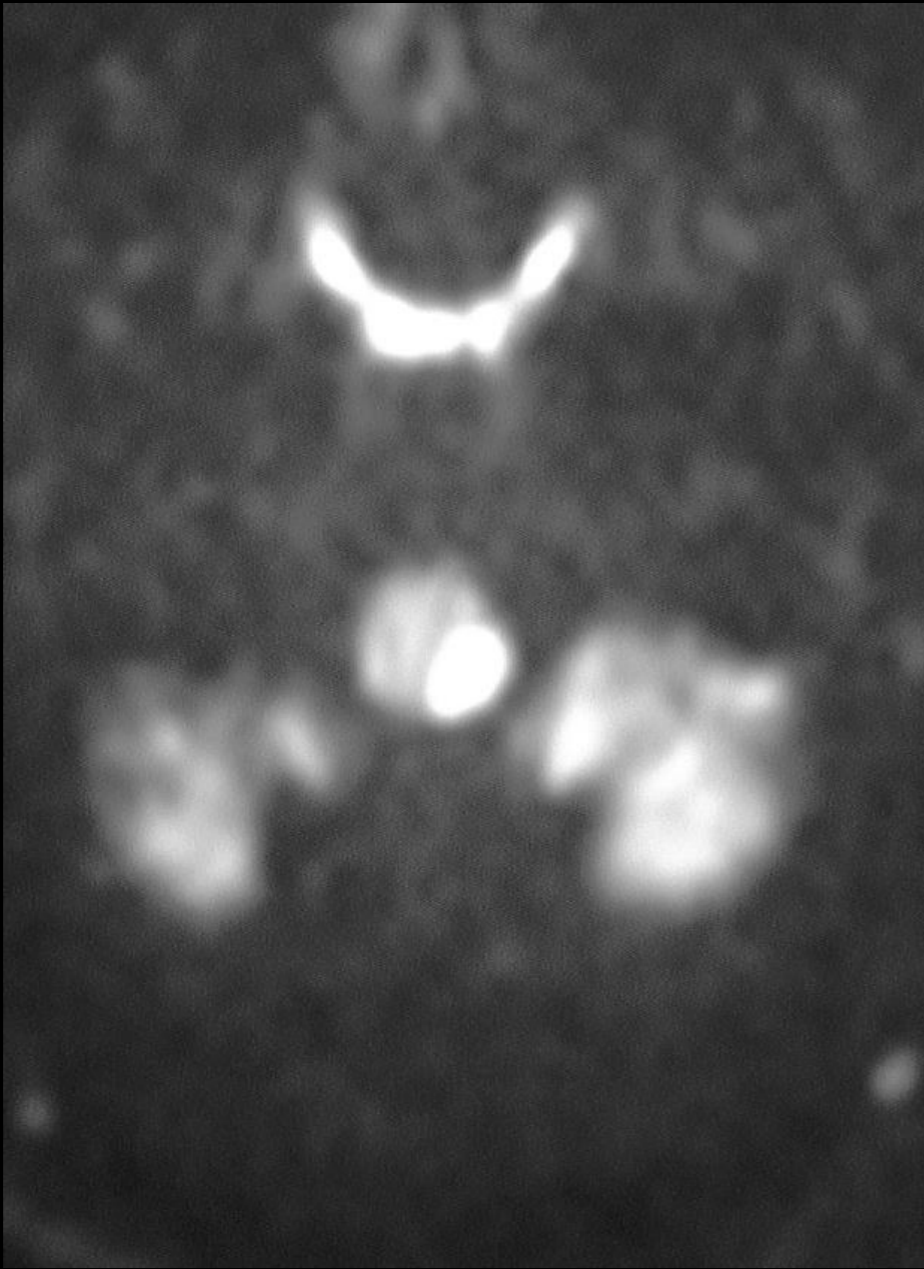


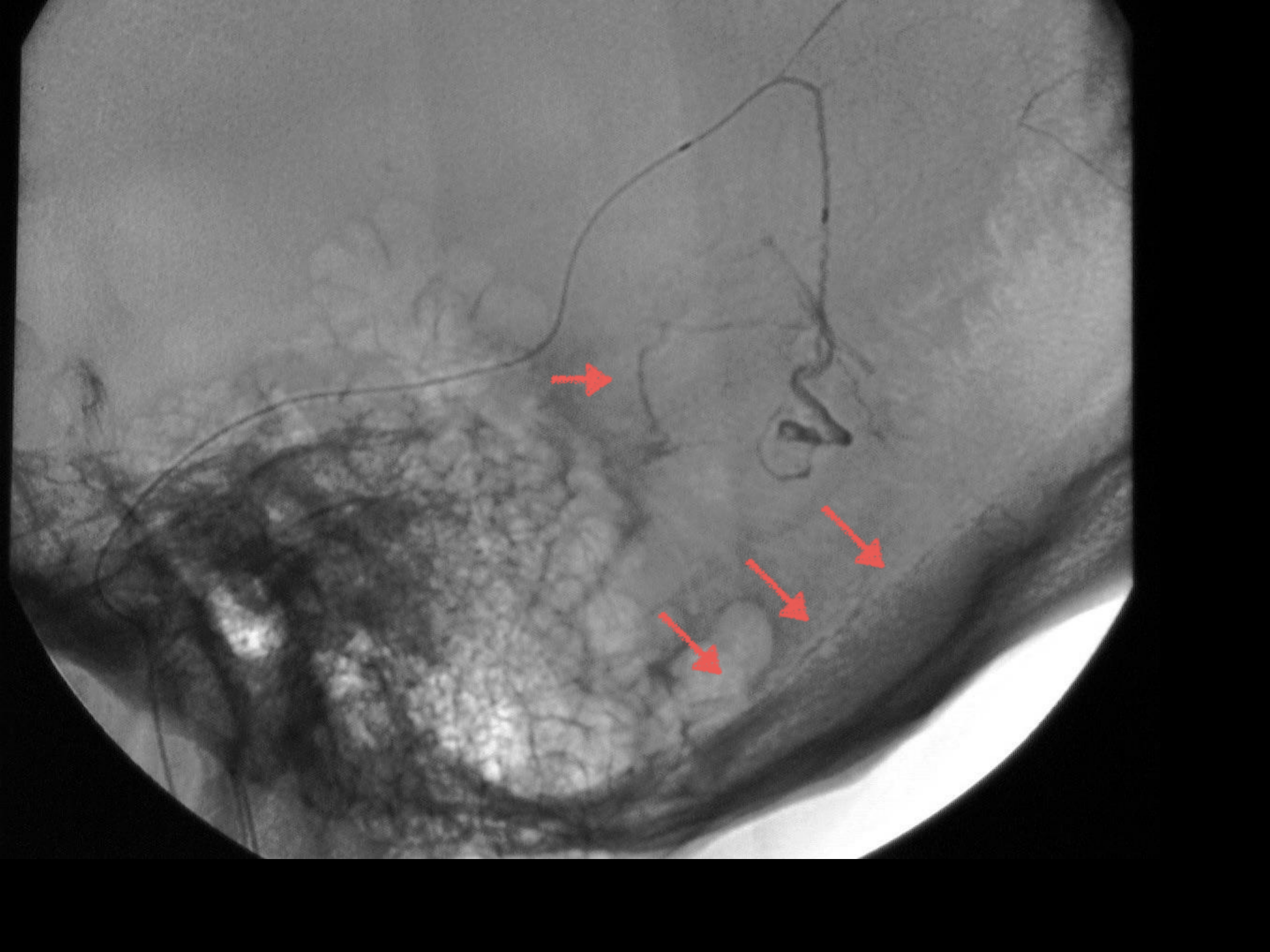
injection selective AMM vue oblique



# cas clinique

- épilepsie récente
- Fistule durable du sinus latéral à drainage veineux cortical
- selective catheterisme de la branche postérieure de l'AMM
- injection de cyano acrylate (70%)
- bradycardie sévère durant l'embolization
- Réveil : syndrome de Wallenberg + Brown Sequard G....
- courtesy of A Gaston et coll J of Neuroradiology 2005

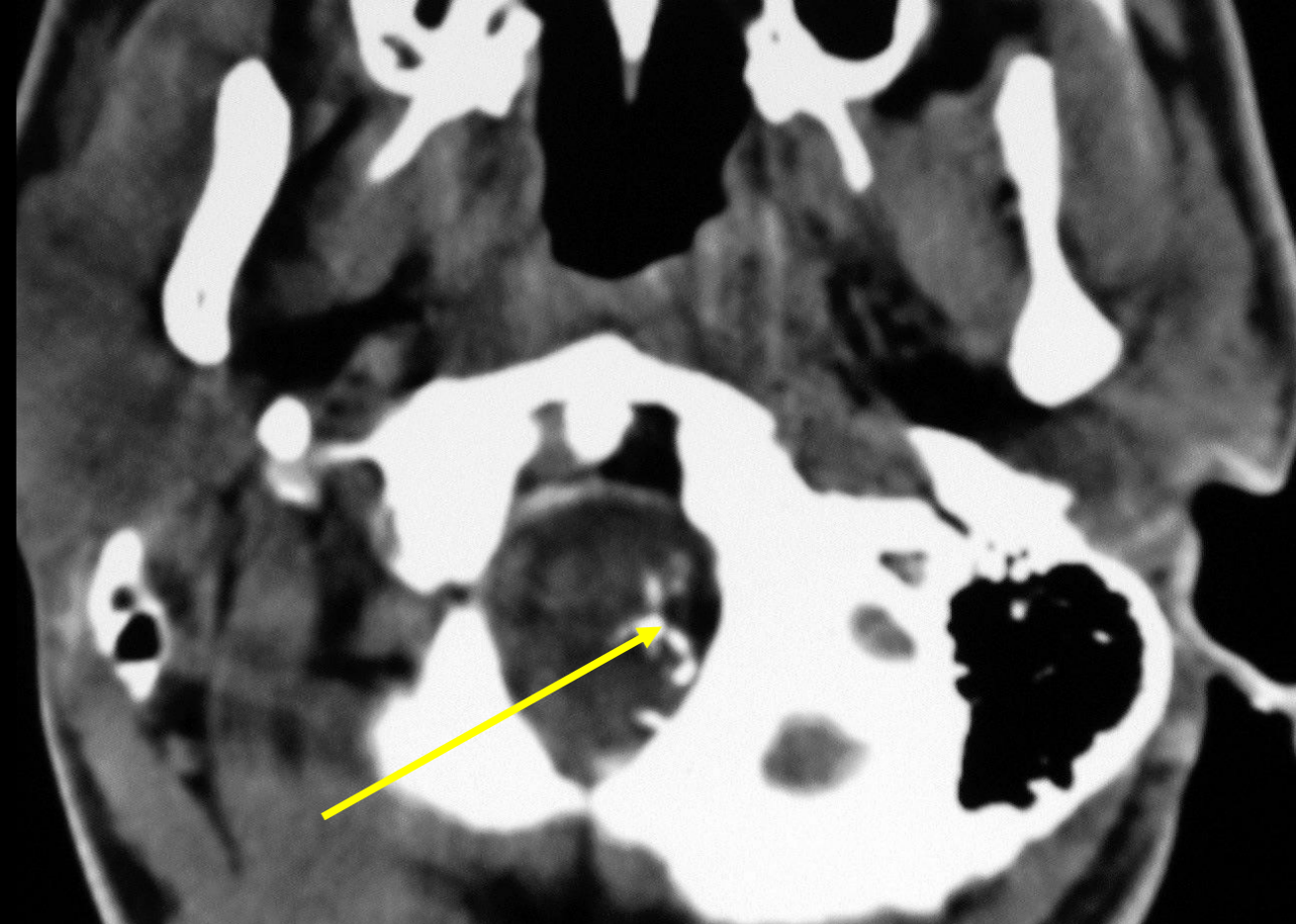
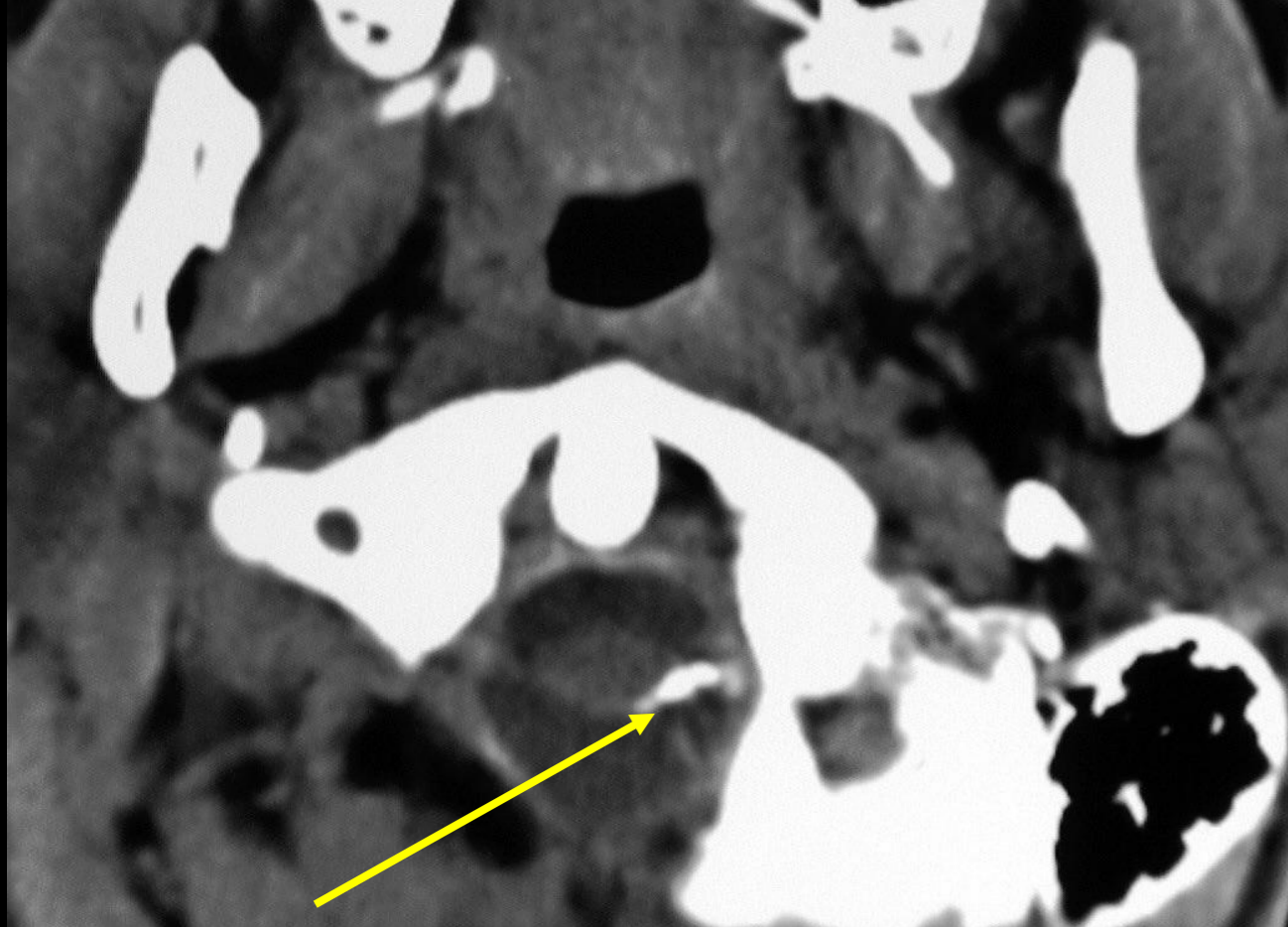




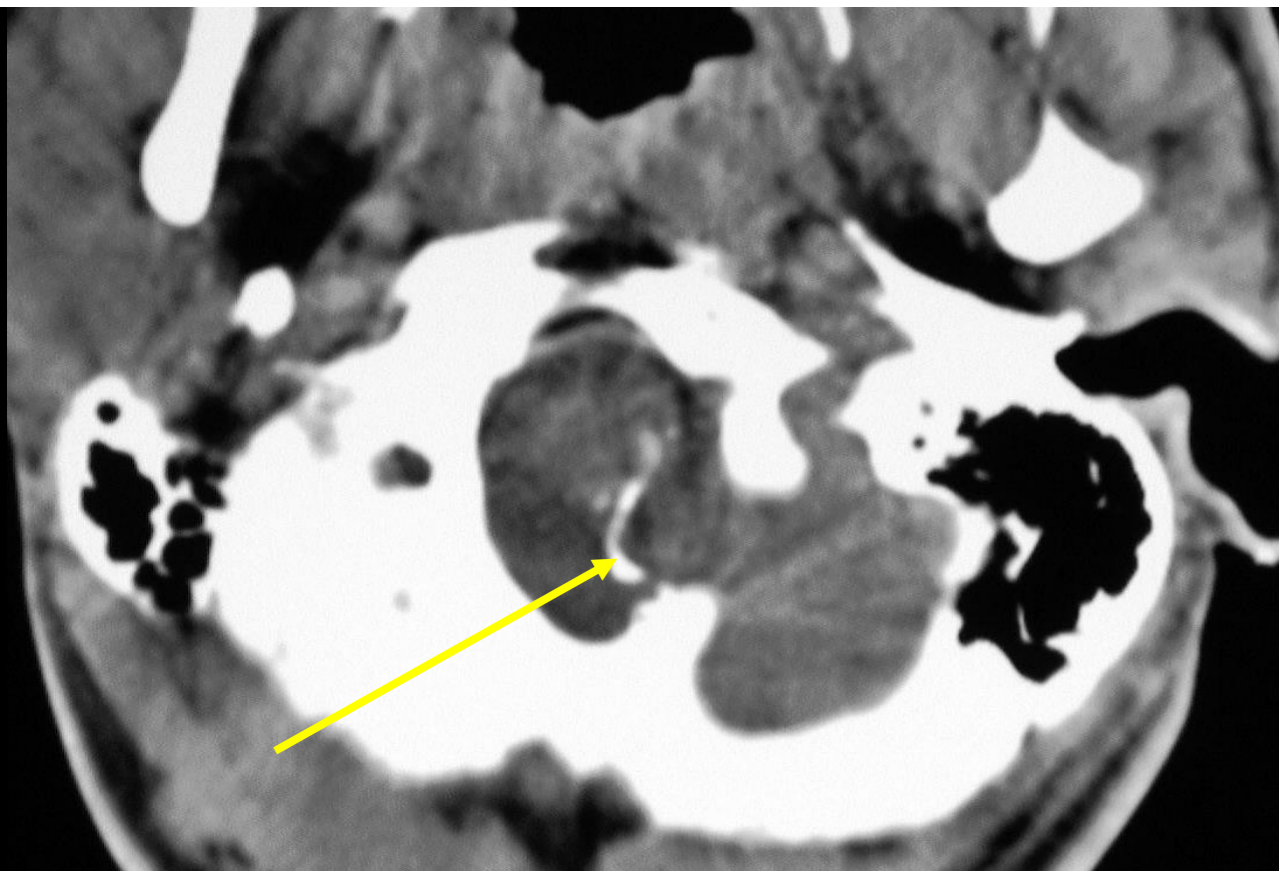


posterior meningeal artery

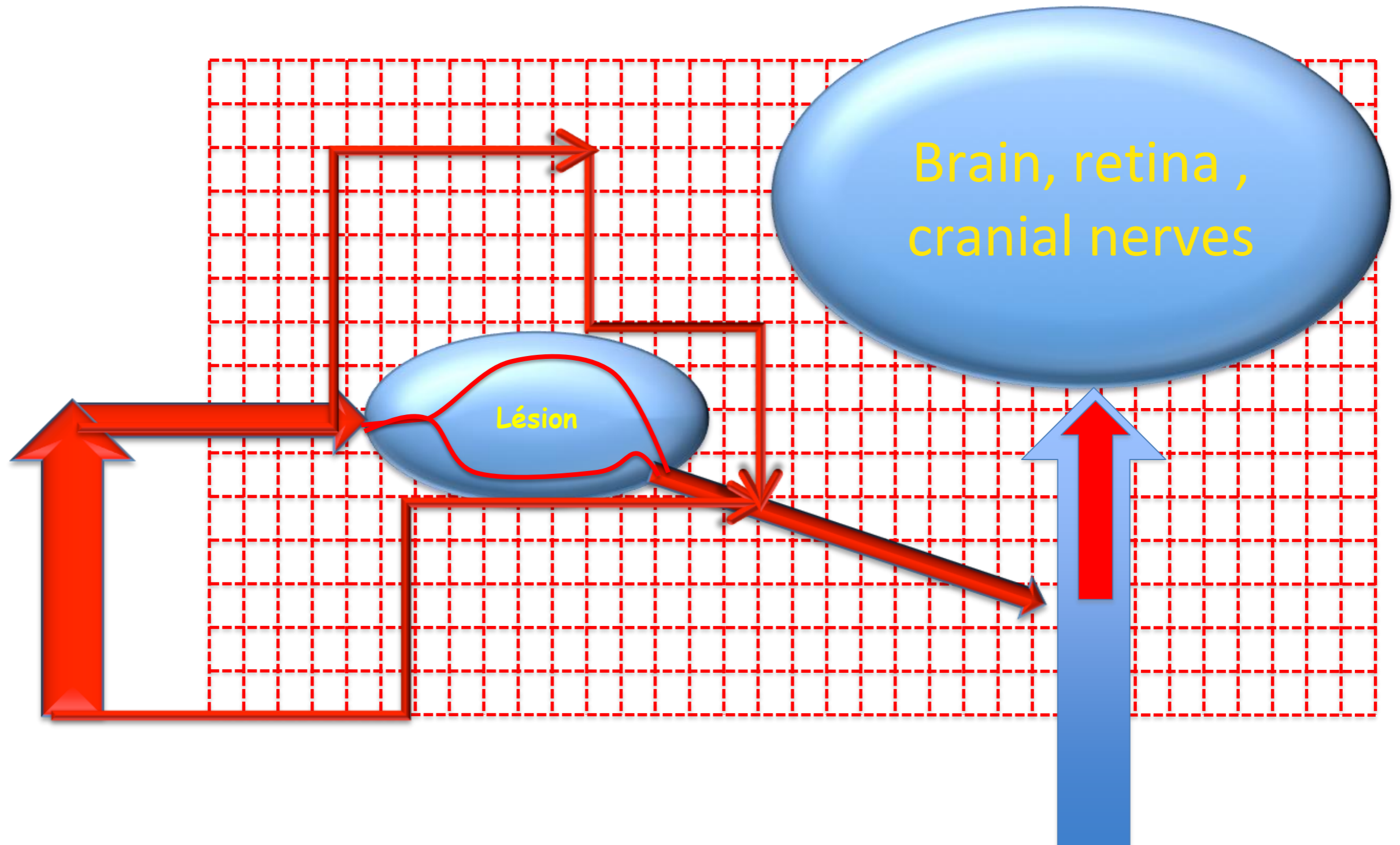


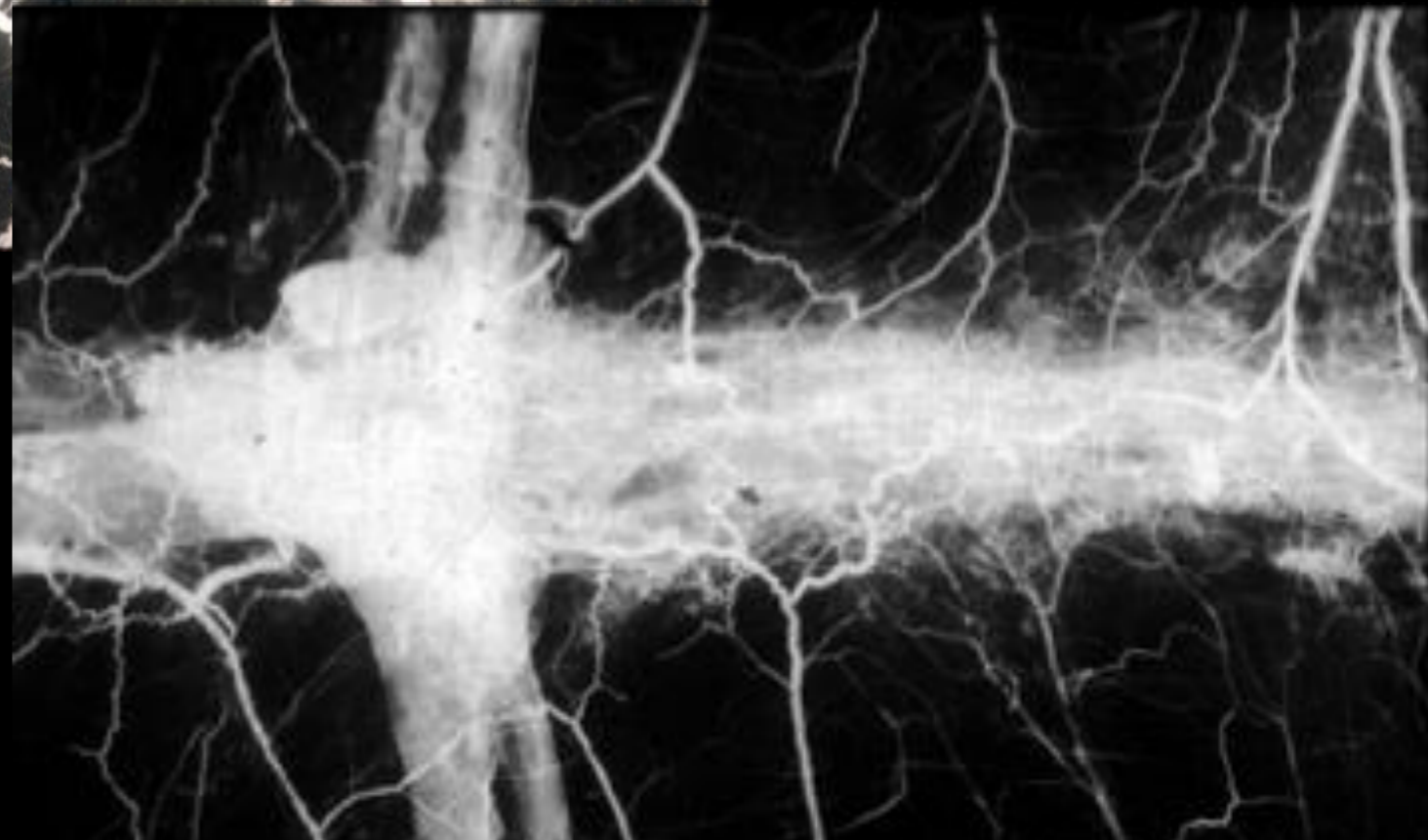
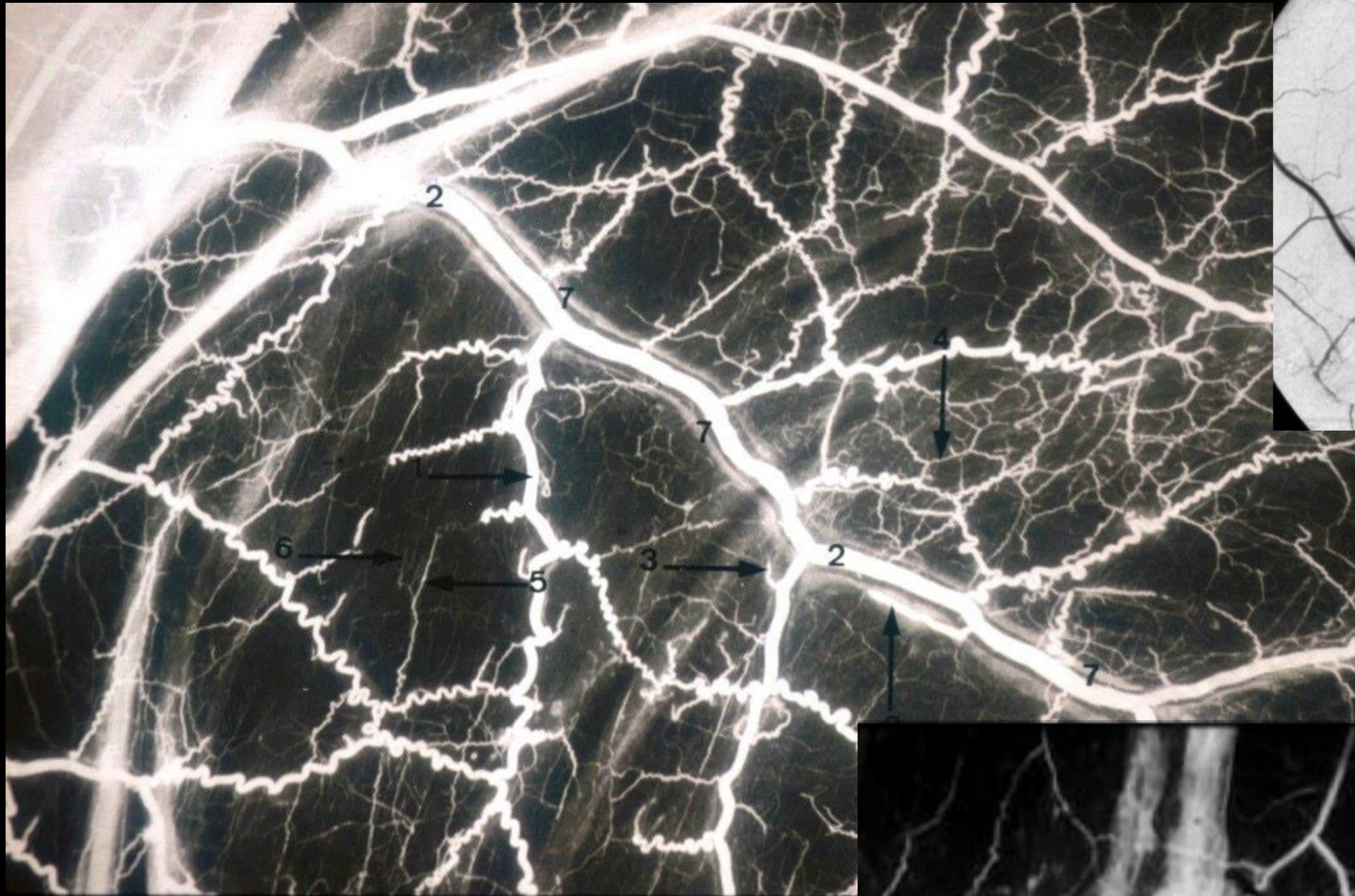


remplissage progressif de l'artère méningée postérieure puis de l'artère spinale postéro latérale gauche



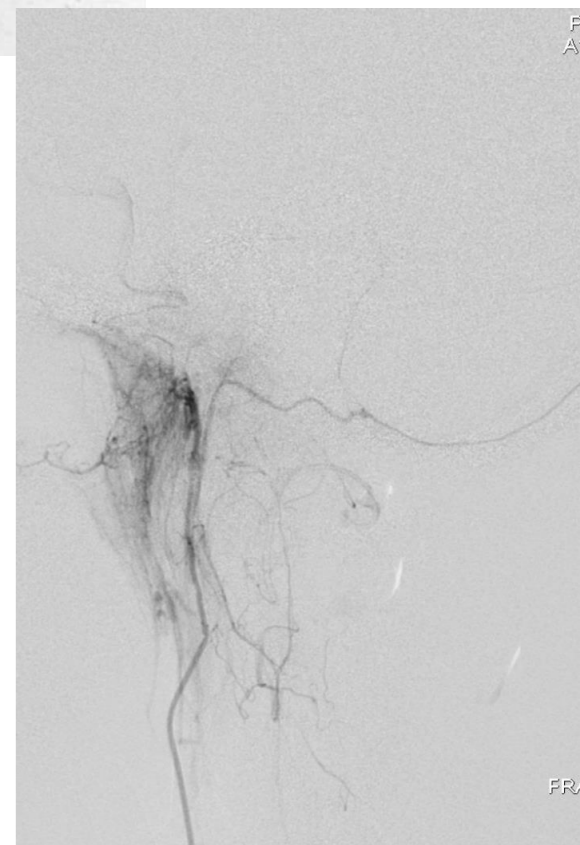
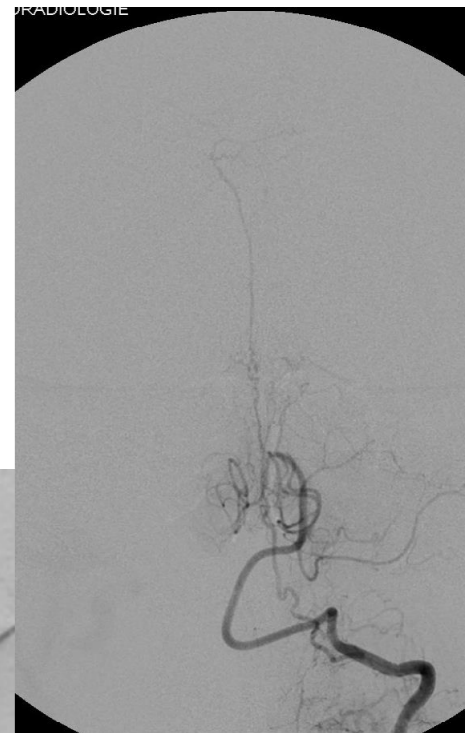
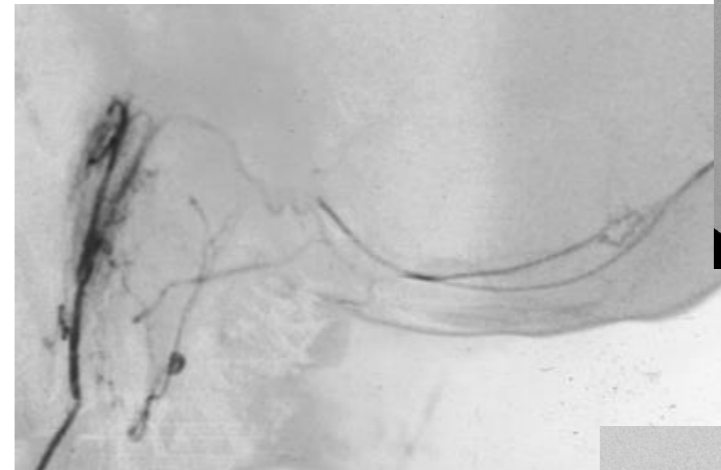
# Erratic embolization through the lesion or distal anastomoses





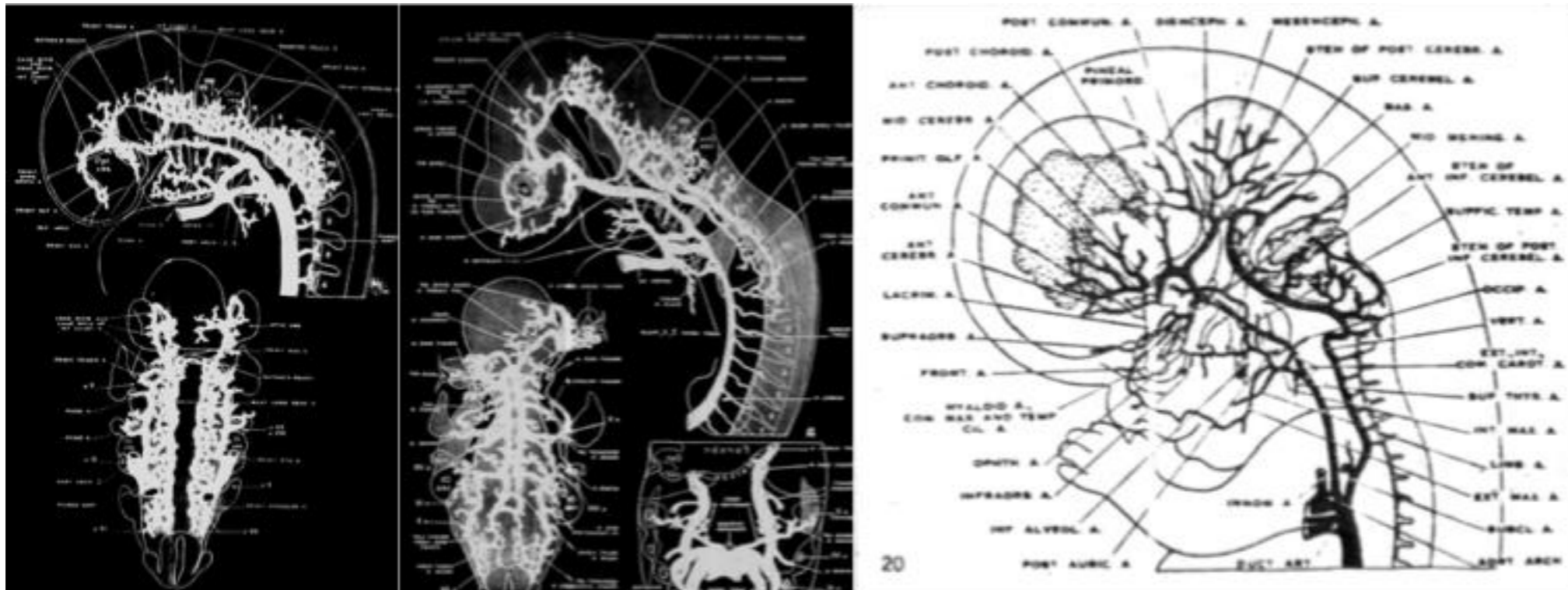
# origines de l'artère méningée postérieure

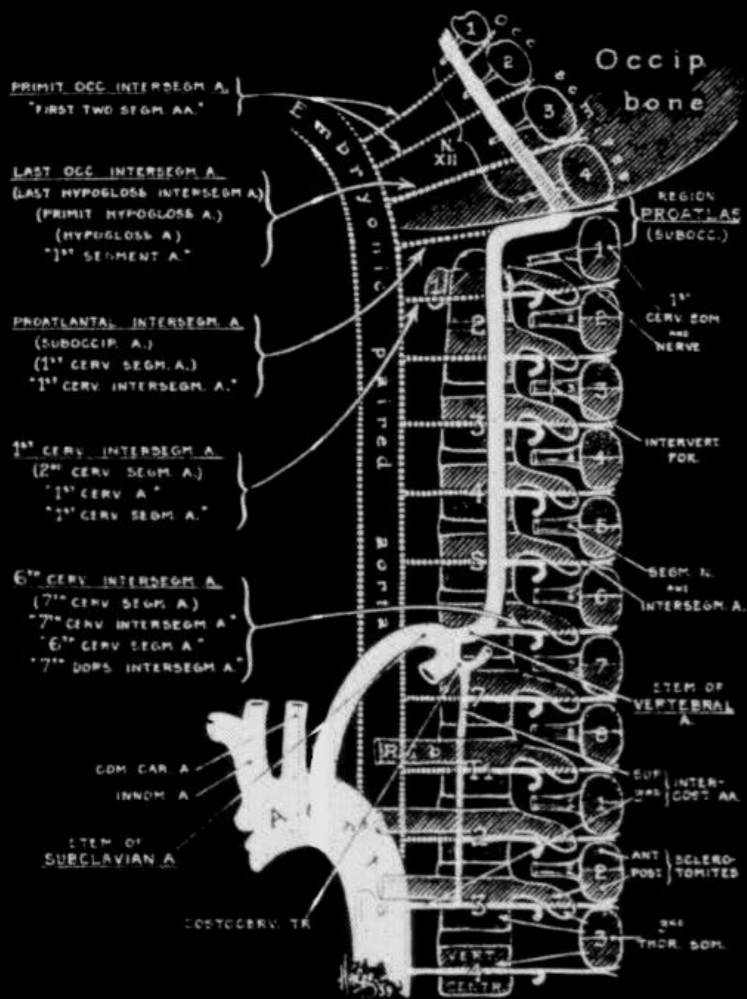
- artère vertébrale
- artère cérébelleuse inférieure
- artère occipitale
- artère pharyngienne ascendante
- anastomoses proximales au niveau du foramen magnum



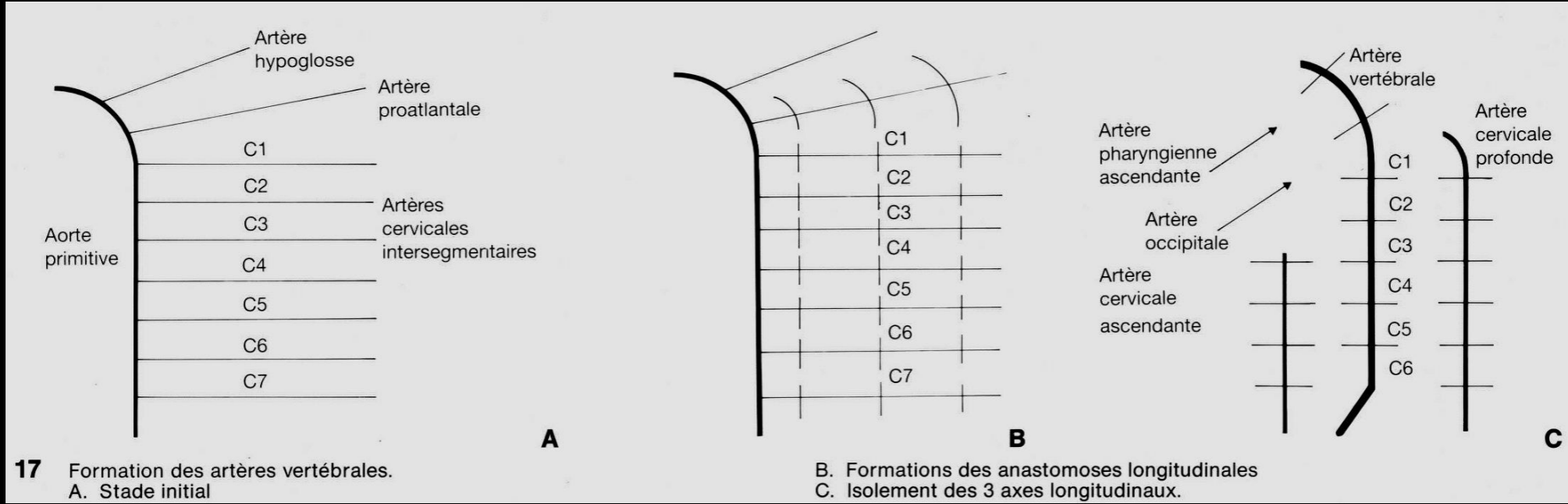
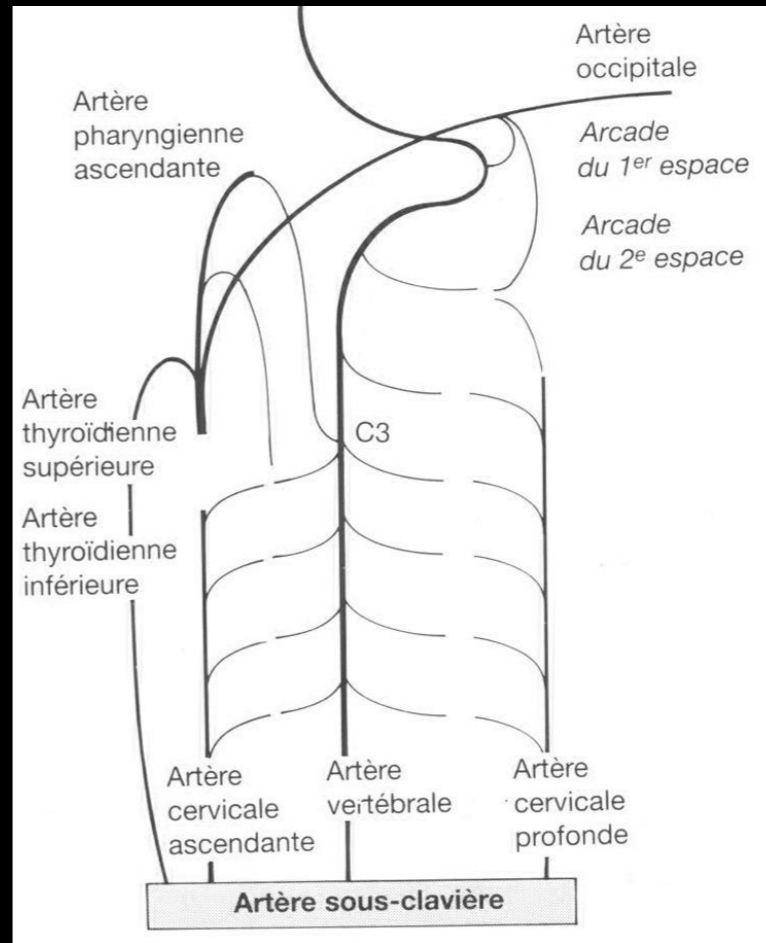
# Systeme Pharyngo-Occipital

- Au niveau cervical, initialement chaque artère metamérique se distribue aux compartiments osseux, neuro-meningé et viscéral du métamère





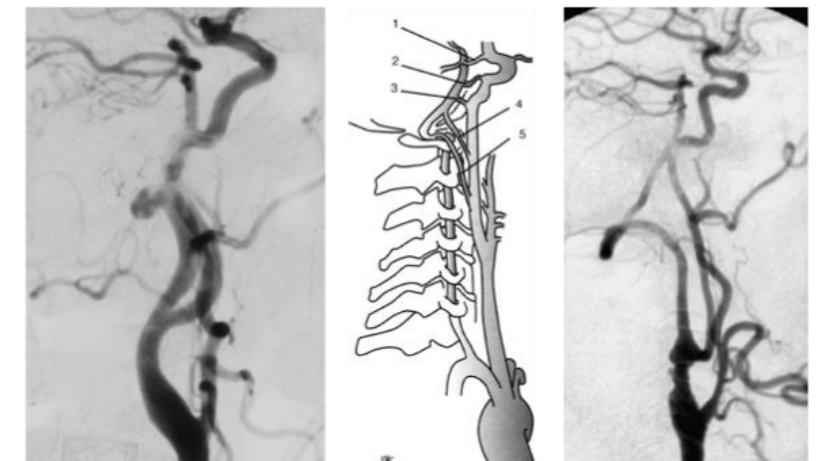
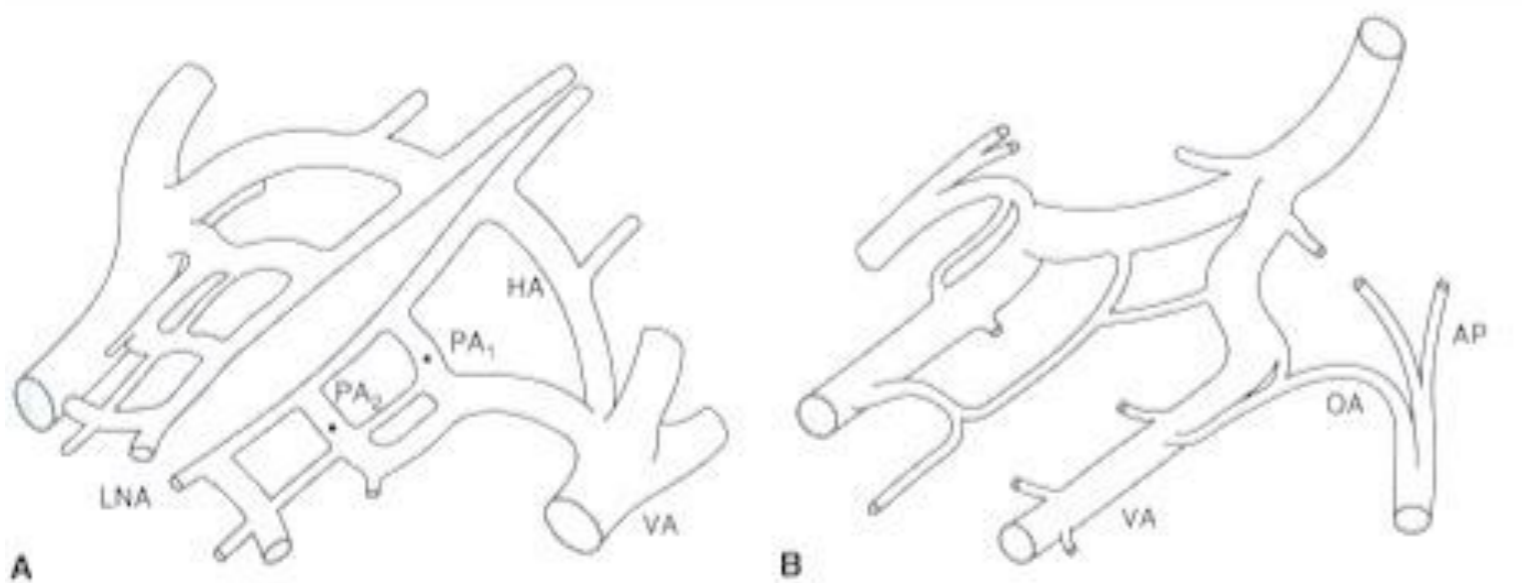
Padget DH



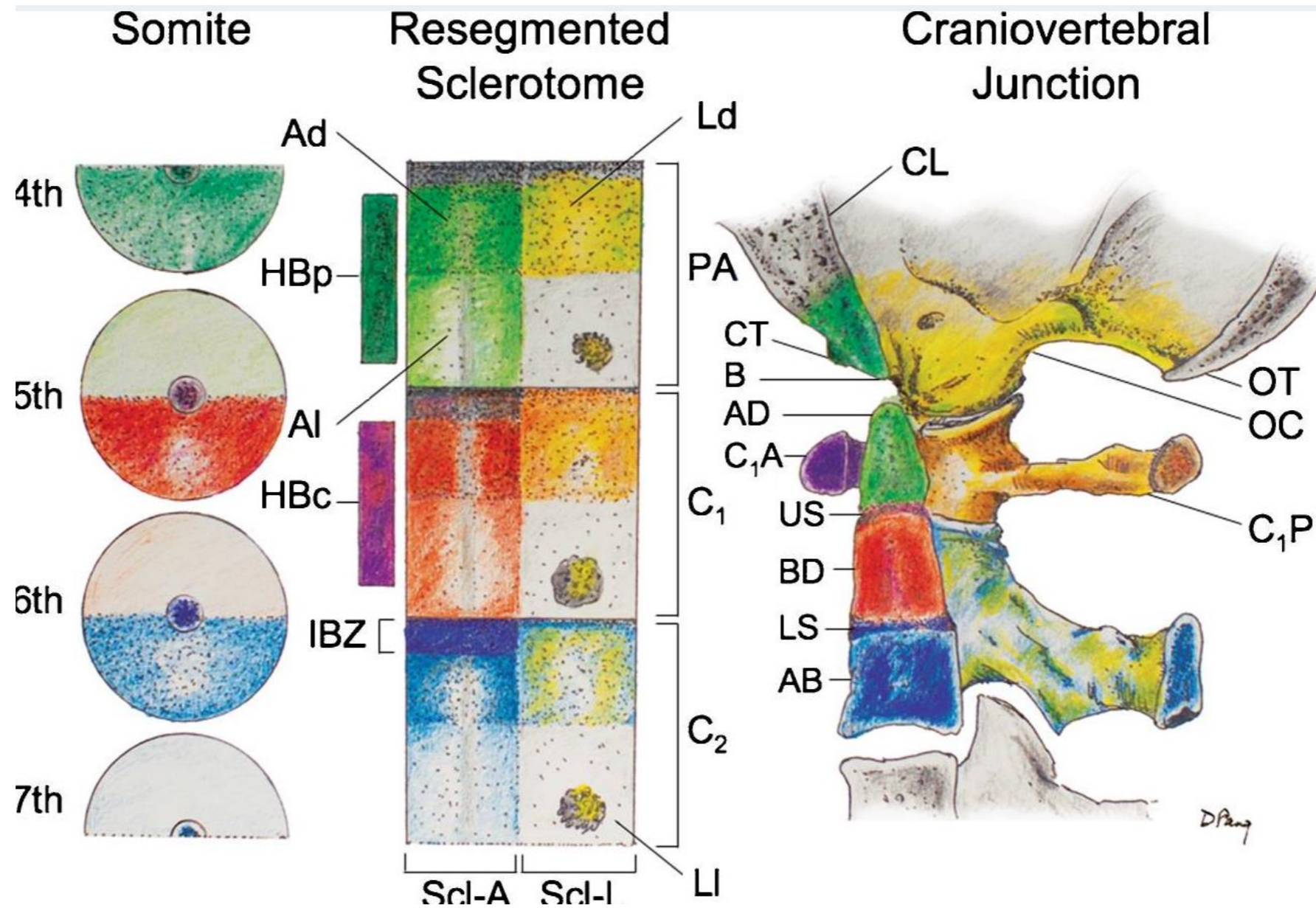
17 Formation des artères vertébrales. A. Stade initial

B. Formations des anastomoses longitudinales C. Isolement des 3 axes longitudinaux.

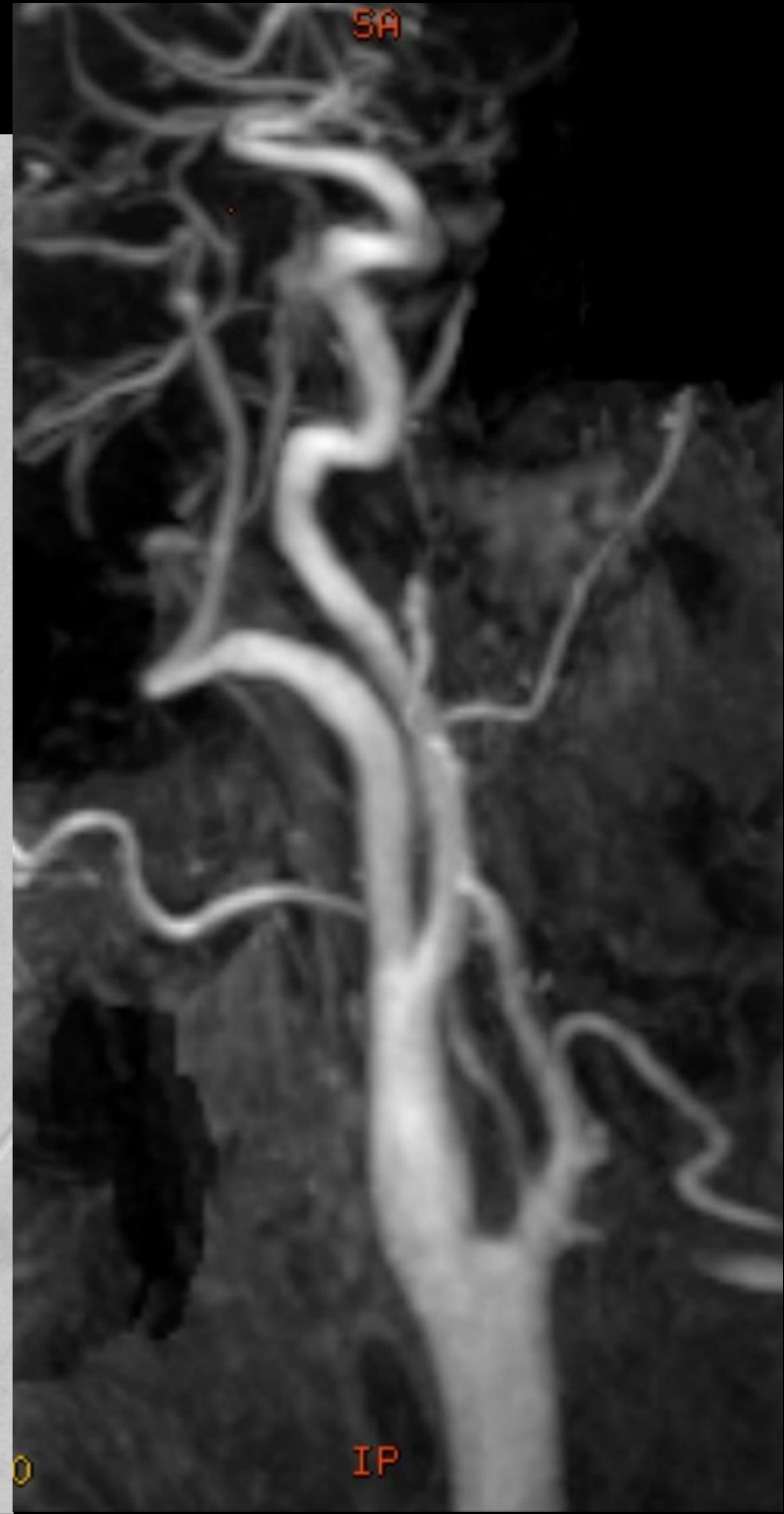
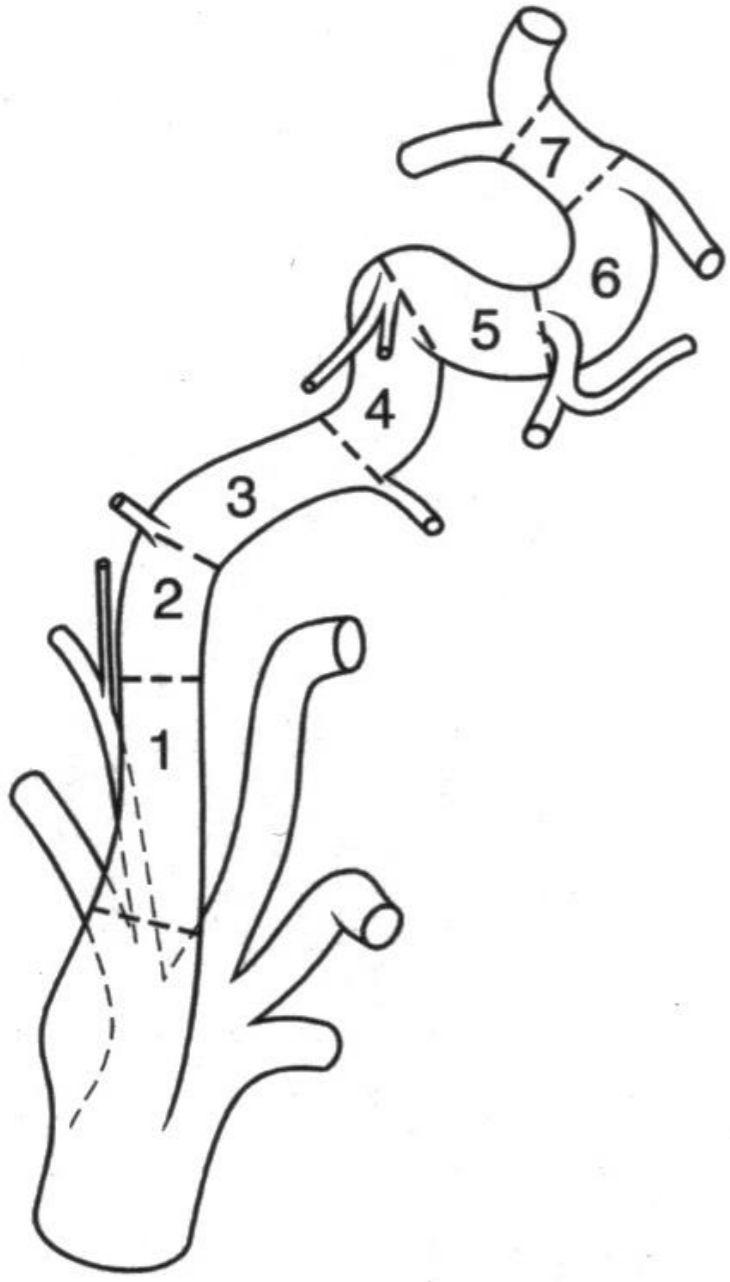
- Les métamères cervicaux supérieurs sont constitués des somites 1, 2 et 3 alimentés par les artères proatlantales type 1, type 2 et la 3<sup>ème</sup> artère cervicale segmentaire. Les artères proatlantales sont intégrées dans la formation des artères occipitale et vertébrale.



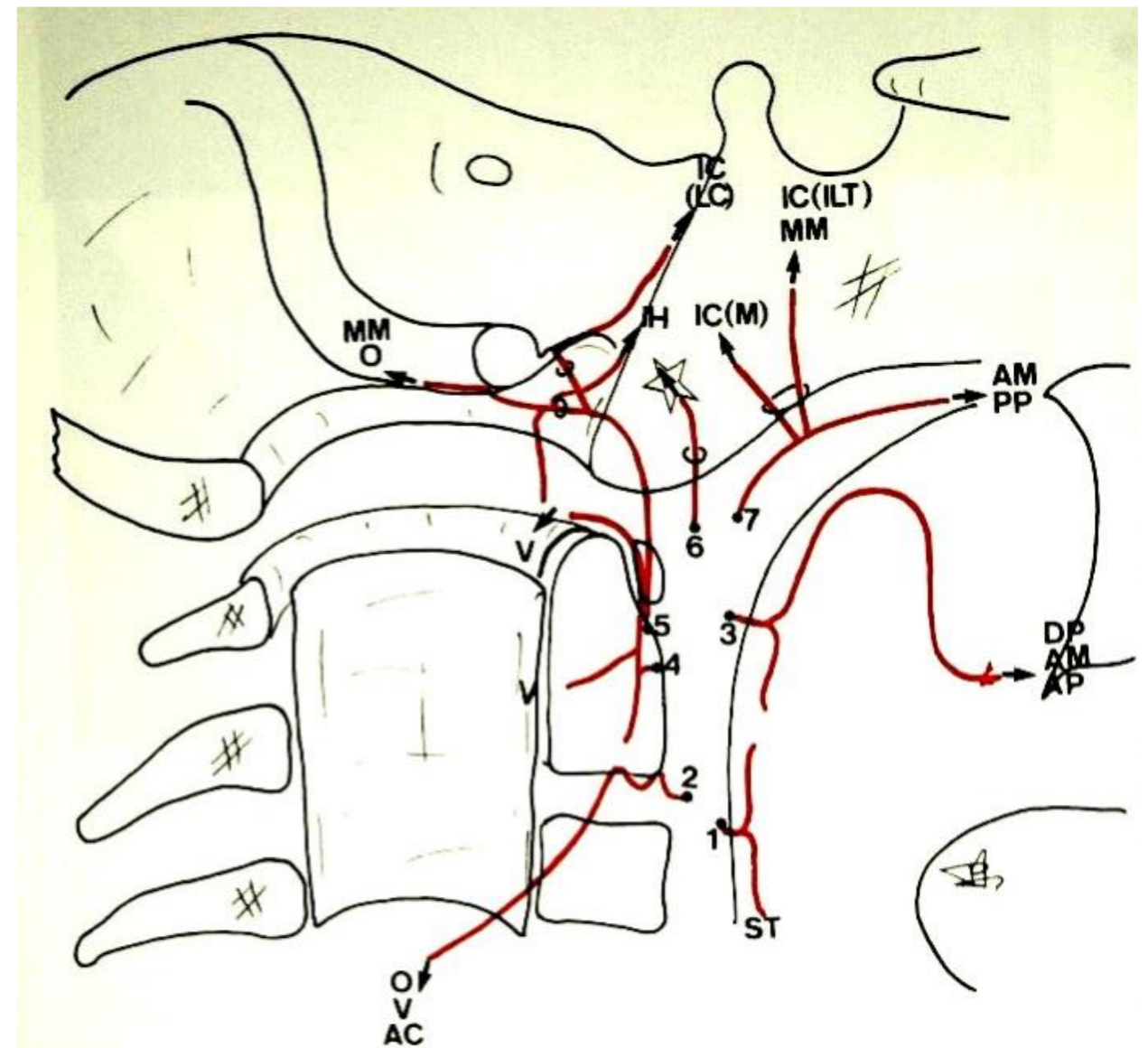




Pang D



# Artère pharyngienne ascendante



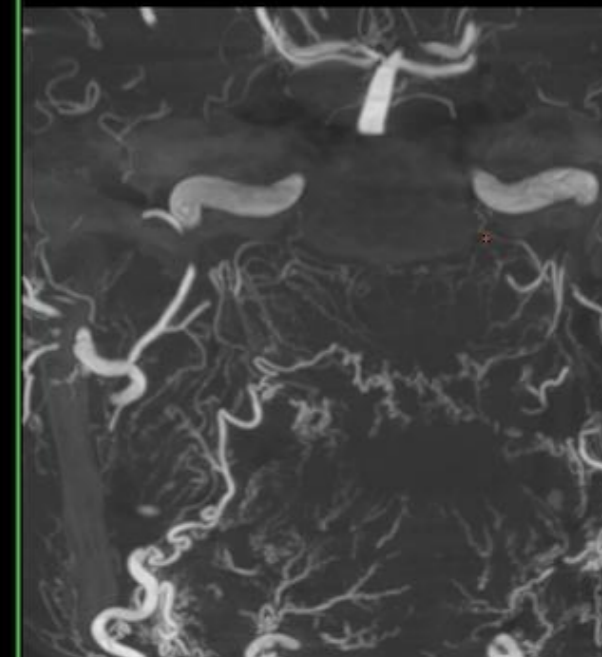
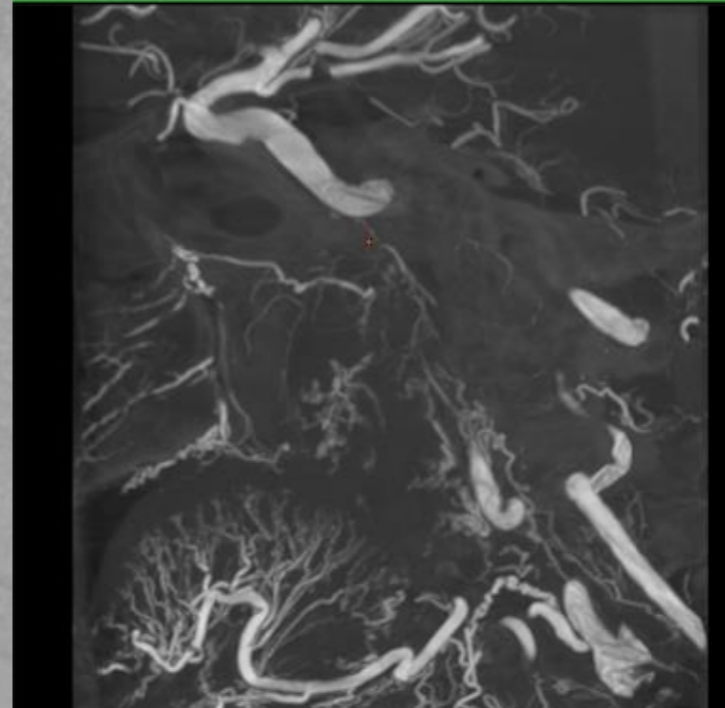
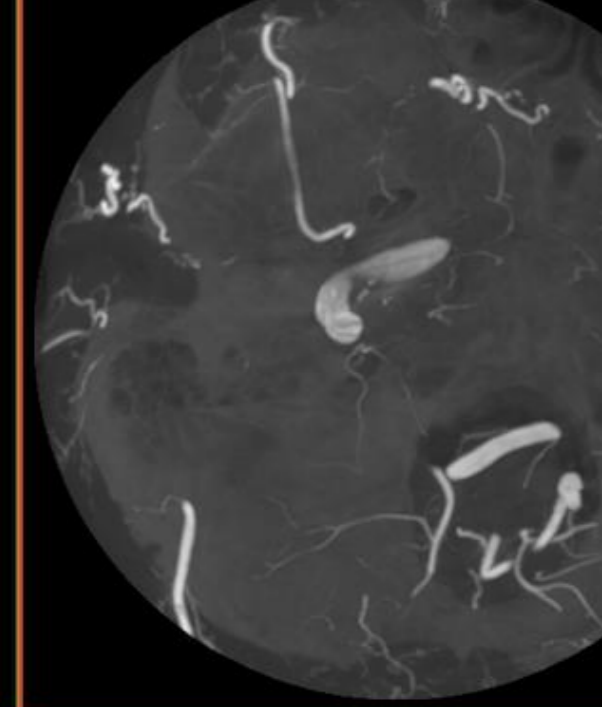
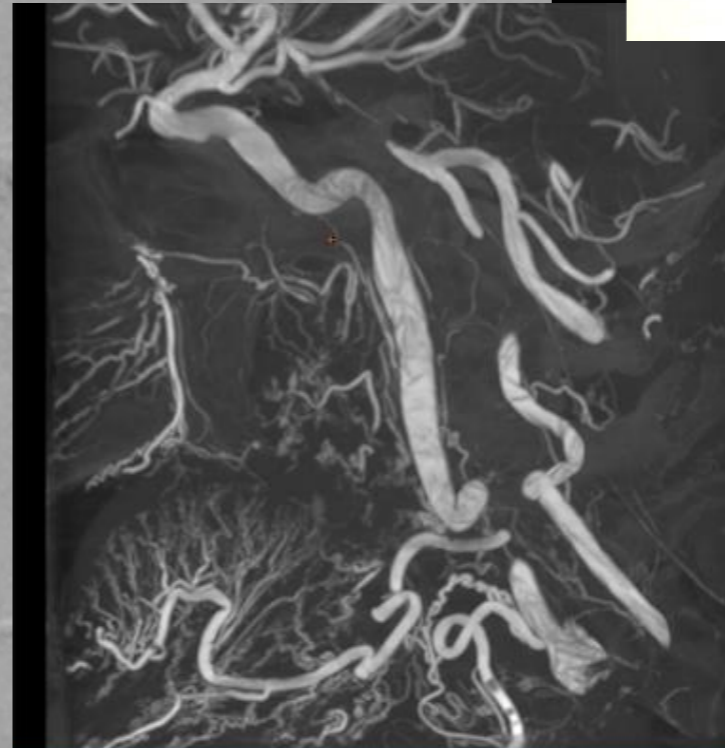
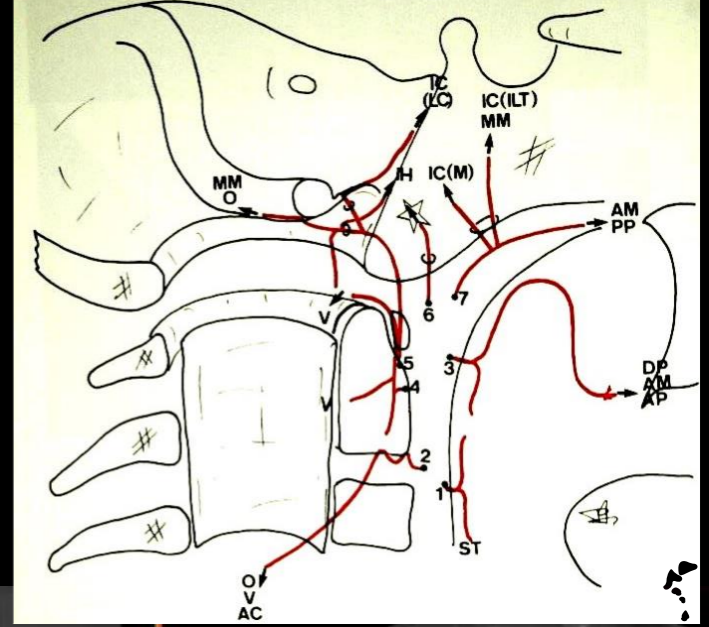


AO: 90.0 deg  
RA: 0.0 deg  
0.0 deg

Artère musculo spinale

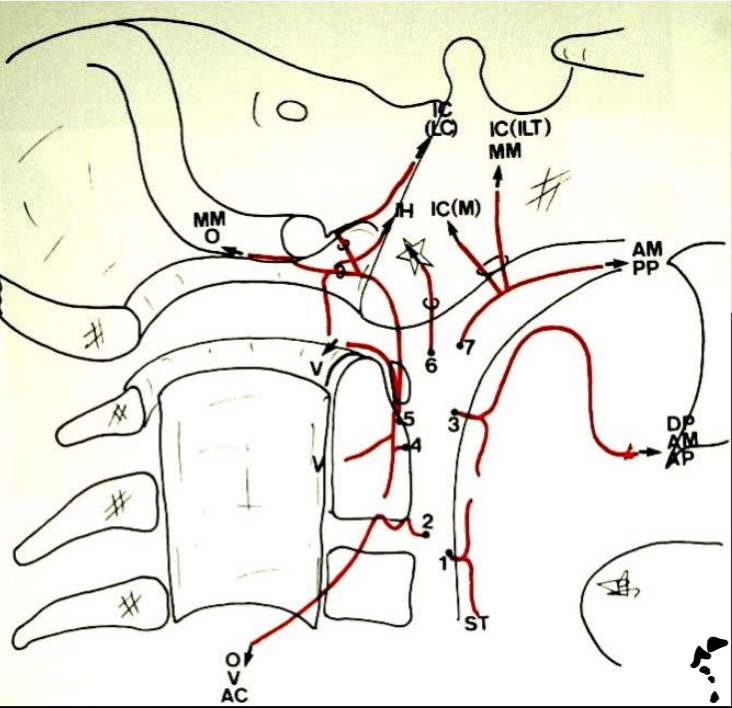
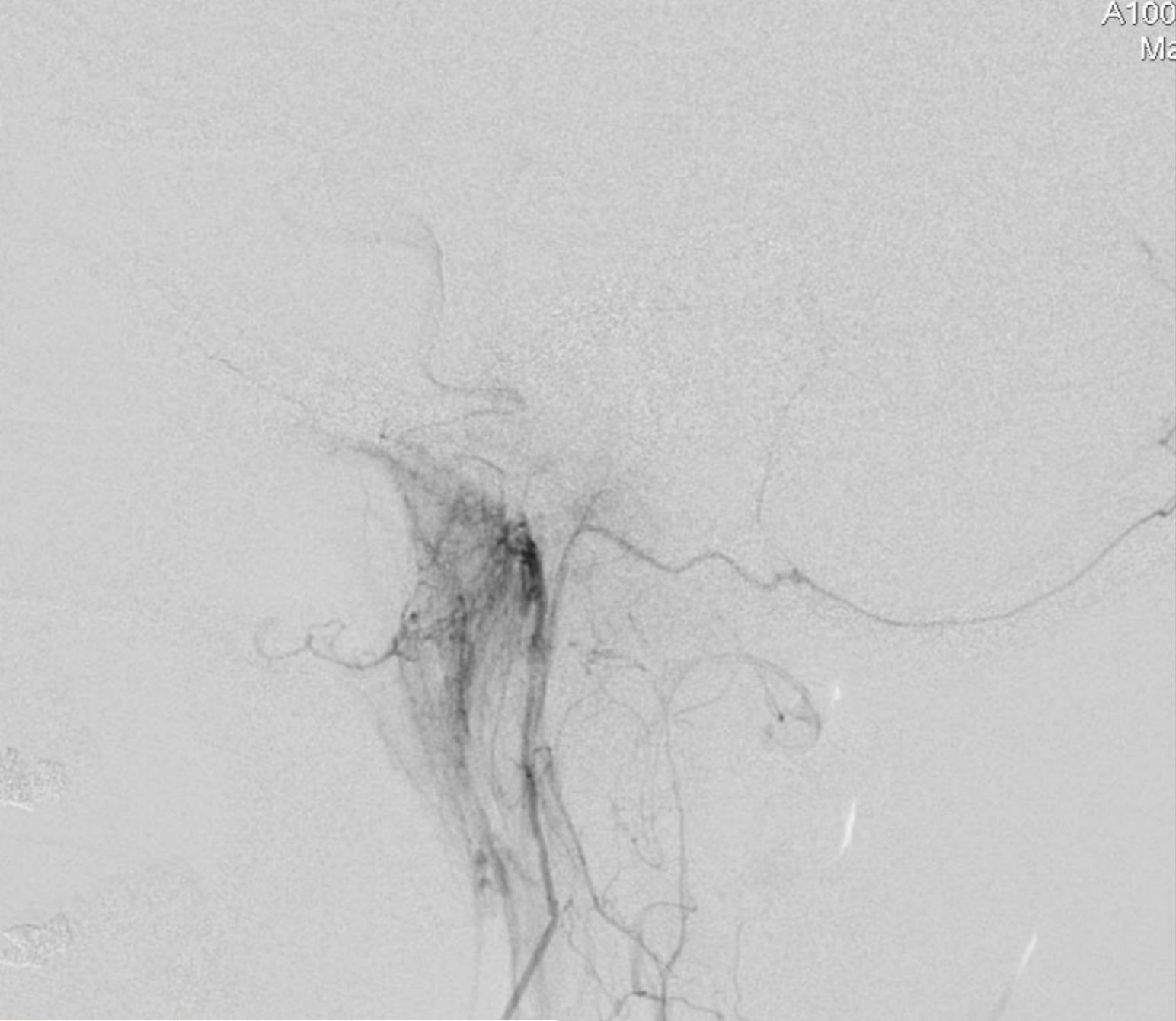
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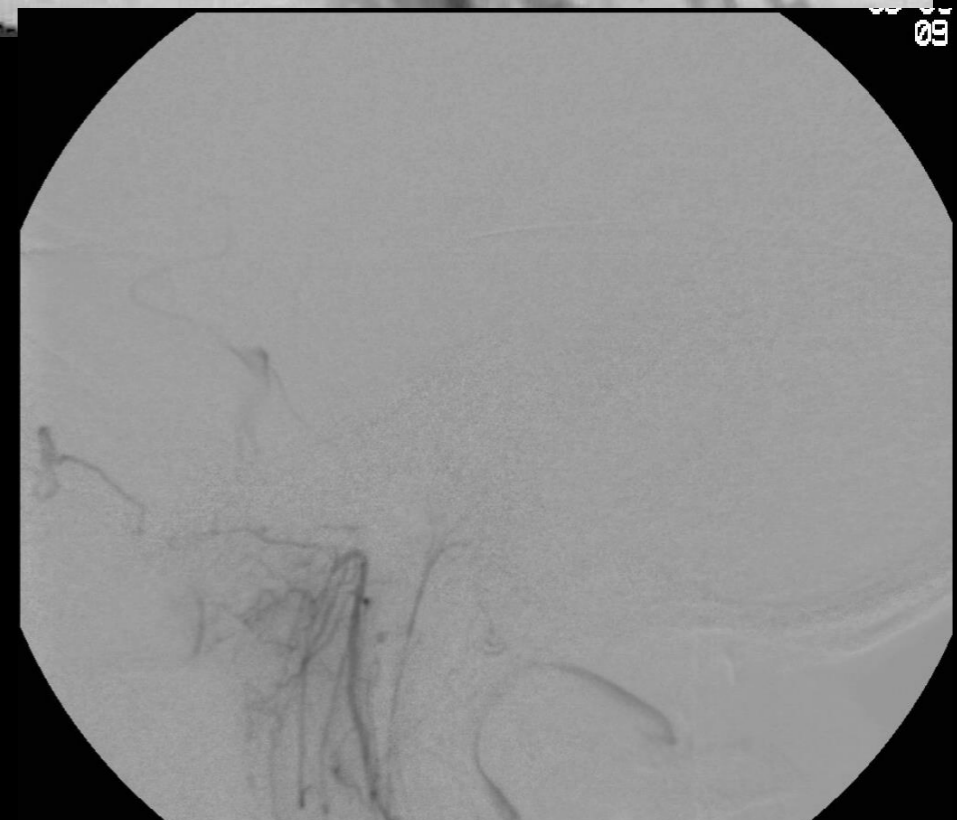


AO: 90.0 deg  
RA: 0.0 deg  
0.0 deg

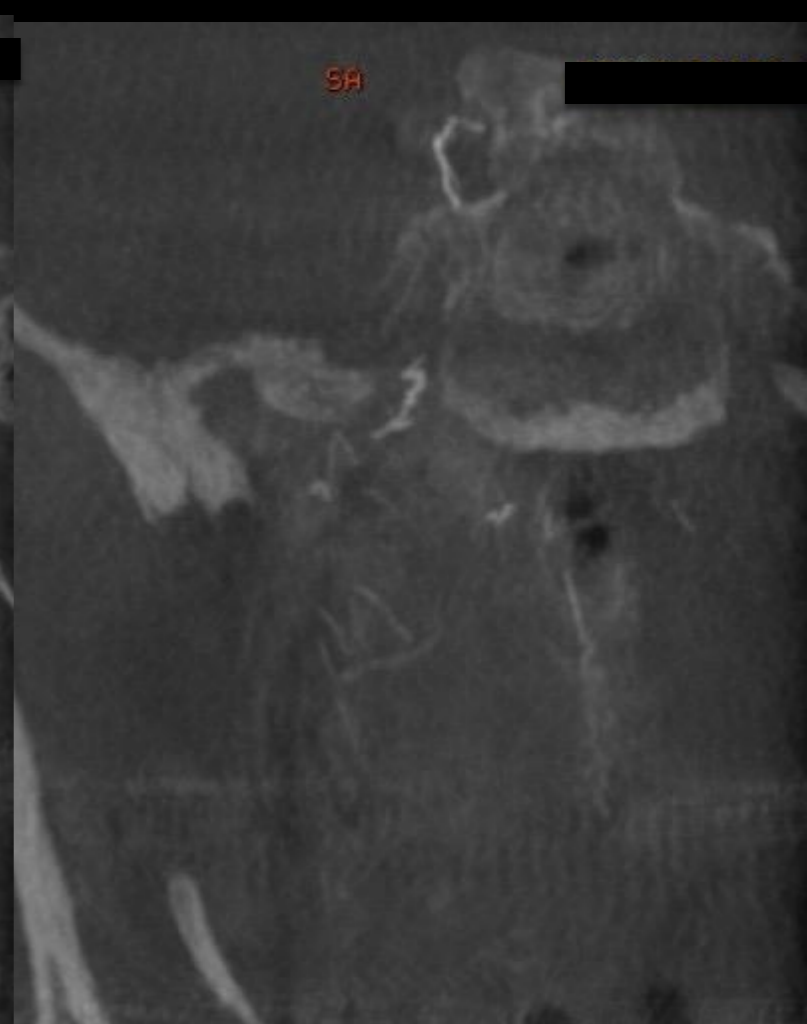
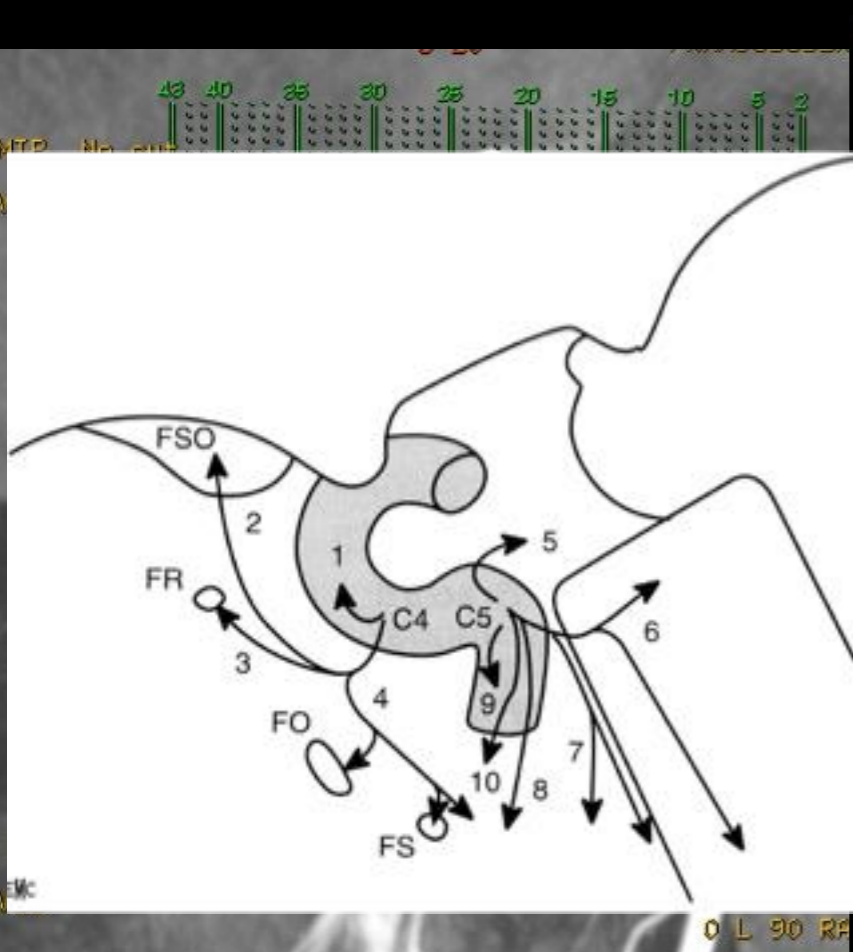
A100  
Ma



FRAM  
M



100  
09



5 cut  
cm

Jun 13 2013  
14:40



A  
4  
2

Oblique

Seq: 21

DFOV 11.9cm

Angles

0 L 90 RAO 0 CRA

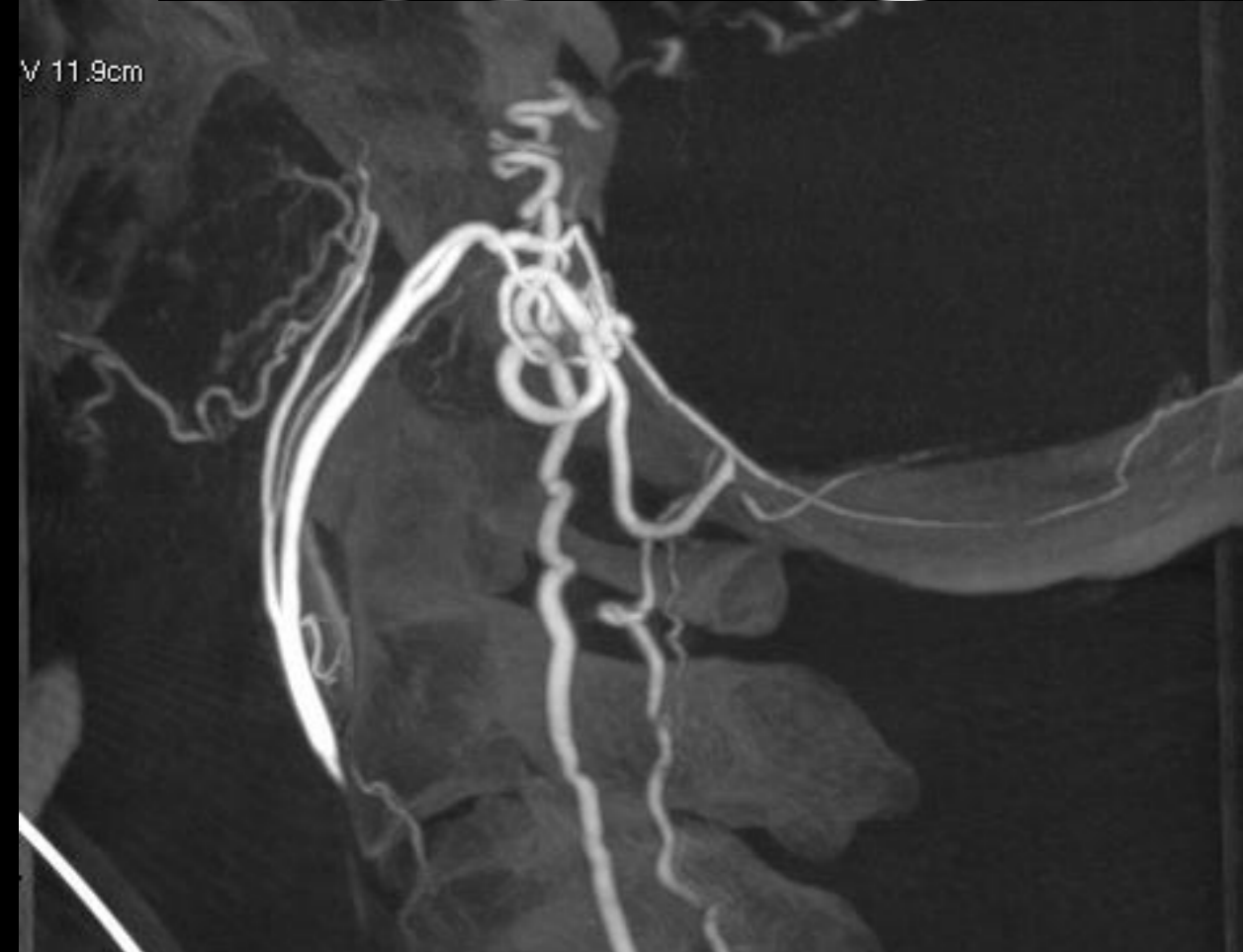
A 59

\*\*\*\*

Jun 13 2013

que  
: 21  
e: 0.2 mm

V 11.9cm



R  
5  
9

MP  
31.5

W = 1848 L = 1326



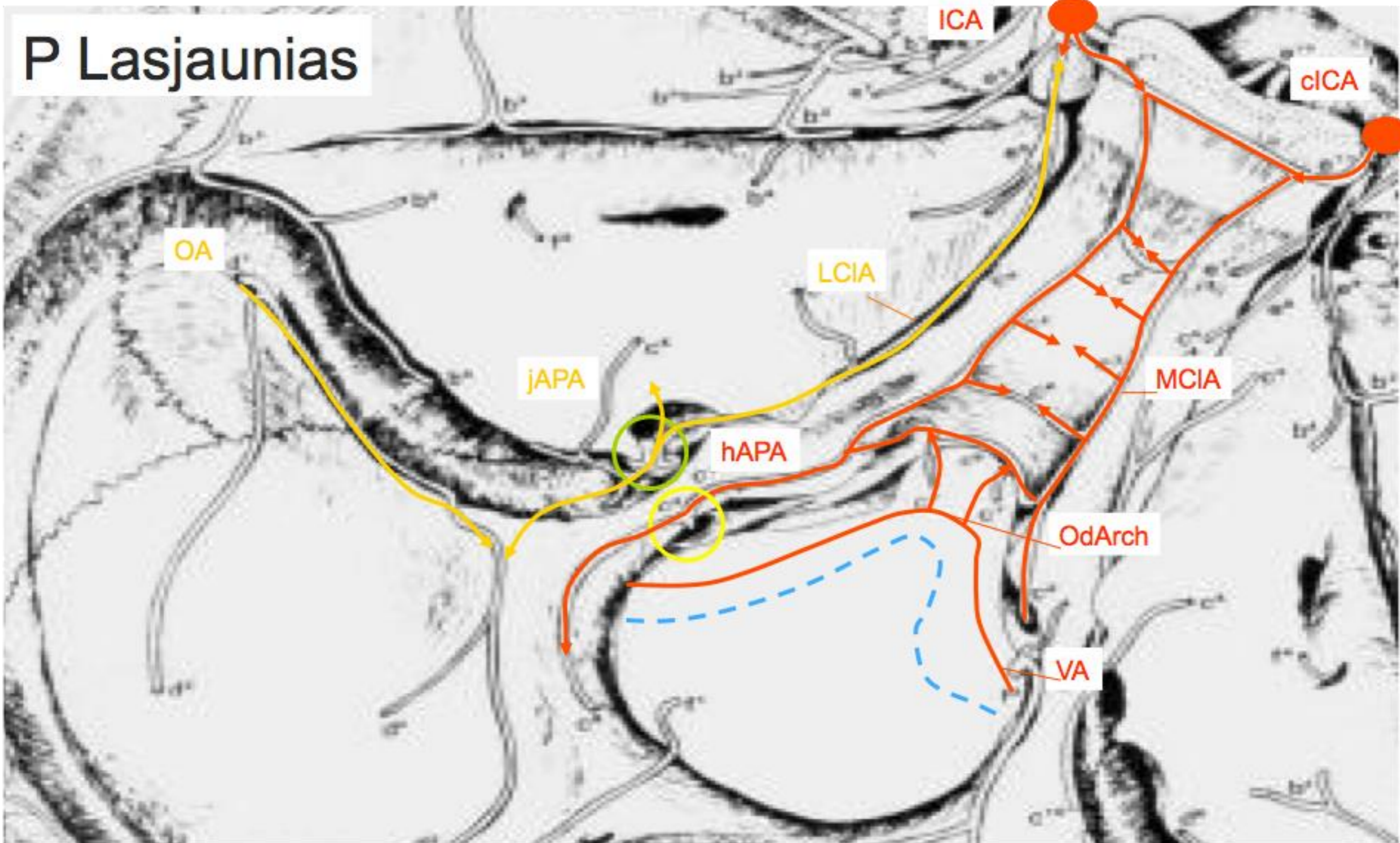
L  
5  
9



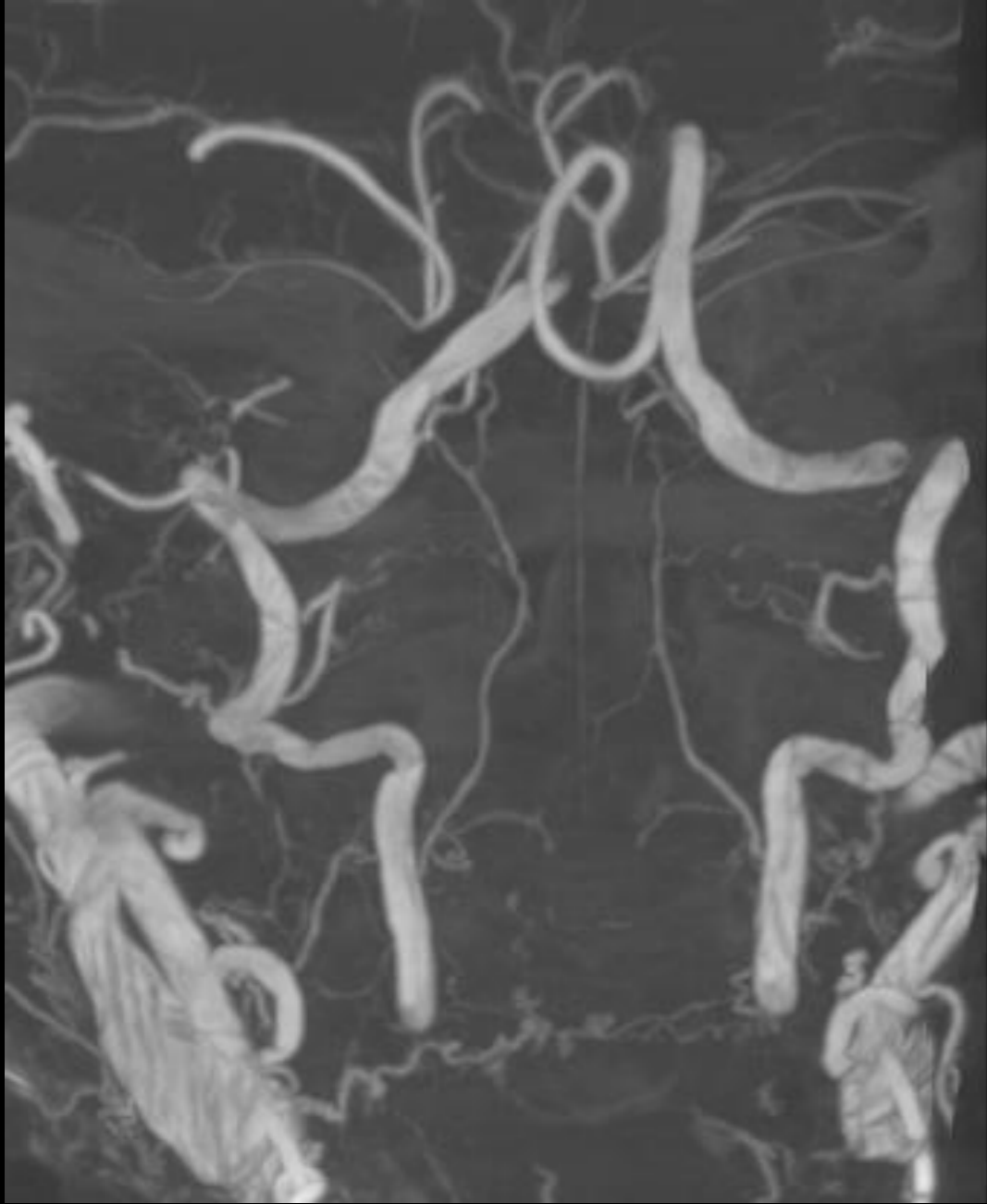


*Pierre L. J. Vachon*  
Claude Vachon  
Jan 1892

# P Lasjaunias



ICA : internal carotid artery, cICA : controlateral internal carotid artery, MCIA : medial clival arteries, LCIA : lateral clival arteries, OdArch : odontoid arch, VA : vertebral artery, APA ascending pharyngeal artery (h hypoglossal, j jugular branches), hypoglossal canal : yellow circle, jugular canal : green circle



taille de l'image : 512 x 512

taille de l'image : 512 x 512

taille de la vue : 845 x 845

27 LF : 255

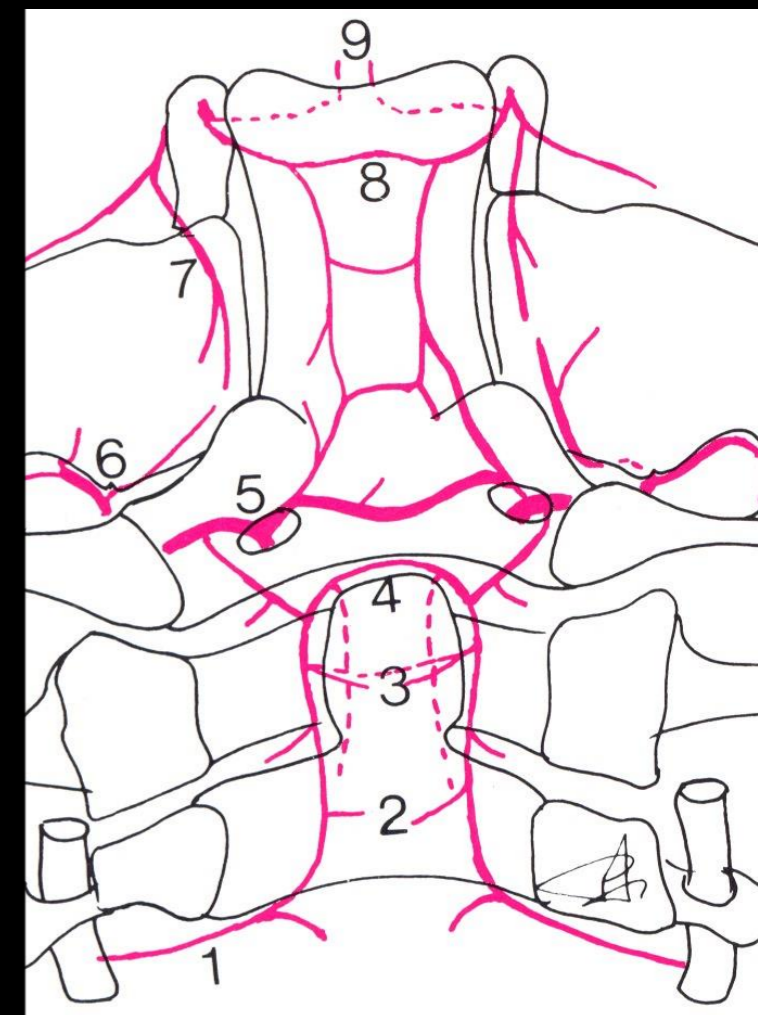
A10002945290 ( 40 y , 40 y )

A10002945290 ( 40 y , 40 y ) : post

1 Diagnostic — spinale post 253

A10165011253 252

251



165% Angle : 0

50

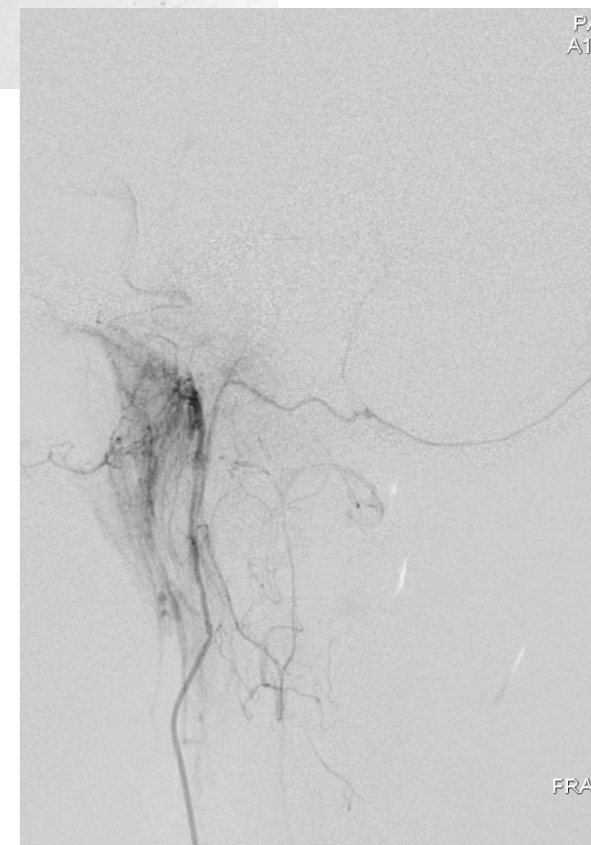
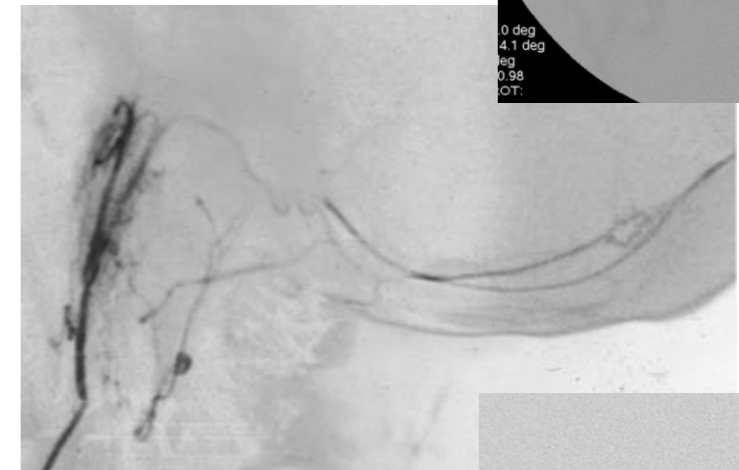
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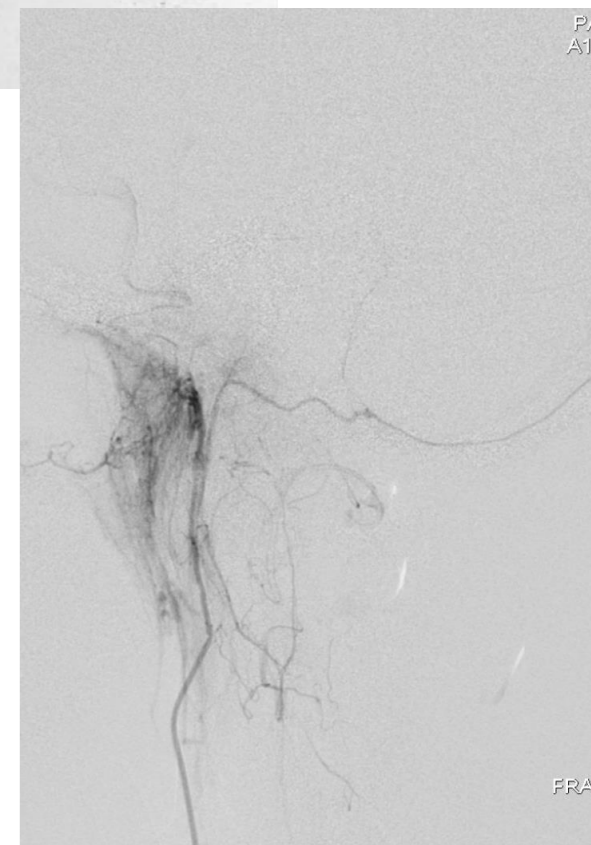
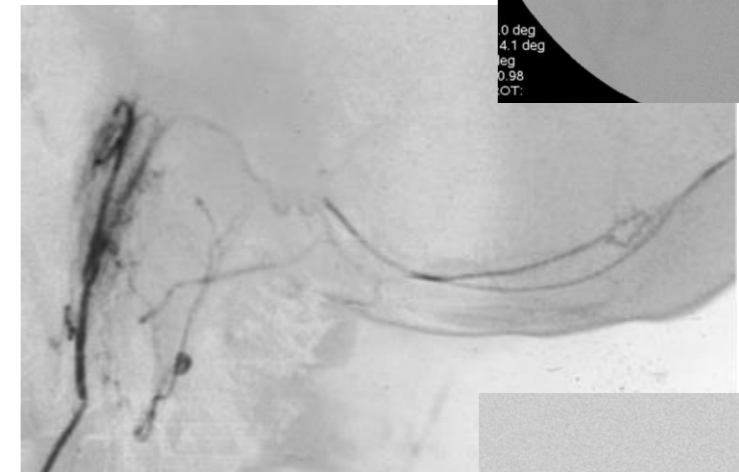
# origines de l'artère méningée postérieure

- artère vertébrale
- artère cérébelleuse inférieure
- artère occipitale
- artère pharyngienne ascendante
- anastomoses proximales au niveau du foramen magnum



# origines de l'artère de la faux du cervelet

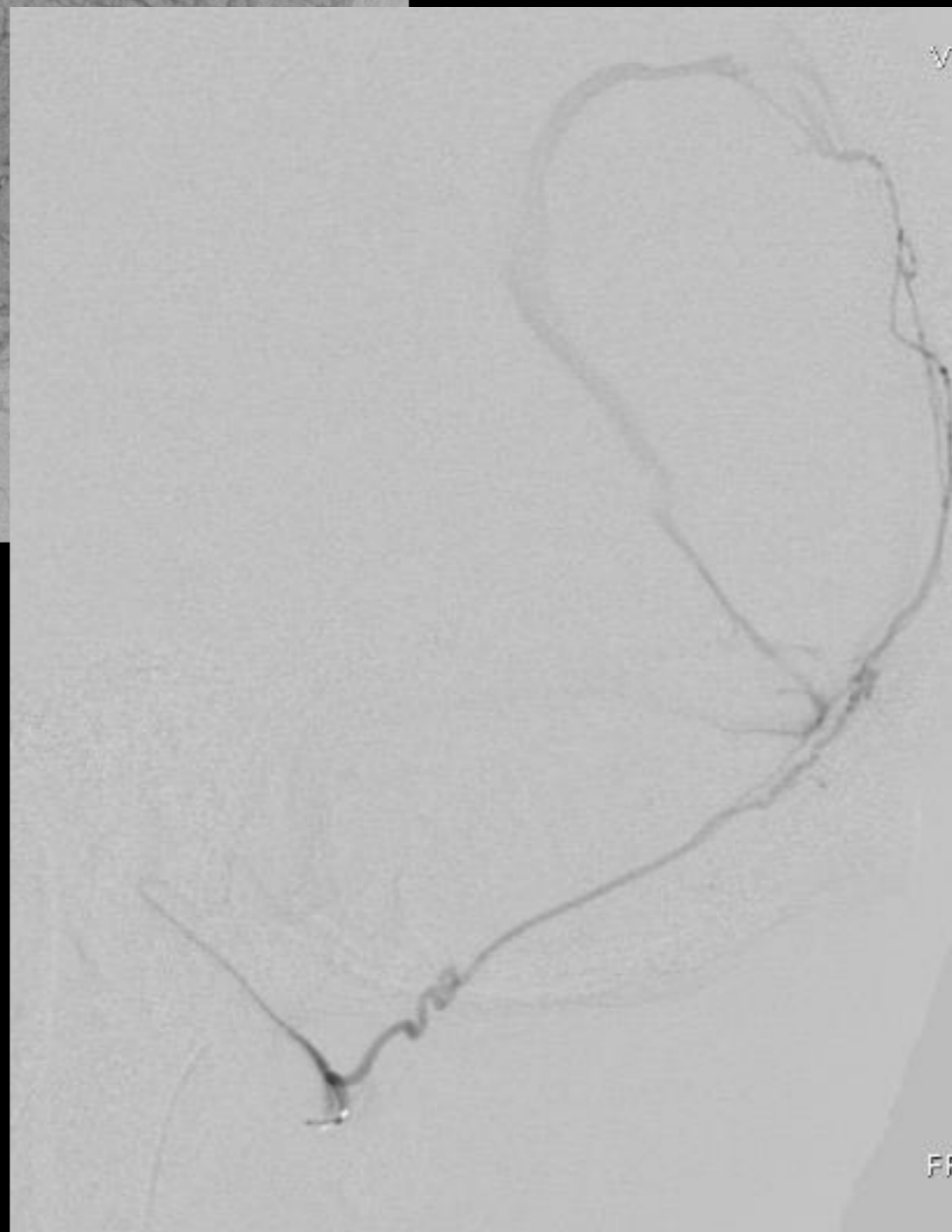
- artère vertébrale
- artère cérébelleuse inférieure
- artère occipitale
- artère pharyngienne ascendante
- anastomoses proximales au niveau du foramen magnum



M Nov 28 19  
VEG FP 5  
A100546078  
Oct 02 20  
14:05:

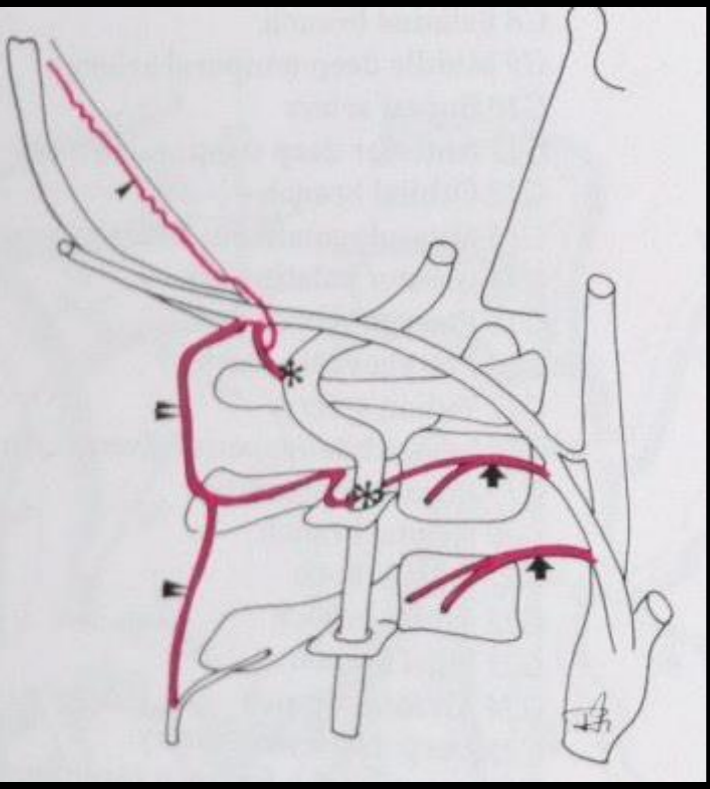
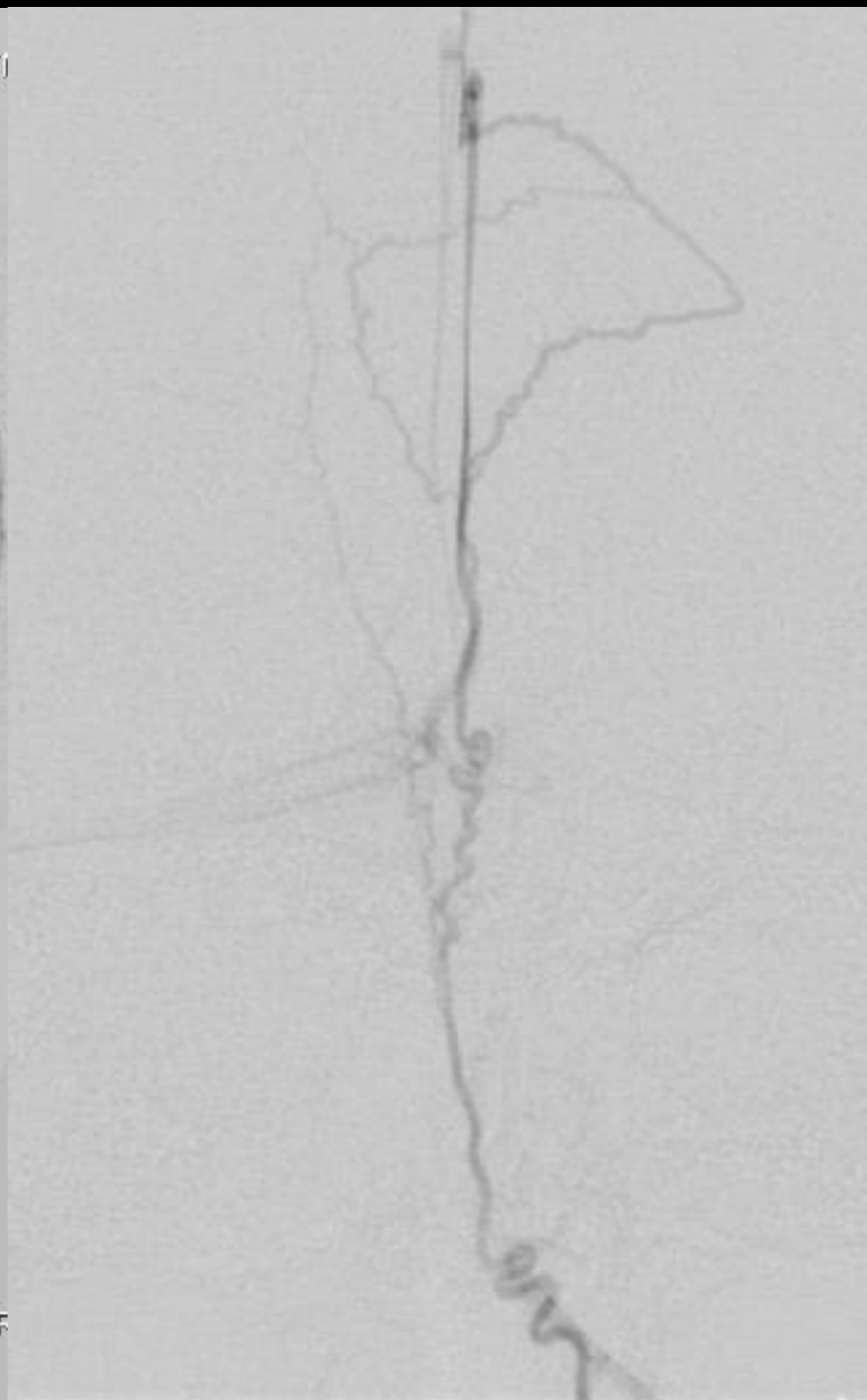


0 deg  
0 deg  
g  
.98  
OT:

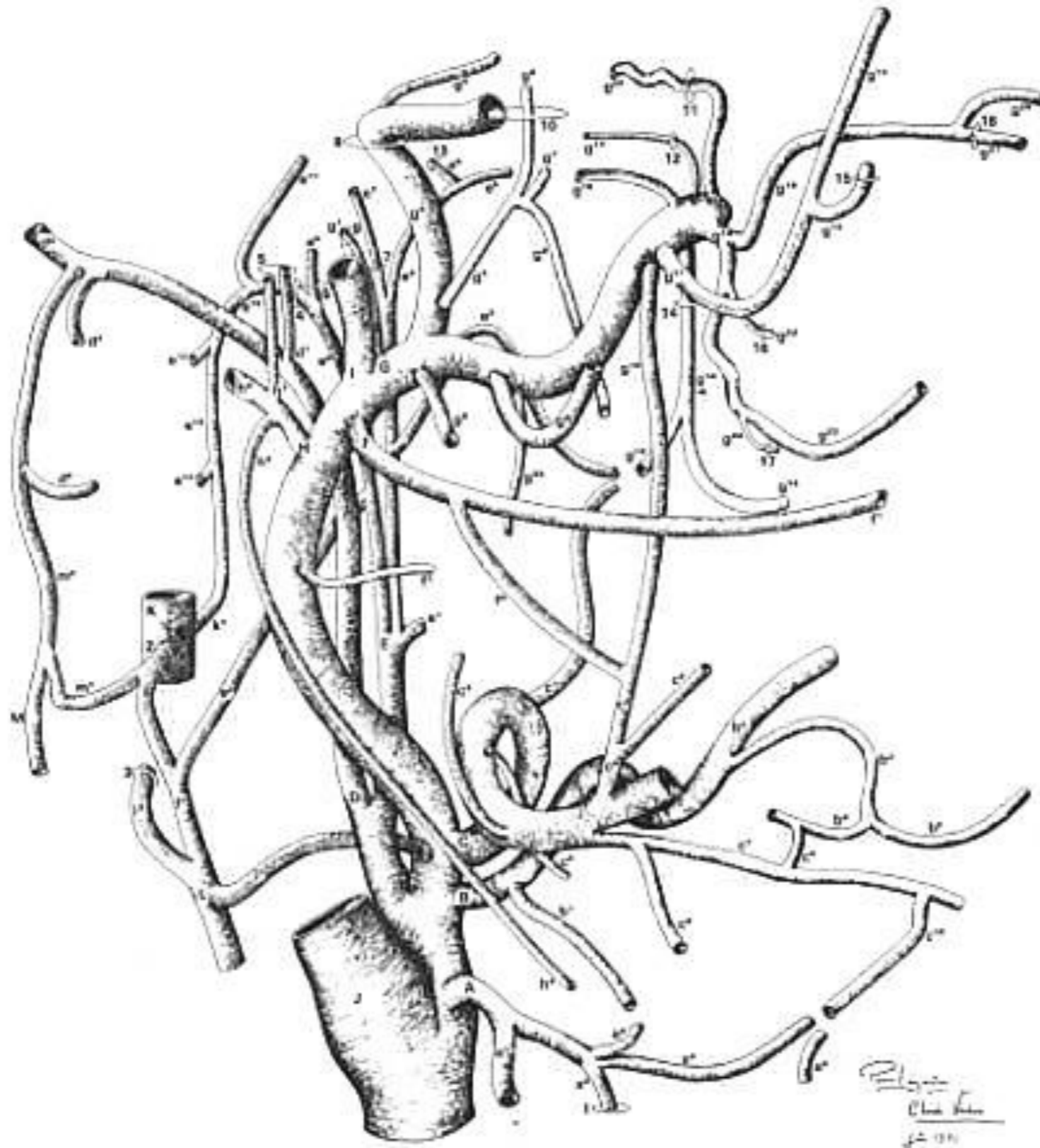


VI

FF



# artère occipitale







fistule durale sinus latéral  
embolisation de particules



# A1001769171  
TMTG FP 31.3  
27-MAR-2006  
13:21:54

LAT

0 CAU  
91 LAO

# 17/ 1:  
FRM 10/ 10

MASQ

# A1001769171  
OCG FP 17.18  
27-MAR-2006  
12:06:59



# A1001769178  
OCG FP 7.8  
27-MAR-2006  
09:46:56

LAT

0 CAU  
91 LAO

# 4/ 4  
FRM 9/ 27

MASQ 1

OCG P R



LAT

0 CAU  
91 LAO

# 9/ 9



LAT

0 CAU  
91 LAO

# 10/ 10

FRM 5/ 14

avant

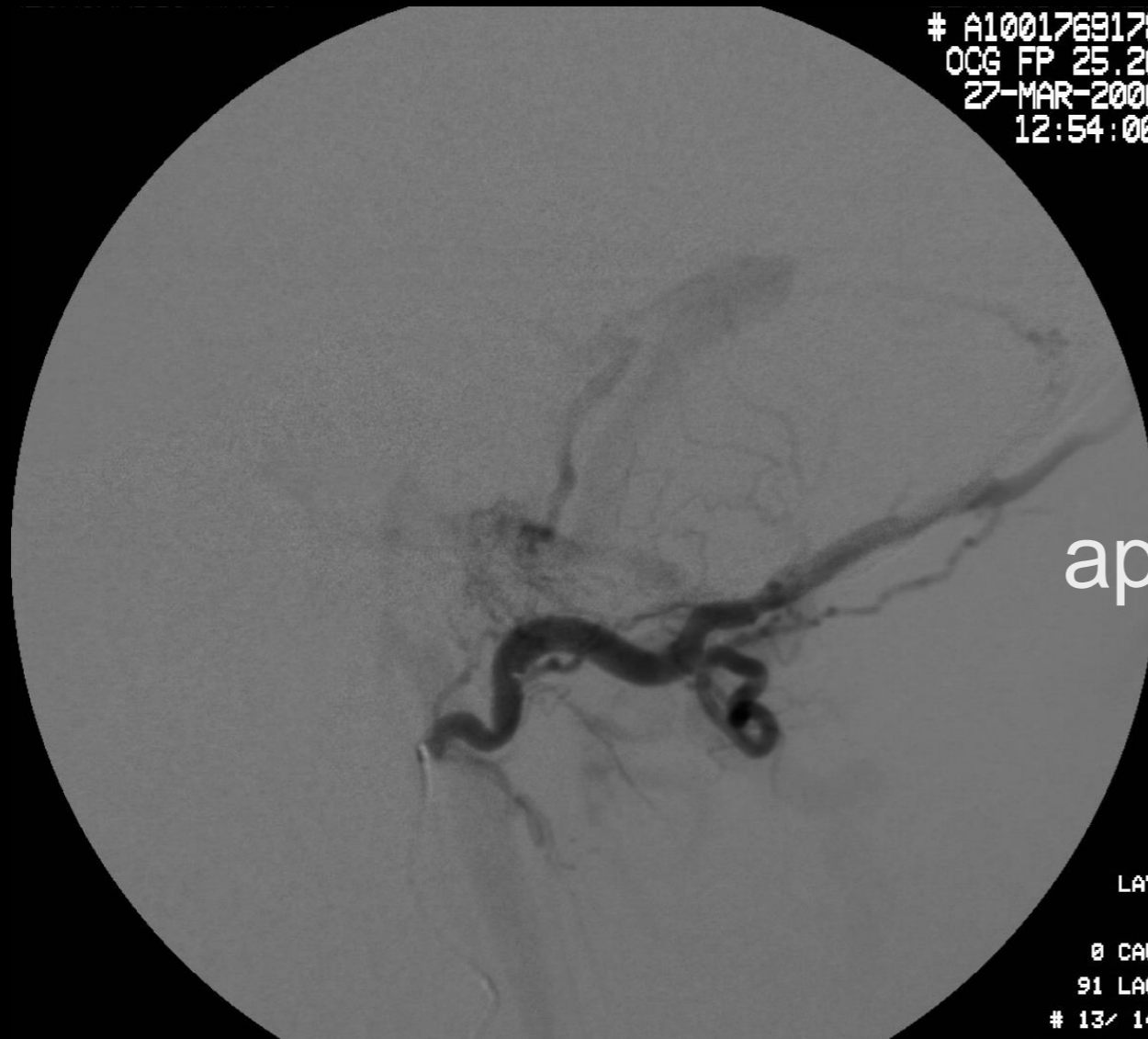


OCG P R

LAT  
0 CAU  
91 LAO  
# 4/ 4  
FRM 9/ 27  
MASQ 1

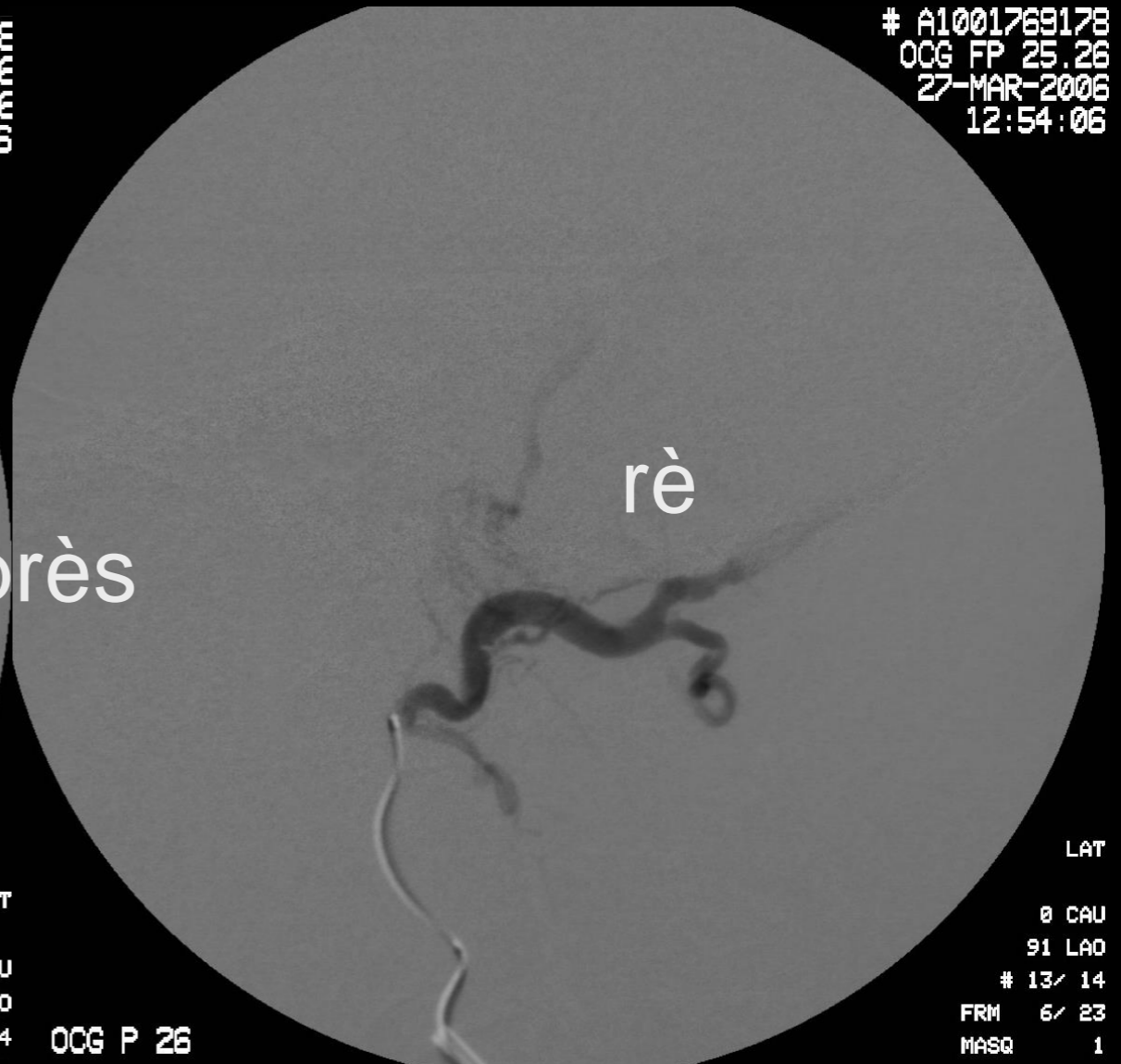
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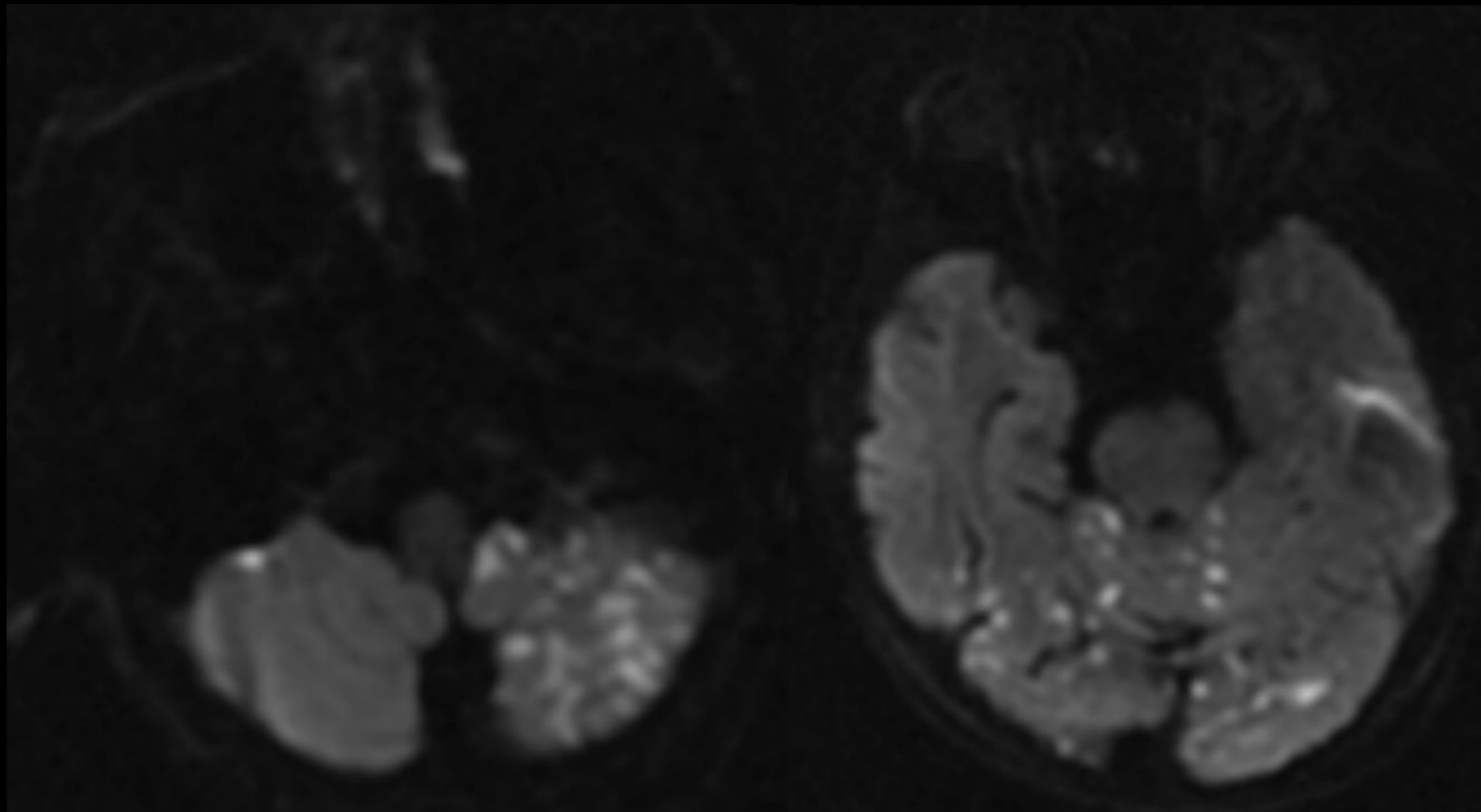
après

LAT  
0 CAU  
91 LAO  
# 13/ 14  
OCG P 26



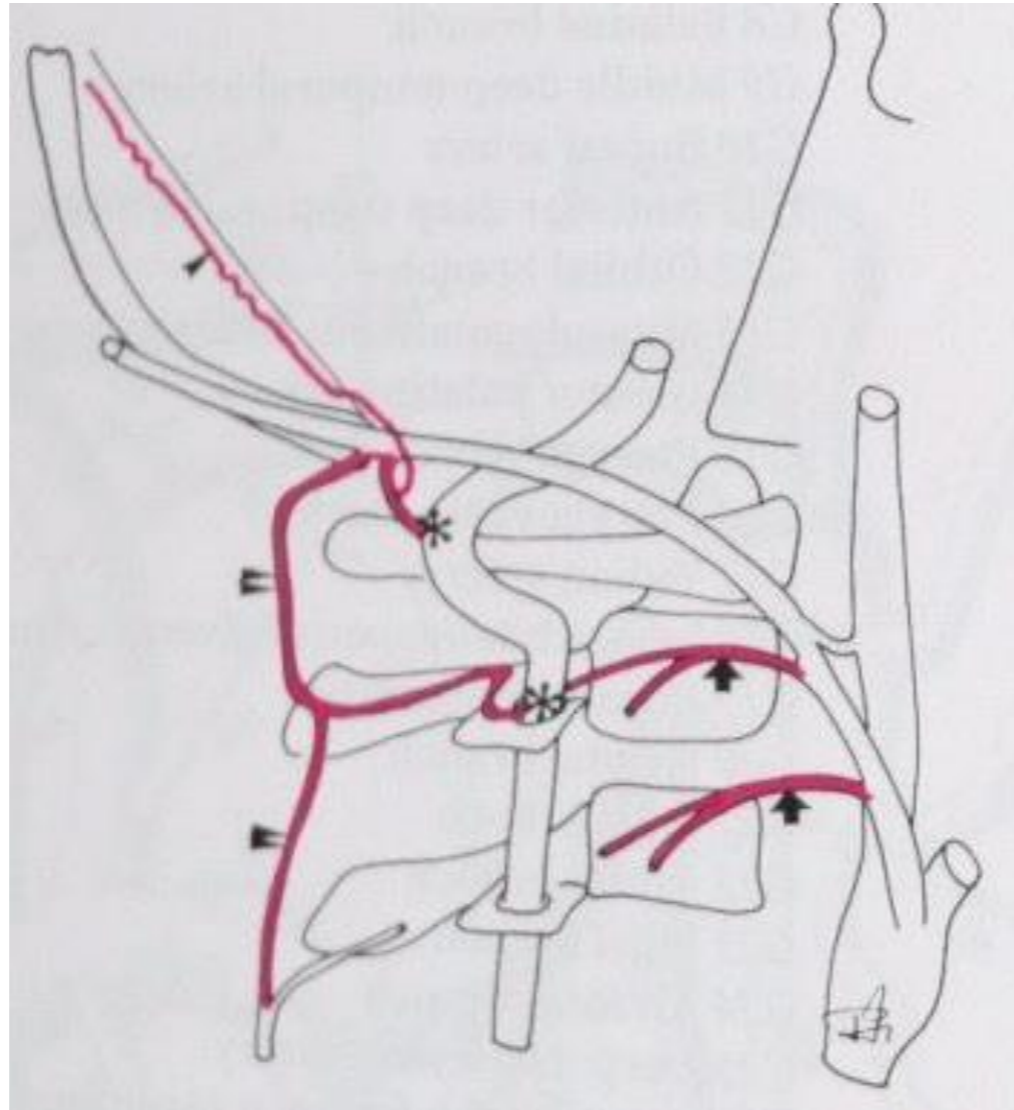
rière

LAT  
0 CAU  
91 LAO  
# 13/ 14  
FRM 6/ 23  
MASQ 1



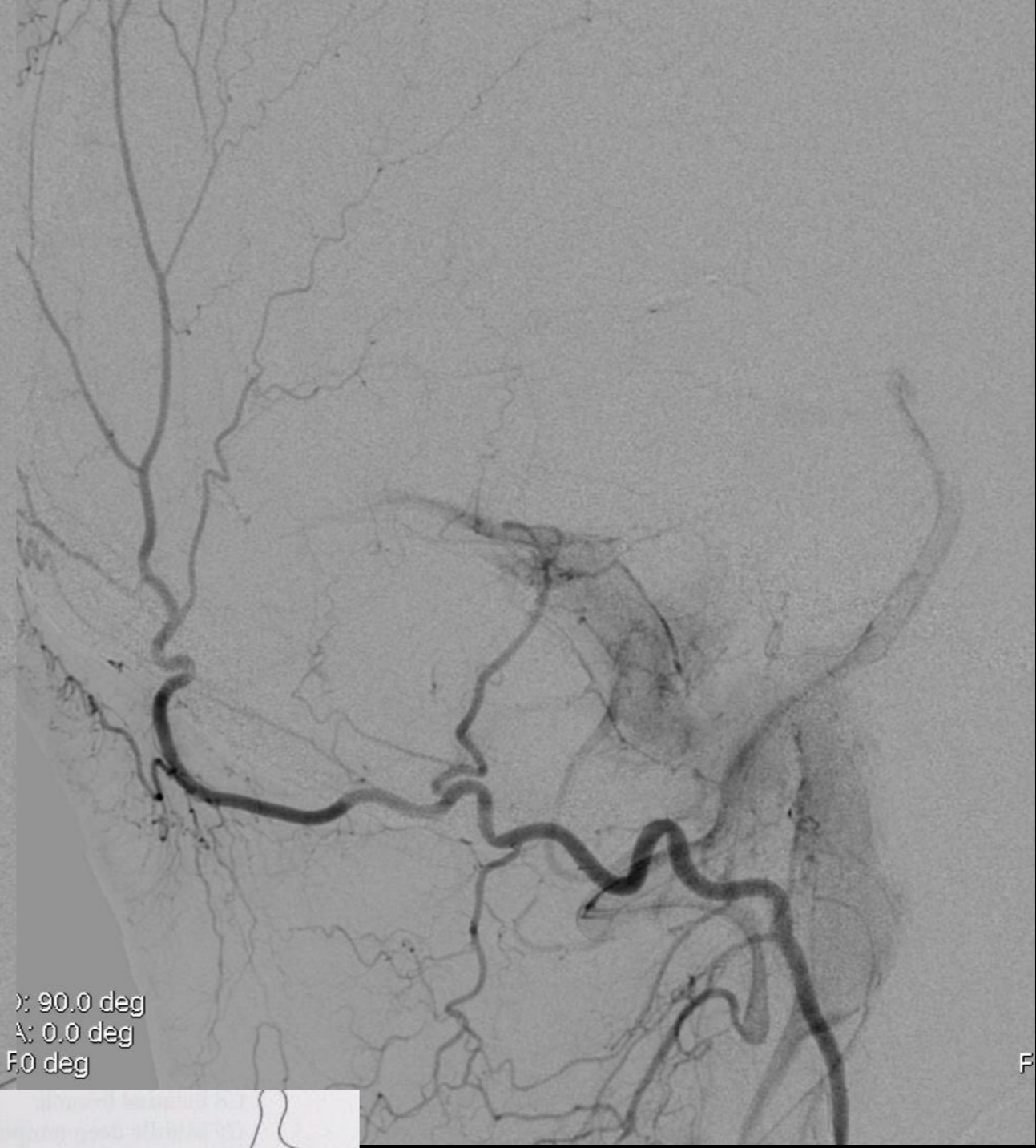
pourquoi?

- Persistance des artères pro atlantales de type 1 ou 2 est très rare, mais il persiste TOUJOURS les segments initiaux qui anastomosent chez l'adulte les artères vertébrale et occipitale : branches radiculaires postérieures au niveau de C1 et C2



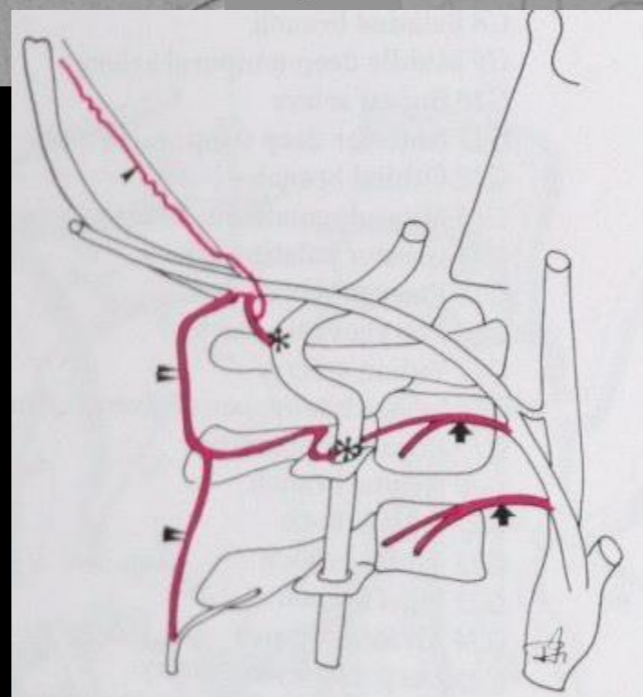


Y: 90.0 deg  
A: 0.0 deg  
FO 0 deg



Y: 90.0 deg  
A: 0.0 deg  
FO 0 deg

F



# Artères dangereuses région cervico occipitale

Vascularisation nerf crâniens

## **Pharyngienne ascendante**

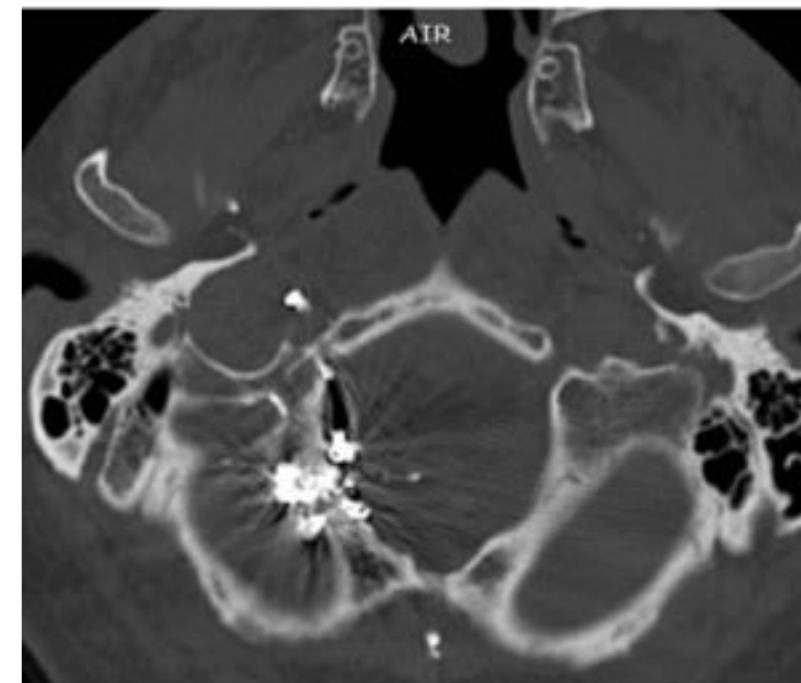
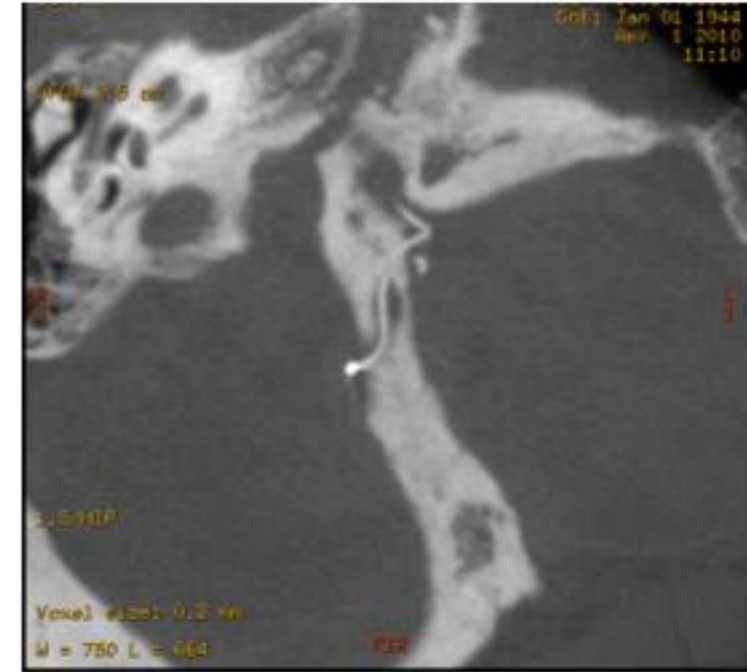
Branche jugulaire IX, X et XI et VI

Branche hypoglosse XII

Branche musculo spinale XI spinal

## **Occipitale**

Br stylo mastoïdienne VII



# Artères dangereuses région cervico occipitale

## Anastomoses dangereuses

### Pharyngienne ascendante

- (tympanique inférieure)
  - artère carotico-tympanique (ACI)
  - artère stylomastoidienne (VII)
- pharyngée supérieure
  - artère récurrente foramen lacerum (C5)
  - tronc inféro latéral
- musculo spinale
  - anastomoses du 3 espace : (Vertébrale, cervicales ascendante et profonde)
- hypoglosse
  - arcade de l'odontoïde
  - a clivale médiale (ACI + controlatéral)
- jugulaire
  - a clivale latérale
  - anastomoses du foramen magnum

### Occipitale

- Artères des 1<sup>er</sup> et 2<sup>èmes</sup> espaces musculaires
- Artère de la faux du cervelet
- Artère mastoïdienne
  - br jugulaire de la Phar ascendante
  - a. subarcuata (AICA)

