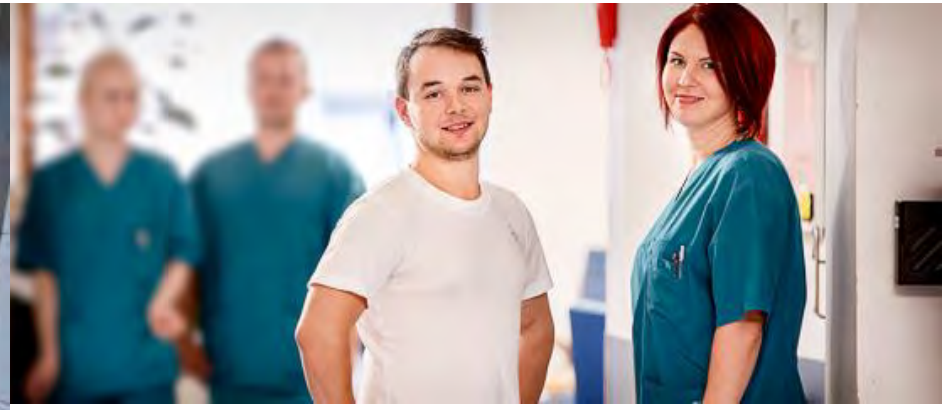
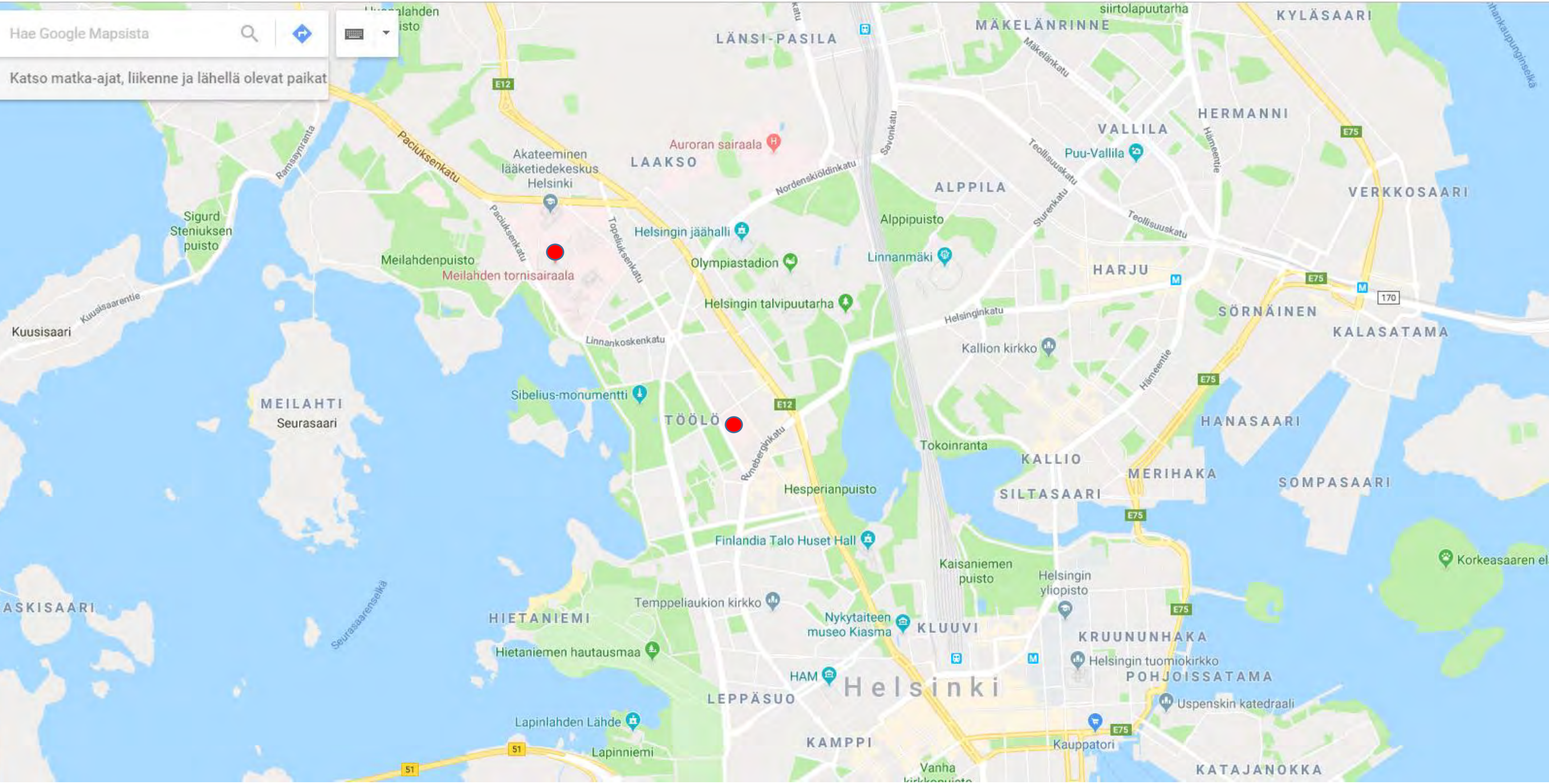
Helsinki University Central Hospital

Meilahti campus

Töölö Hospital




Hae Google Mapsista
Katso matka-ajat, liikenne ja lähellä olevat paikat
LÄNSI-PASILA
MÄKELÄNRINNE
KYLÄSAARI
siirtolapuutarha
Mäkelänkatu
HERMANNI
VALLILA
Puu-Vallila
VERKKOSAARI
Auroran sairaala
LAAKSO
Akateeminen lääketiedekeskus Helsinki
Paciuksenkatu
Ramsaynranta
Nordenskiöldinkatu
Savonkatu
ALPPILA
Alppipuisto
Teollisuuskatu
Sturenkatu
Hämeentie
Sigurd Steniuksen puisto
Helsingin jäähalli
Olympiastadion
Linnanmäki
HARJU
Meilahdenpuisto
Meilahden tornisairaala
Topeliuksenkatu
Helsingin talvipuutarha
Helsinginkatu
SÖRNÄINEN
KALASATAMA
Kuusisaari
Kuusisaarentie
Linnankoskenkatu
Kallion kirkko
170
Sibelius-monumentti
MEILAHTI
Seurasaari
TÖÖLÖ
Runeberginkatu
HANASAARI
Tokoinranta
KALLIO
MERIHAKA
SOMPASAARI
SILTASAARI
Hesperianpuisto
Finlandia Talo Huset Hall
Kaisaniemen puisto
Helsingin yliopisto
Korkeasaaren el
ASKISAARI
Seurasaarenselkä
HIETANIEMI
Temppeliaukion kirkko
Nykytaiteen museo Kiasma
KLUUVI
KRUUNUNHAKA
Helsingin tuomiokirkko
Hietaniemen hautausmaa
HAM
Helsinki
POHJOISSATAMA
LEPPÄSUO
Uspenskin katedraali
Lapinlahden Lähde
KAMPPI
Kauppatori
Lapinniemi
Vanha
KATAJANOKKA
E12
E75
51

SAH - Subarachnoid hemorrhage

- Takehome messages from video

SAH - Subarachnoid hemorrhage

- Takehome messages from video
  - Acute onset / loss of conciousness
  - Female
  - Smoker
  - Working age

  - Typical CT scan

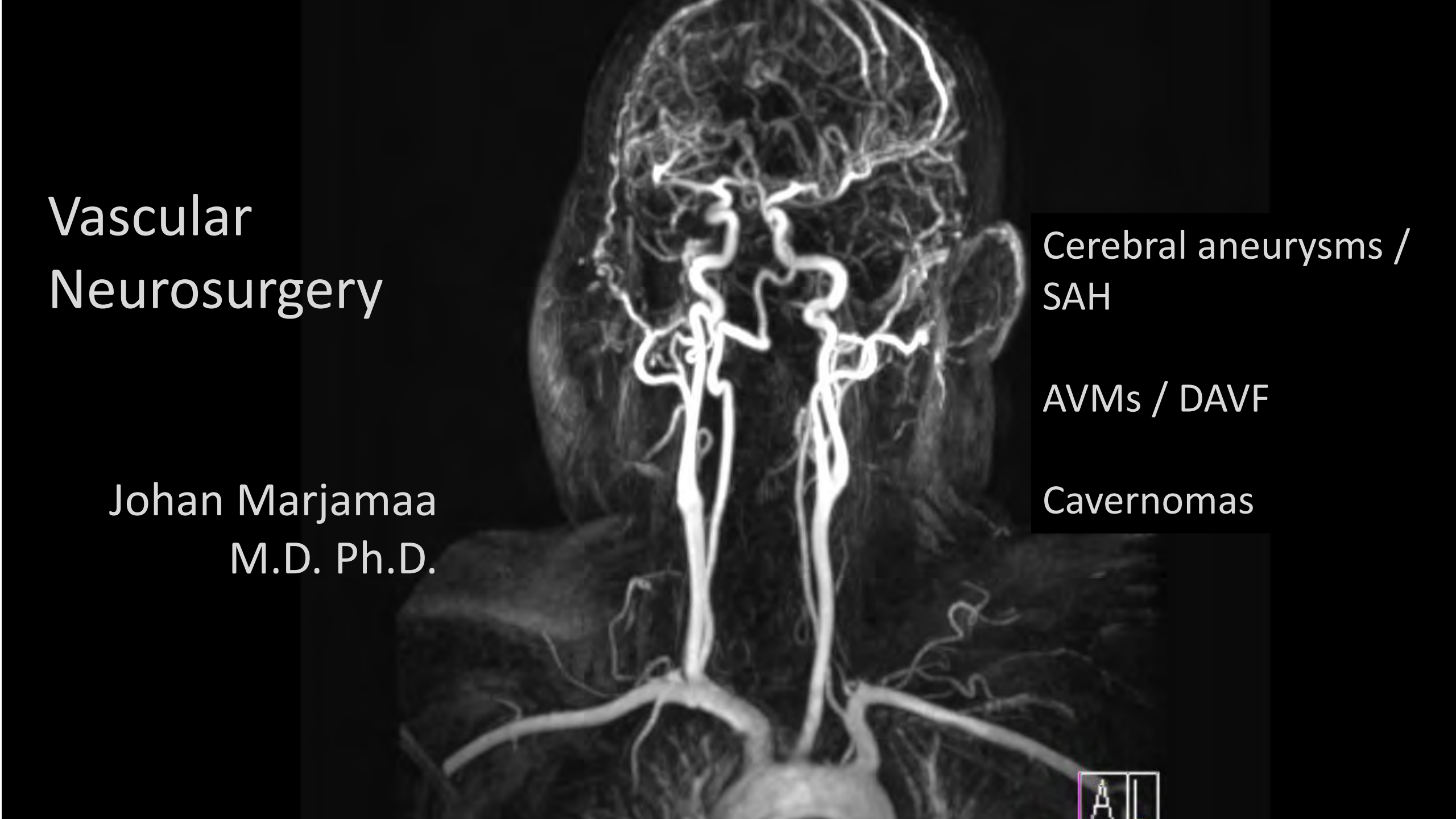
SAH - Subarachnoid hemorrhage

- Takehome messages from video
  - Acute onset / loss of conciousness
  - Female
  - Smoker
  - Working age

  - Typical CT scan
  - <50% mortality due to
    - bleeding, re-bleeding or vasospasm
  - Clipping or coiling of anneurysm inorder to prevent re-bleeding
  - ICU treatment for vasospasm
  - ¼ have good recovery

Vascular Neurosurgery

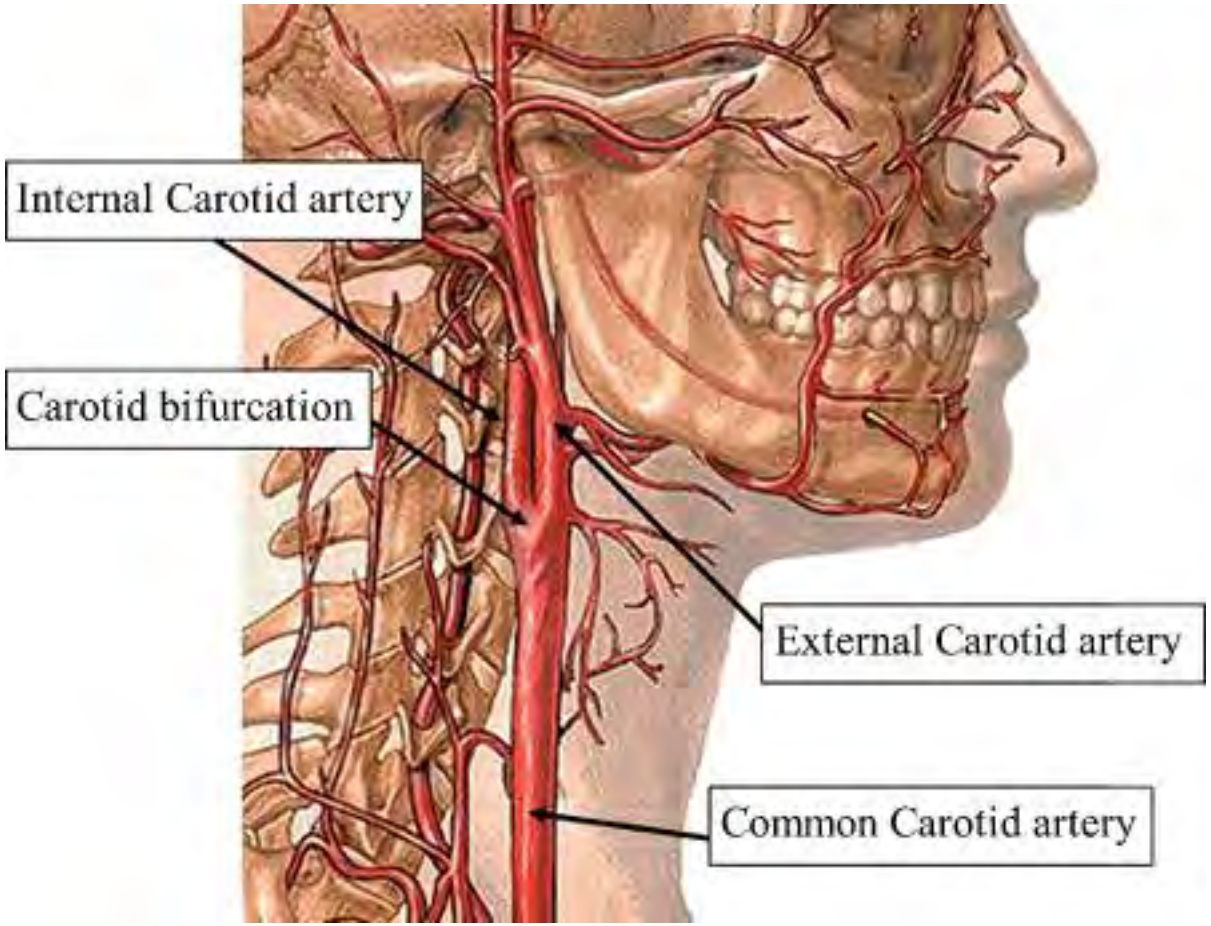
Johan Marjamaa
M.D. Ph.D.

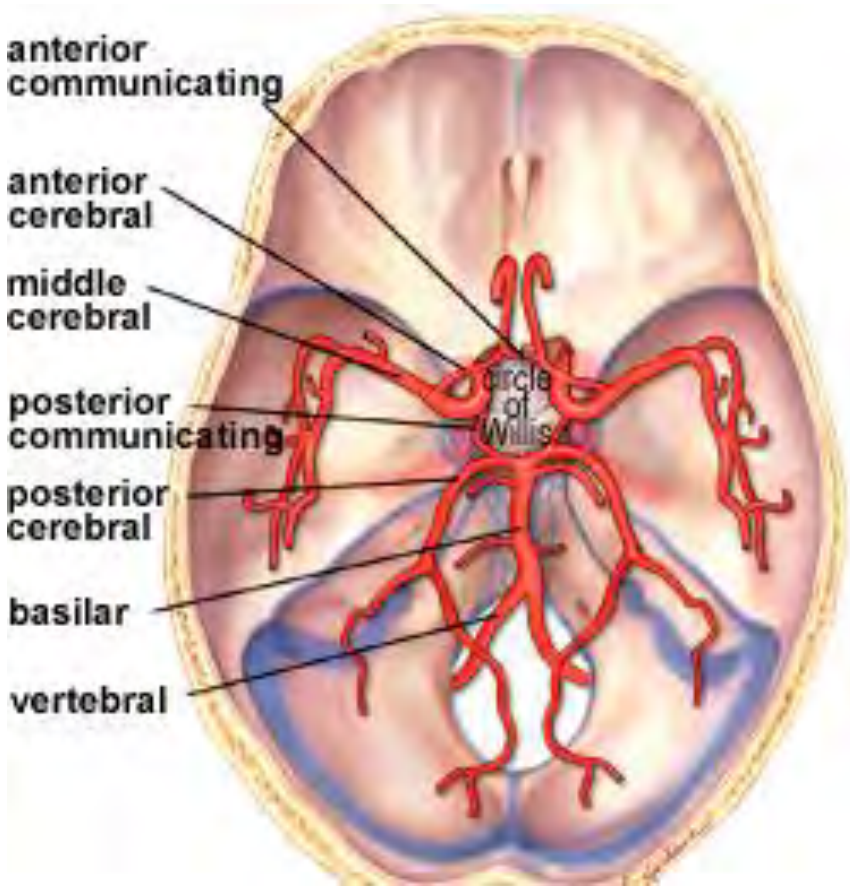


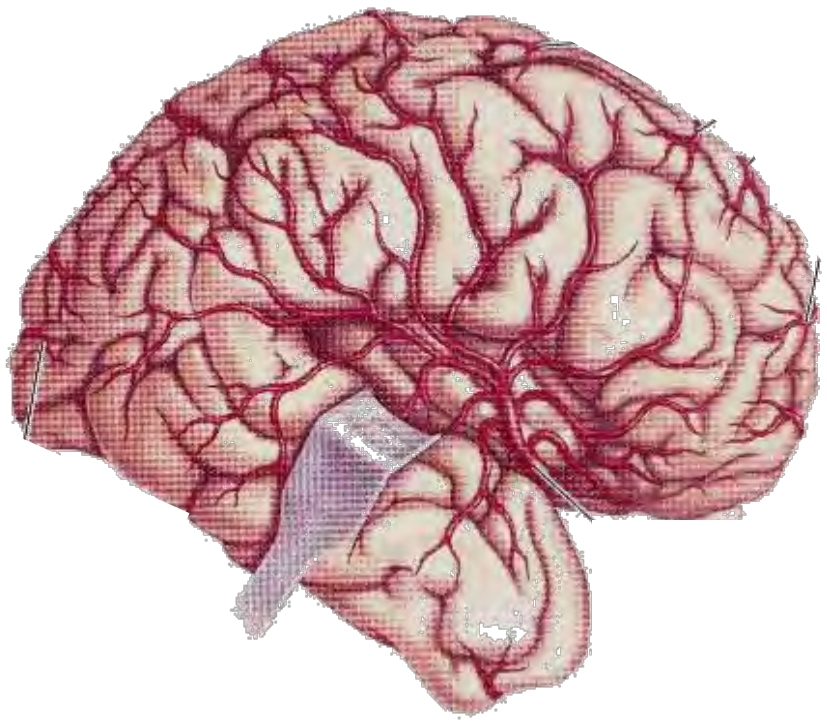
Cerebral aneurysms / SAH

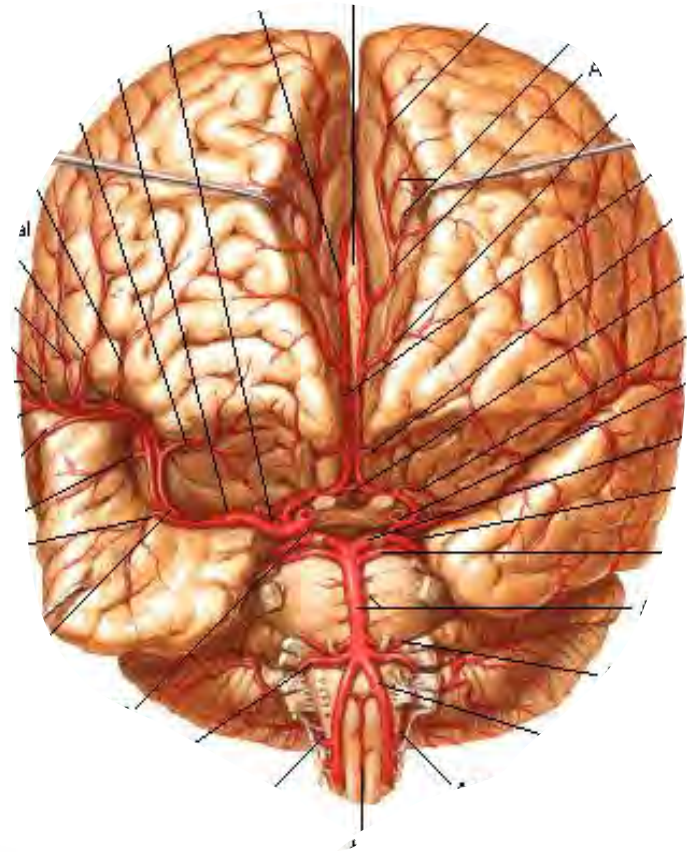
AVMs / DAVF

Cavernomas


Internal Carotid artery
Carotid bifurcation
External Carotid artery
Common Carotid artery


anterior communicating
anterior cerebral
middle cerebral
posterior communicating
posterior cerebral
basilar
vertebral
Circle of Willis



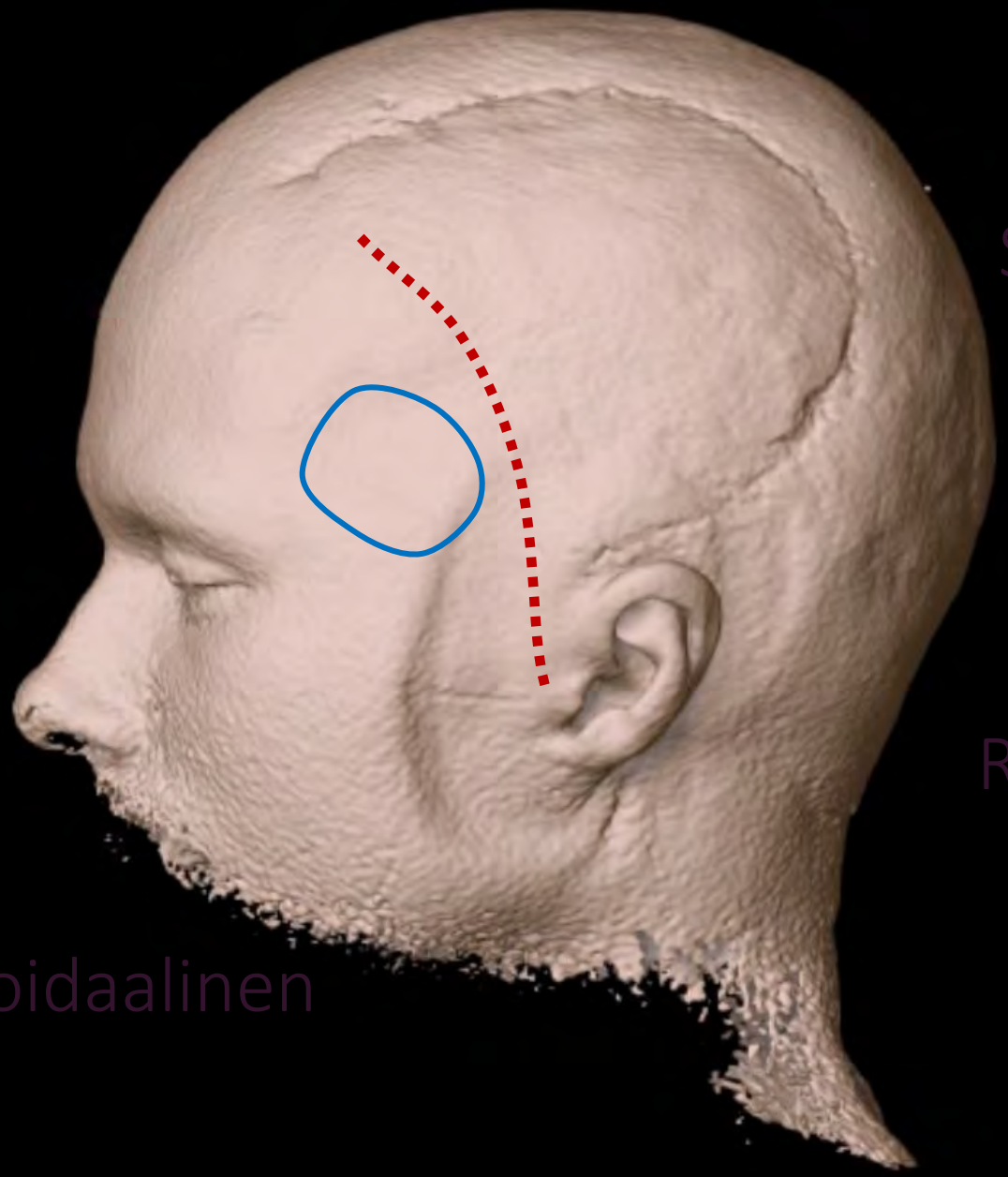


Interhemisfäärinen

Pterionaalinen

Subtemporaalinen

Lateraalinen
supraorbitaalinen



Suboccipitaalinen

Orbito-
zygomaattinen

Retrosigmoidaalinen

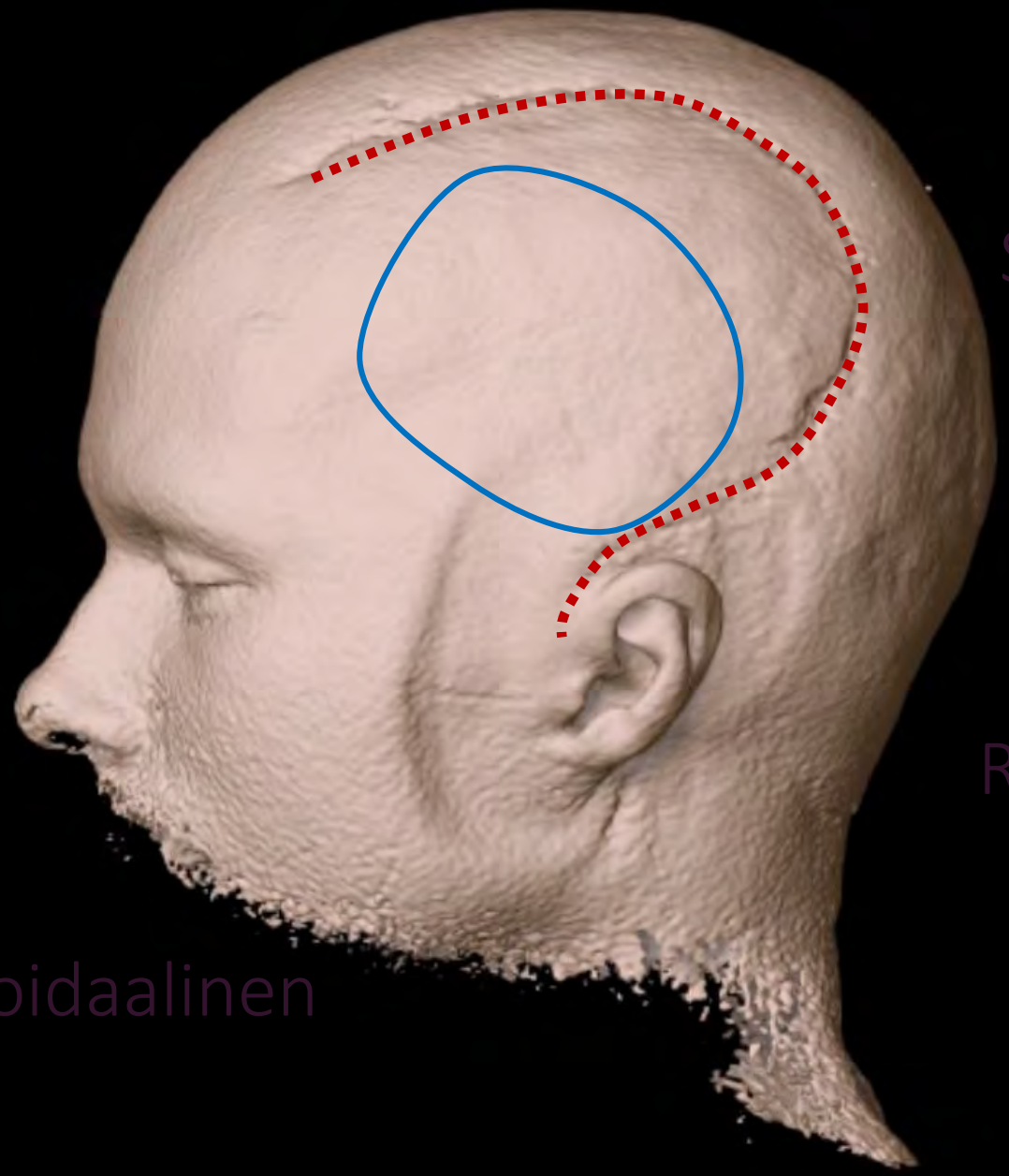
Transsfenoidaalinen

Interhemisfäärinen

Pterionaalinen kraniotomia

Subtemporaalinen

Lateraalinen supraorbitaalinen

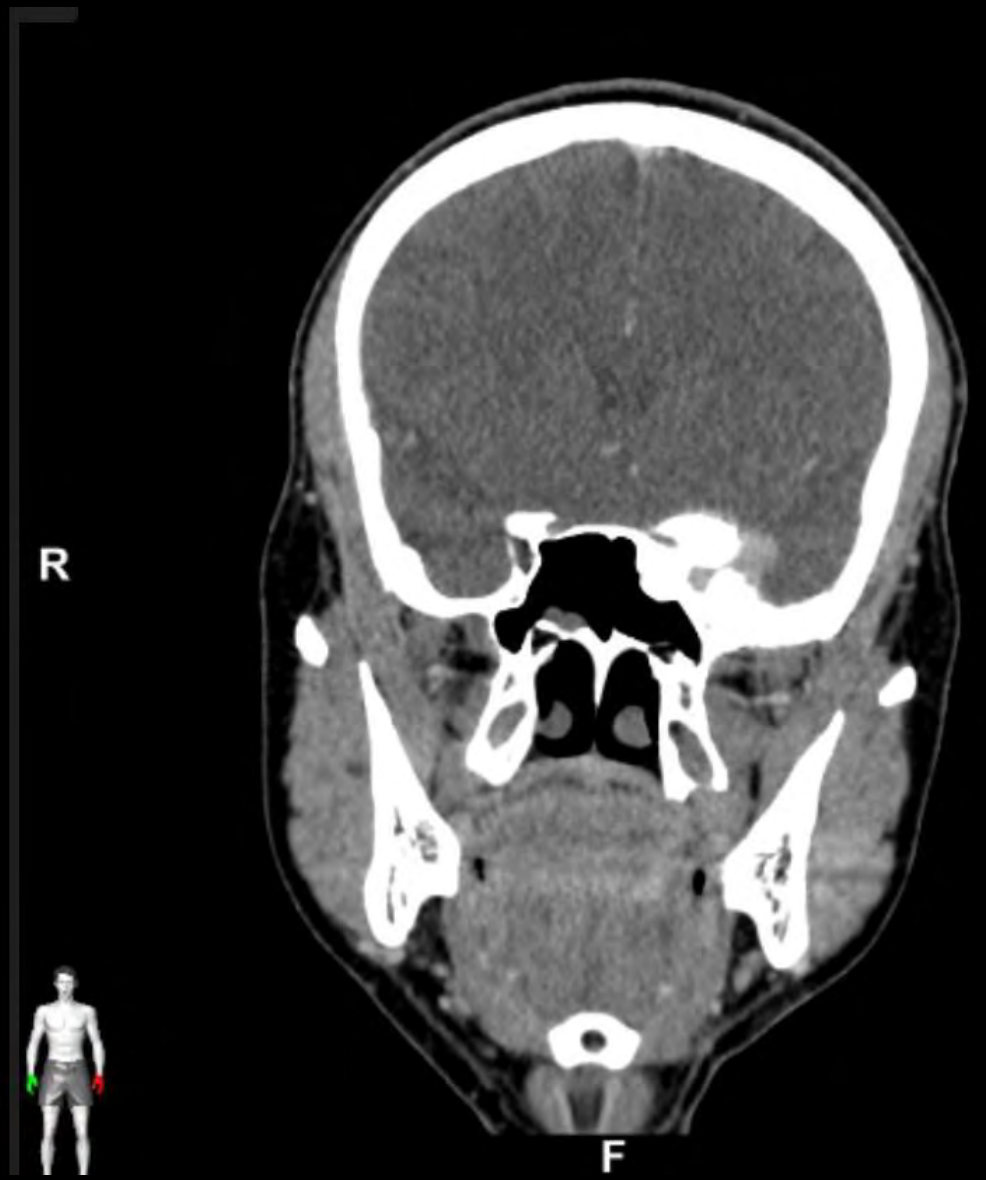


Suboccipitaalinen

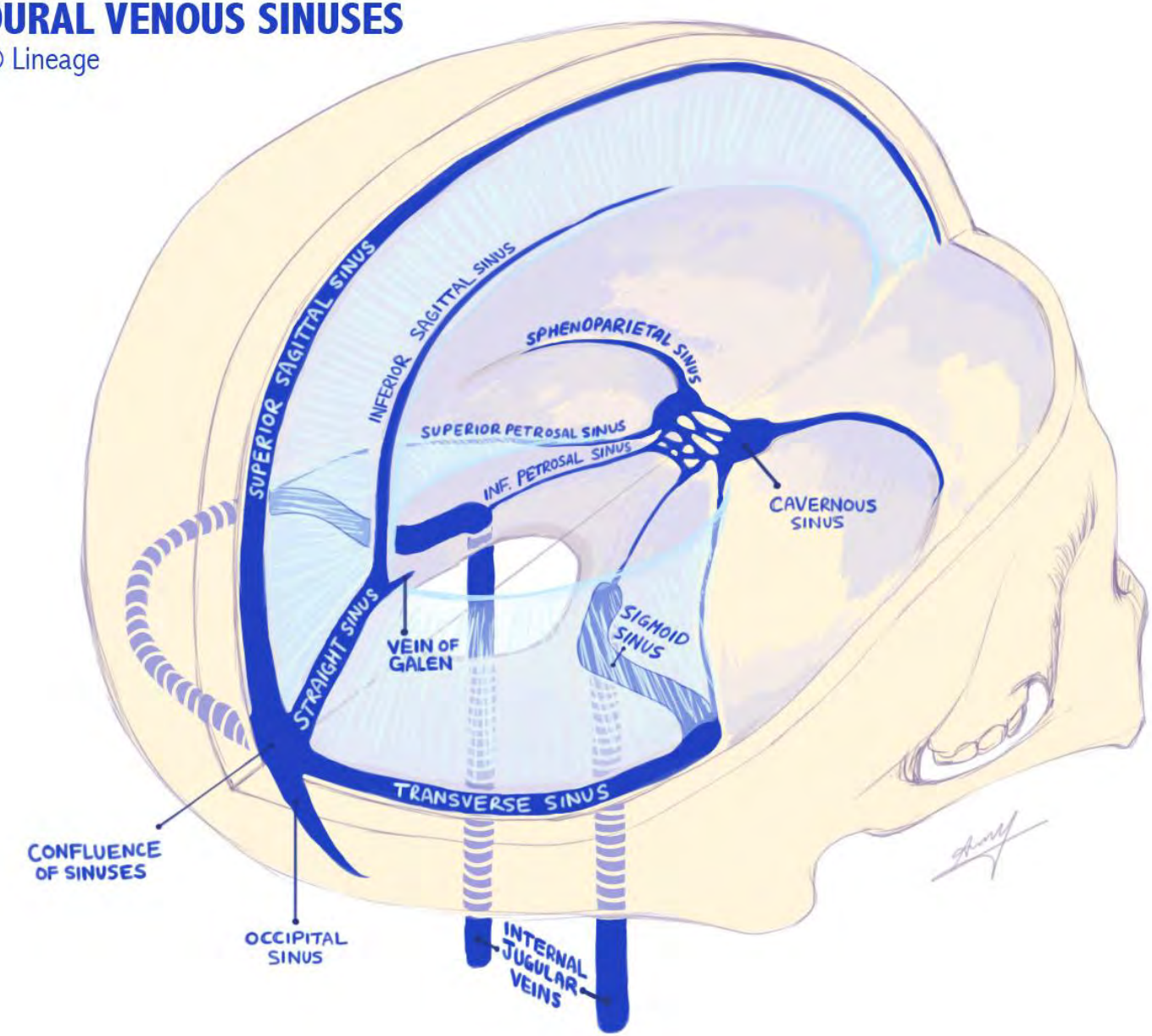
Orbito-zygomaattinen

Retrosigmoidaalinen

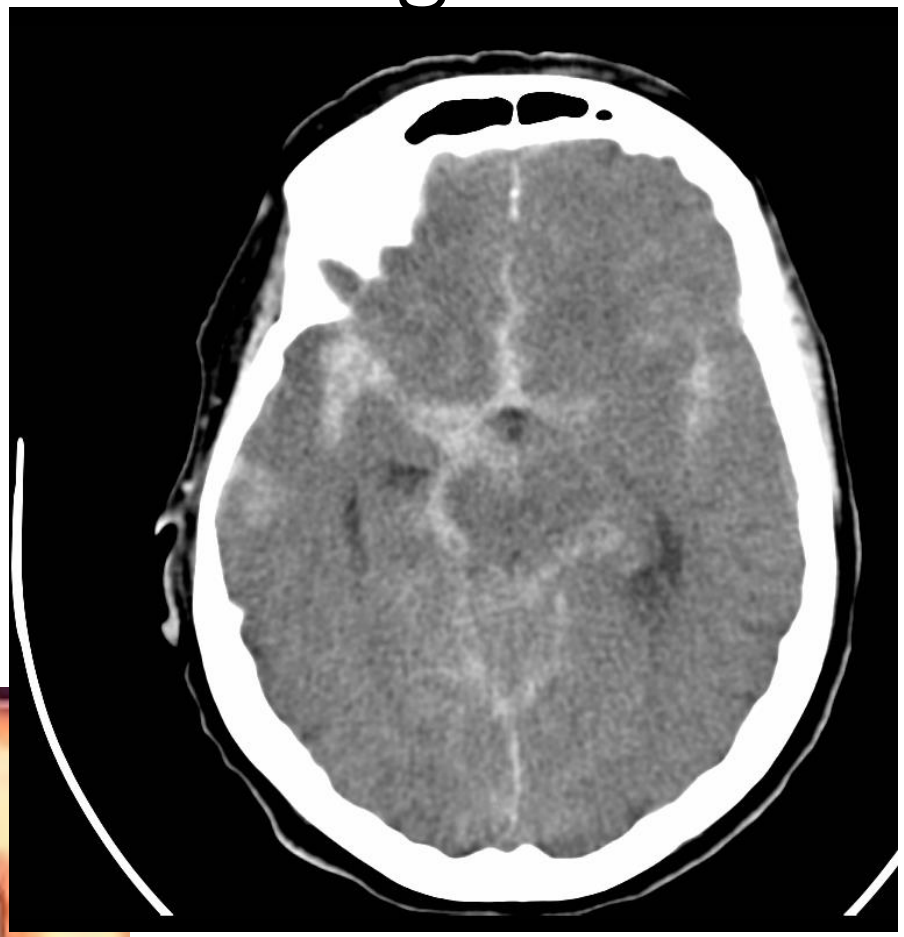
Transsfenoidaalinen


R
F

DURAL VENOUS SINUSES



SAH - Subarachnoid Hemorrhage



Riskfactors

- Smoking
- Hypertension
- Dyslipidemia
- Alcohol
- Female gender
- Age (50-55)
- Heriditability

Neurology
THE MOST WIDELY READ AND HIGHLY CITED PEER-REVIEWED NEUROLOGY JOURNAL
The Official Journal of the American Academy of Neurology

Neurology. 2016 Sep 13; 87(11): 1118–1123. PMCID: PMC5027805
doi: 10.1212/WNL.0000000000003091

Incidence of subarachnoid hemorrhage is decreasing together with decreasing smoking rates

Miikka Korja, MD, PhD, Hanna Lehto, MD, PhD, Seppo Juvela, MD, PhD, and Jaakko Kaprio, MD, PhD

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See commentary "Subarachnoid hemorrhage: Another reason not to smoke." on page 1070.

This article has been cited by other articles in PMC.

Abstract

Go to:

Objective: To determine the nationwide incidence of subarachnoid hemorrhage (SAH) and report nationwide changes in smoking rates between 1998 and 2012 in Finland.

Methods: In this register-based study, we utilized the nationwide Causes of Death Register and Hospital Discharge Register in identifying SAH events between 1998 and 2012. Population statistics in Finland, which were obtained through a database of Statistics Finland, were used to calculate crude annual incidence rates of SAH. For the direct age standardization of crude incidence rates, we used the European Standard Population (ESP) 2013. Data on changes in nationwide smoking rates between 1998 and 2012 were extracted from a database of the National Institute for Health and Welfare.

Results: For the total of 79,083,579 cumulative person-years, we identified 6,885 people with SAH. Sudden deaths from SAH away from hospitals or in emergency rooms accounted for 1,771 (26%) of the events. Crude nationwide annual incidence rates varied between 6.2 and 10.0 per 100,000 persons, and increased by age particularly in women. Among 70- to 75-year-old women, the incidence of SAH was highest (22.5 per 100,000 persons). The 3-year average of ESP standardized incidence decreased 24% from 11.7 in 1998–2000 to 8.9 per 100,000 persons in 2010–2012. Daily smoking decreased 30% between 1998 and 2012.

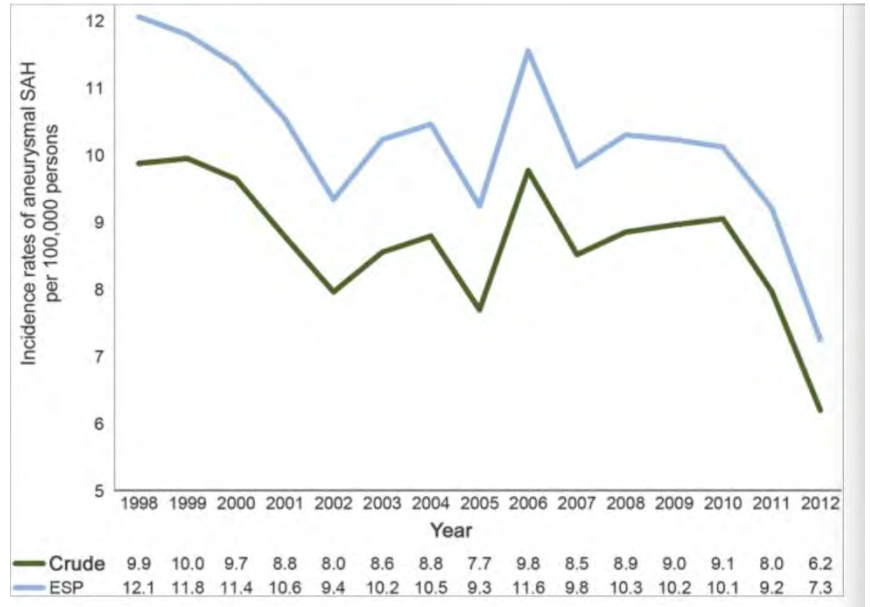
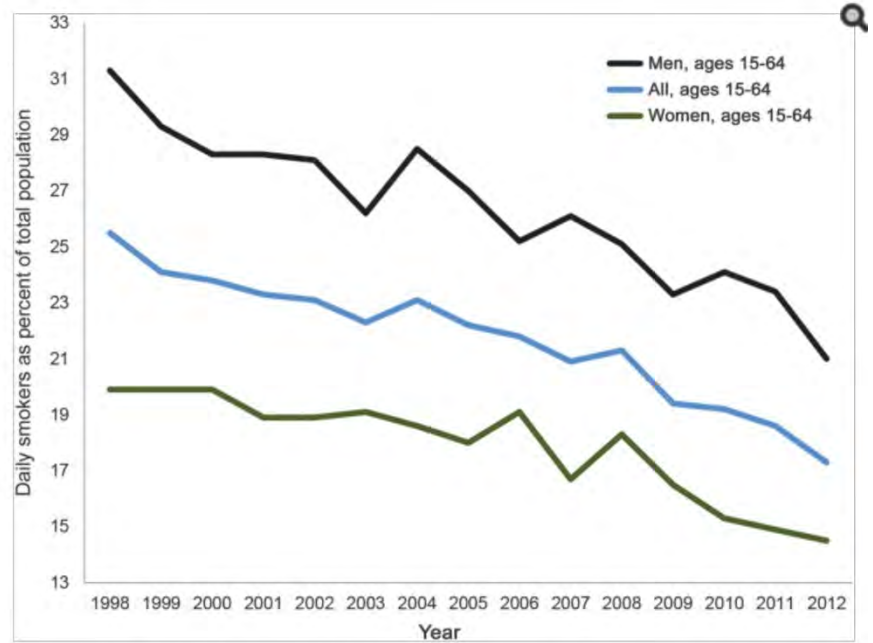


Figure 2.

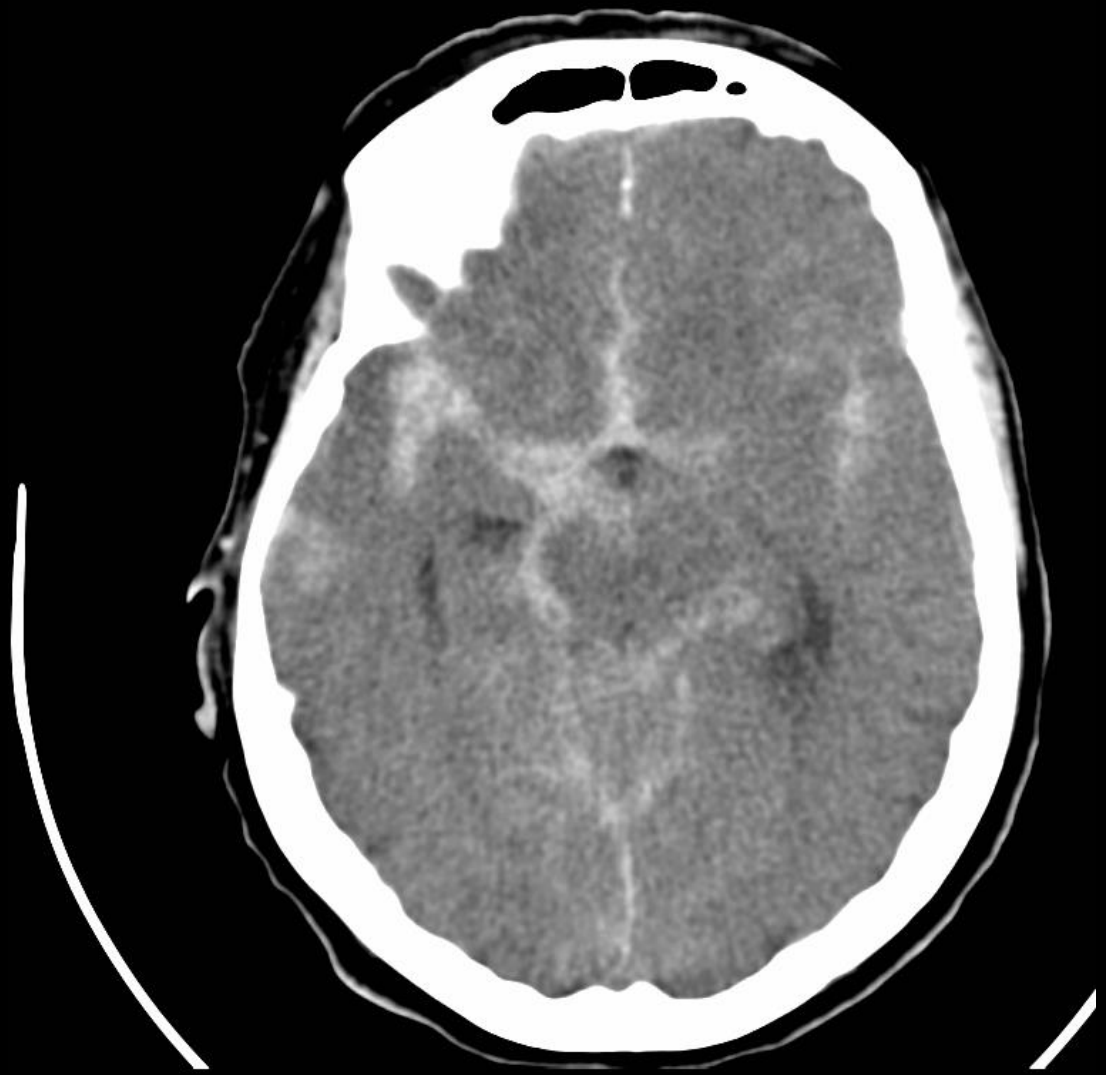


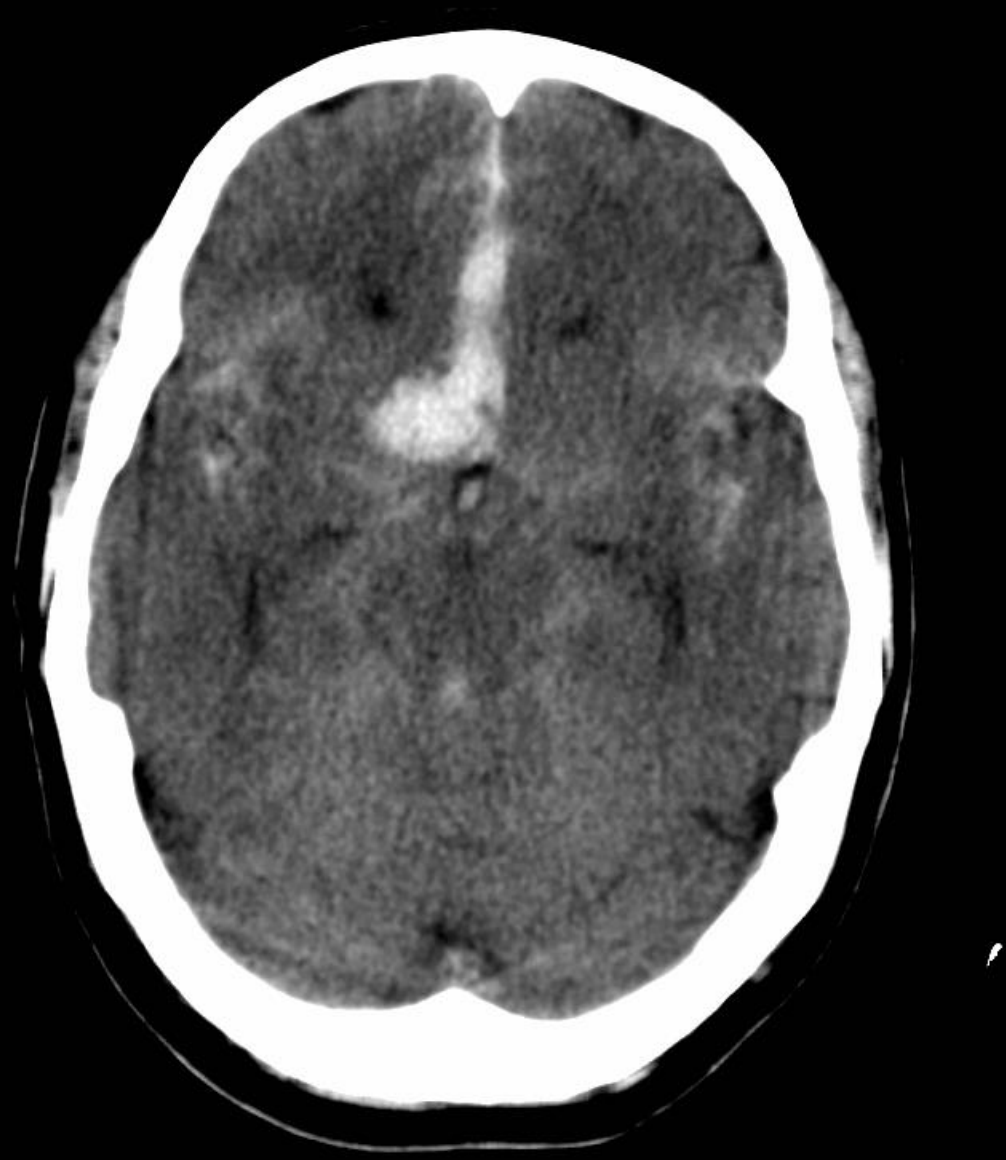
Daily smokers aged 15–64 years in Finland between 1998 and 2012

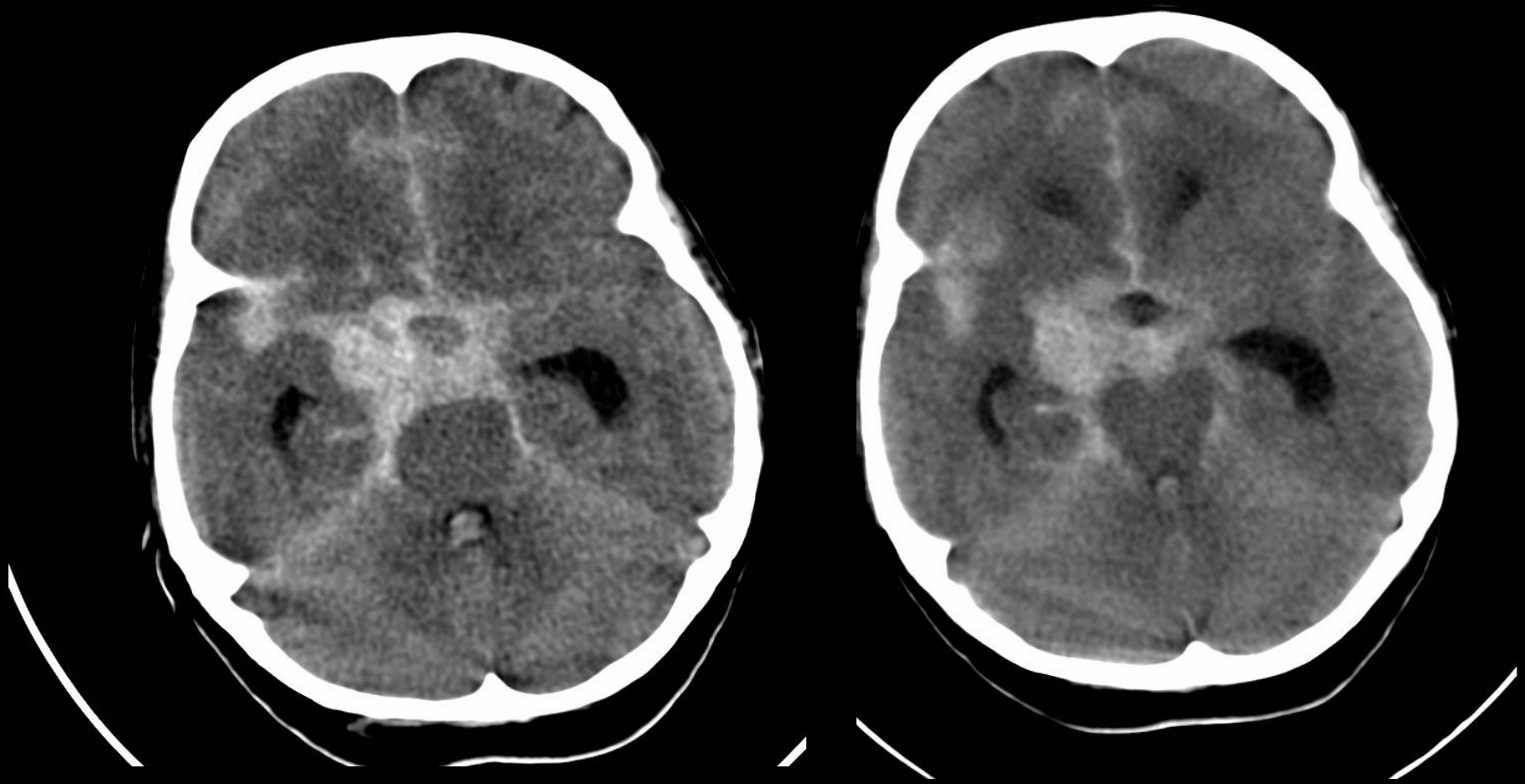
SAV

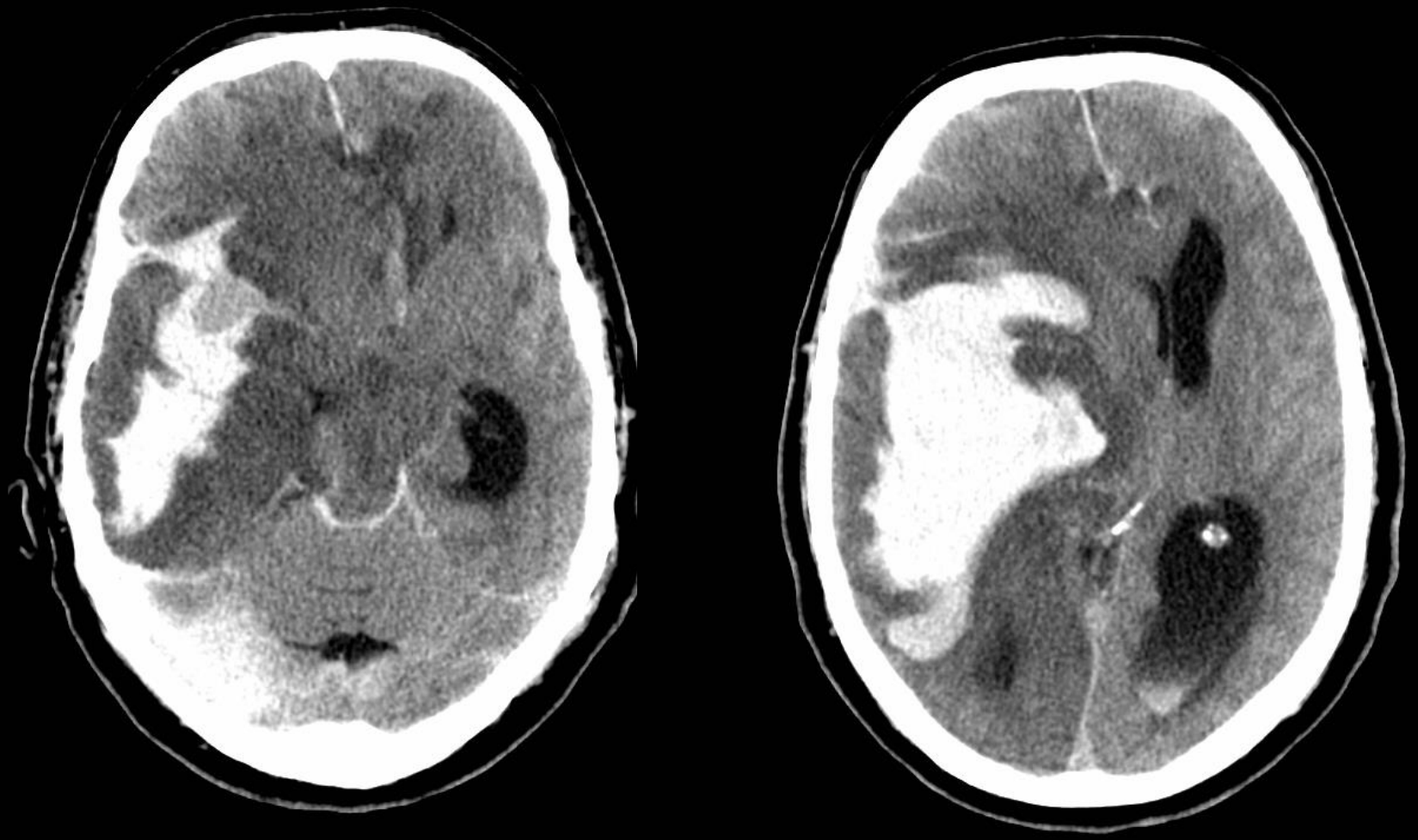
- Acute headache
- ”Red flags”
  - LOC
  - Seizure
  - Drowsiness, vomiting
  - Neurological deficit

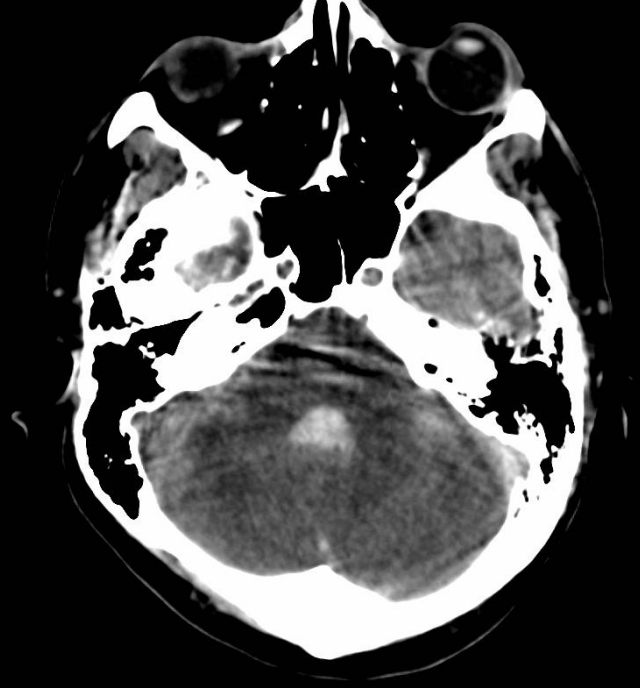
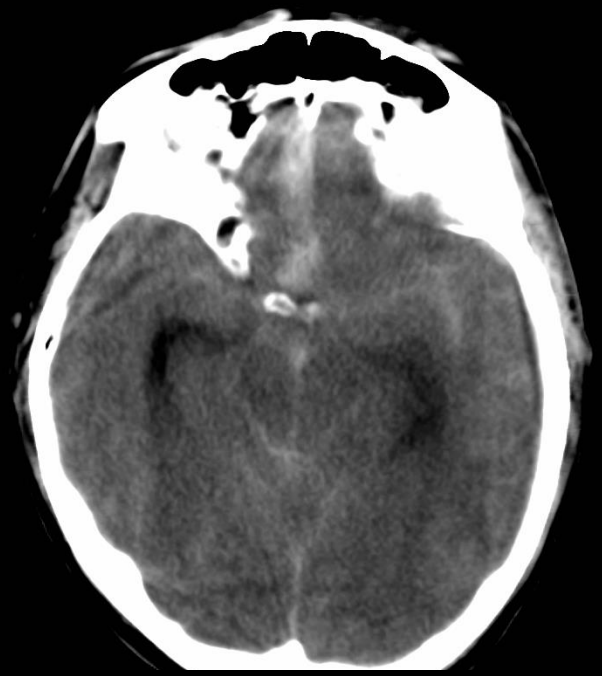
- CT can be negative after 6 hours -> CSF analysis
- Re-bleeding
  - 4% within 1 day
  - 20% within 1 week









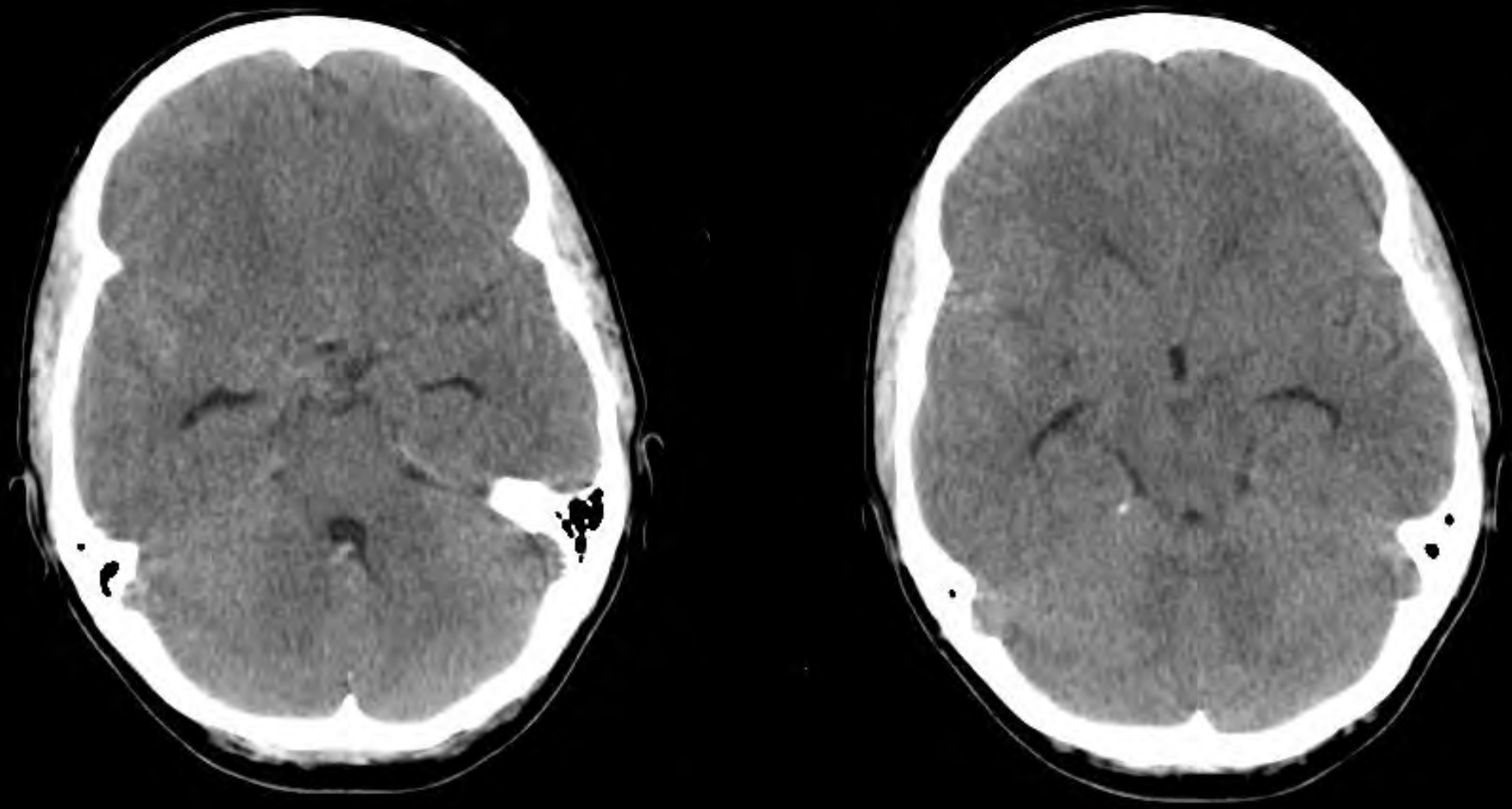



CASE

Porvoon local hospital, wednesday 7.6 2017 kl 12.00

54 y.o male, working, hypertension. Ex-smoker.
5 days ago sudden onset of headache, still continuing.
Comes to hospital because of prolonging symtoms, HA, nausea

CASE



CASE

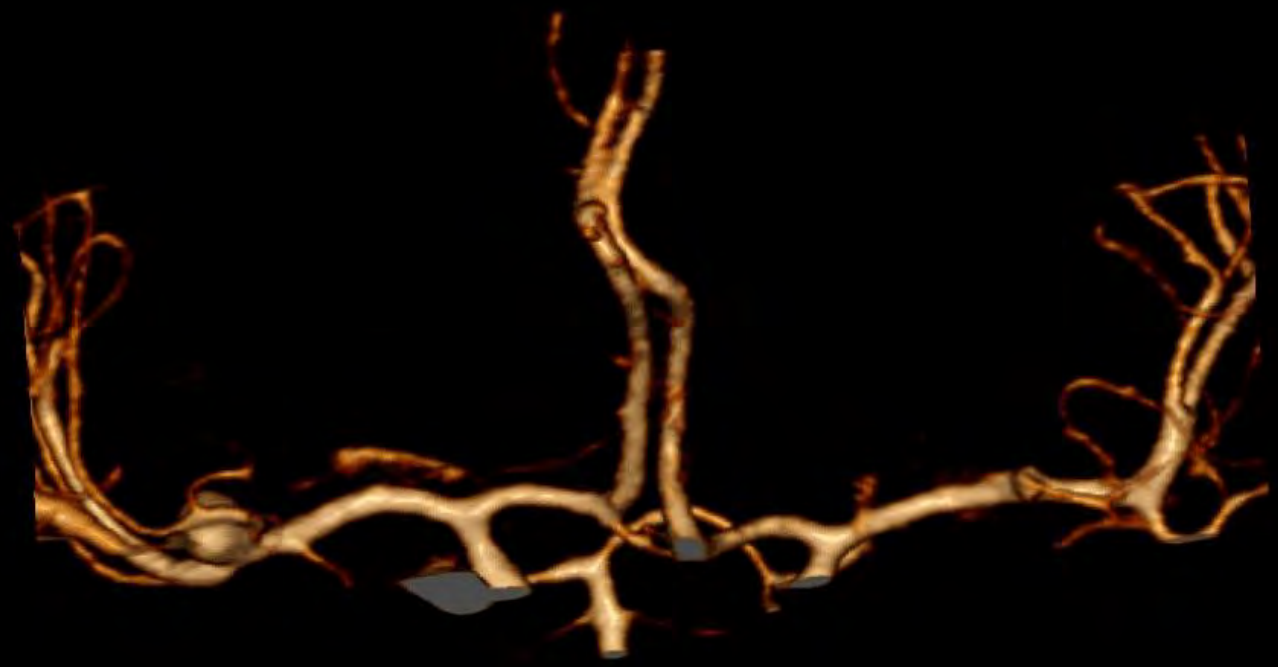
SAH

- what to do?

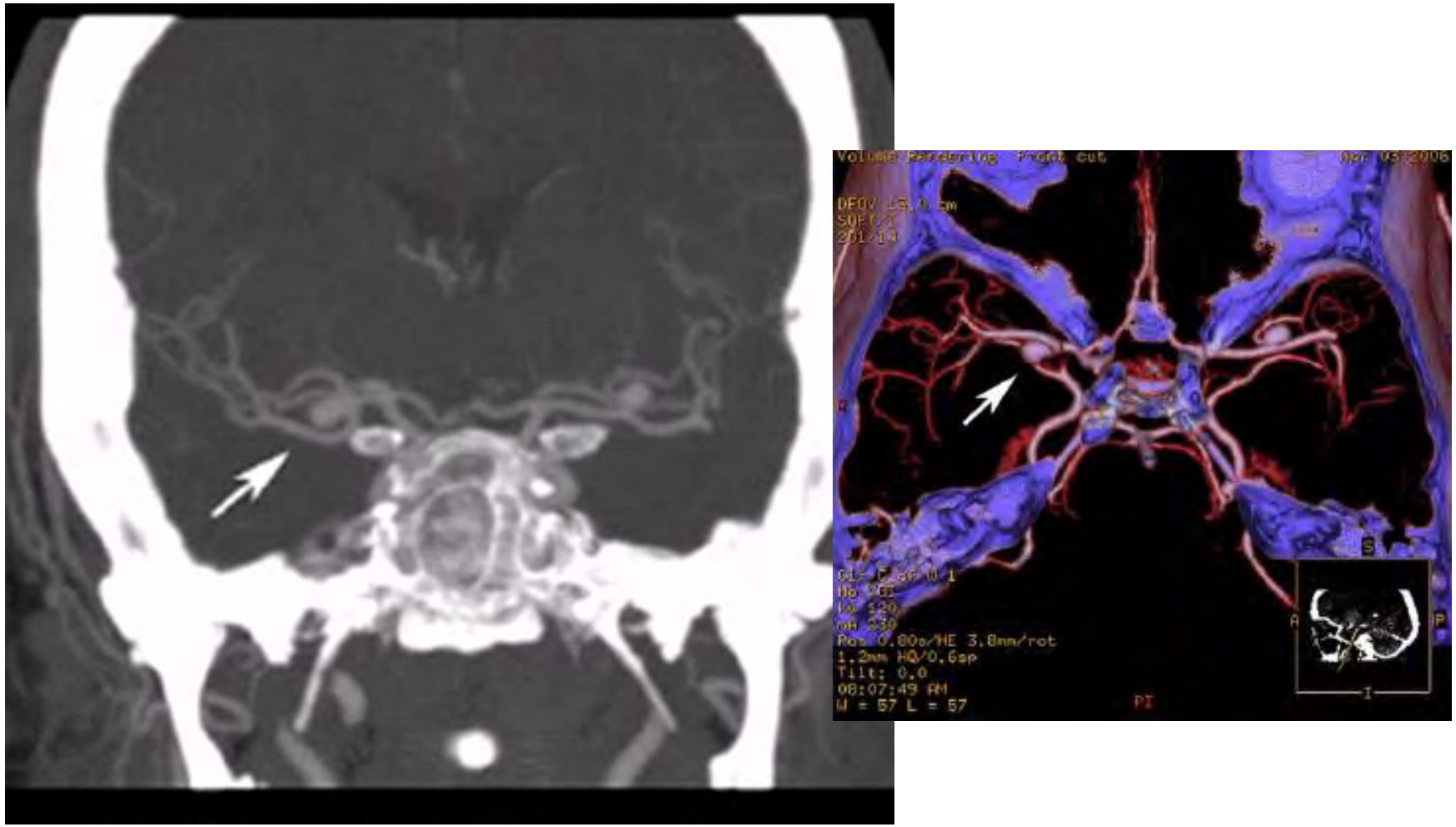
SAH

- Bedridden
- BP control (aim <160mmHg)
  - labetaloli, enalapriili
- Caprilon 1g iv (x4, 3days)
- Antidotes for anticoagulants
- Nimodipine (60mg x6 p.o.)
- Treatment of
  - headache, perfalgan iv, oxanest im/iv
  - nausea, granisetroni
- Transport to neurosurgiacal department
- Intubation if unconsious
- Anticonvulsive treatment?

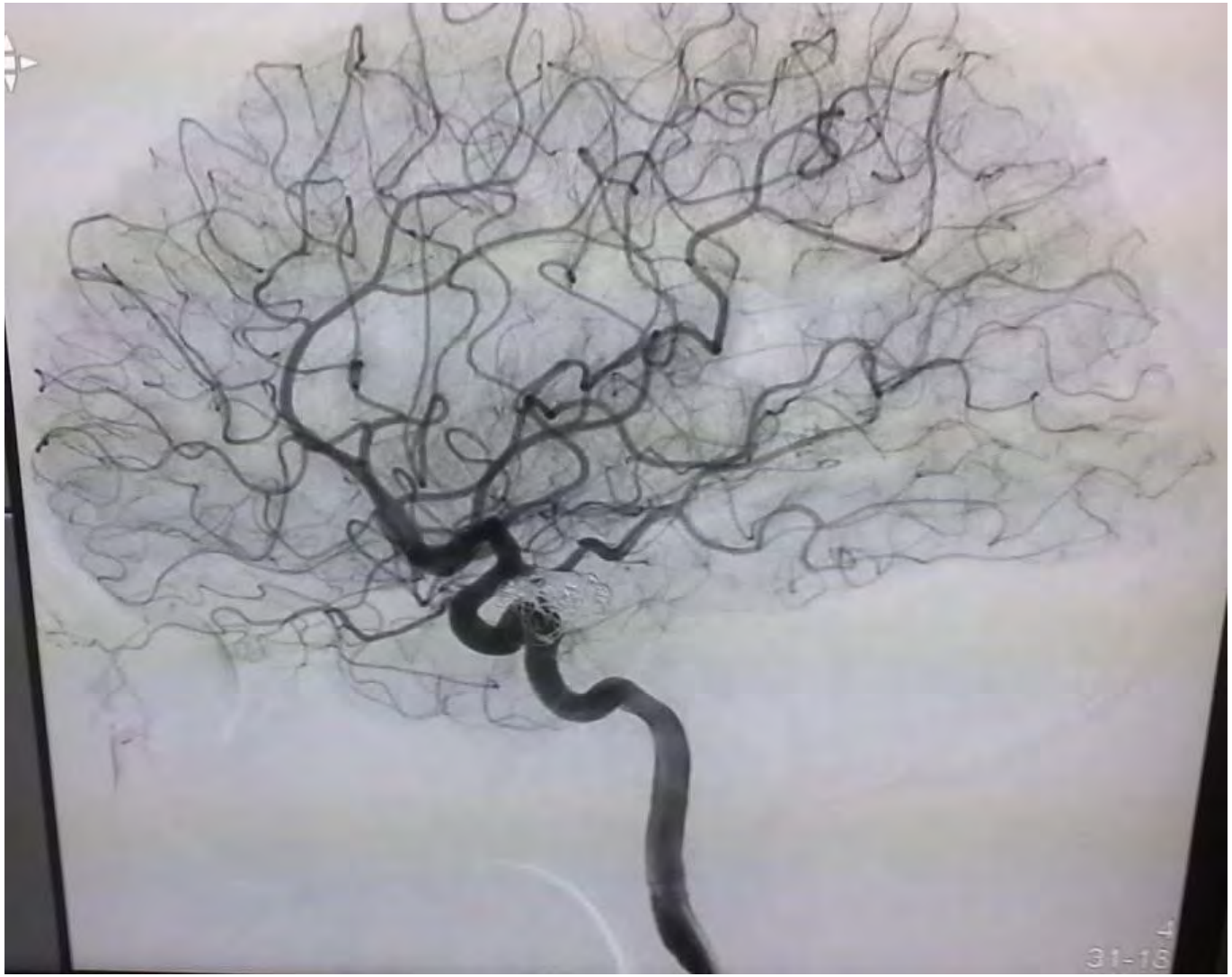
CT-angio



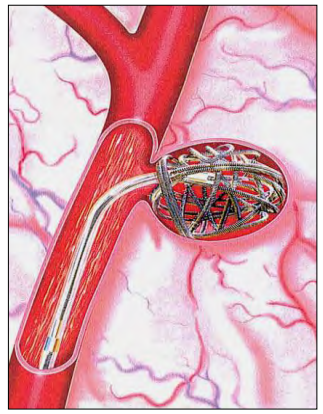
CT - Angiography

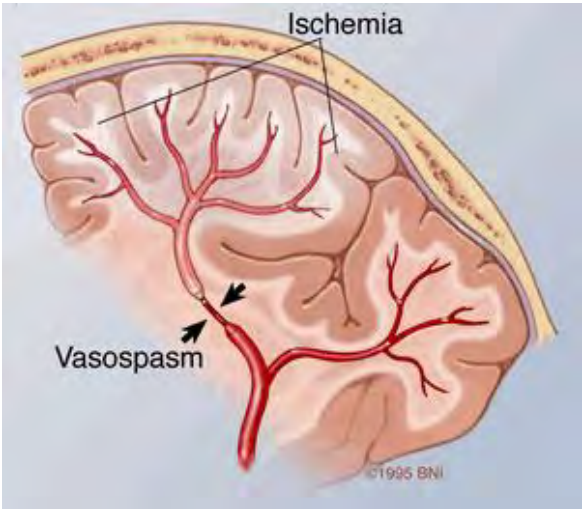


Digital subtraction angiography

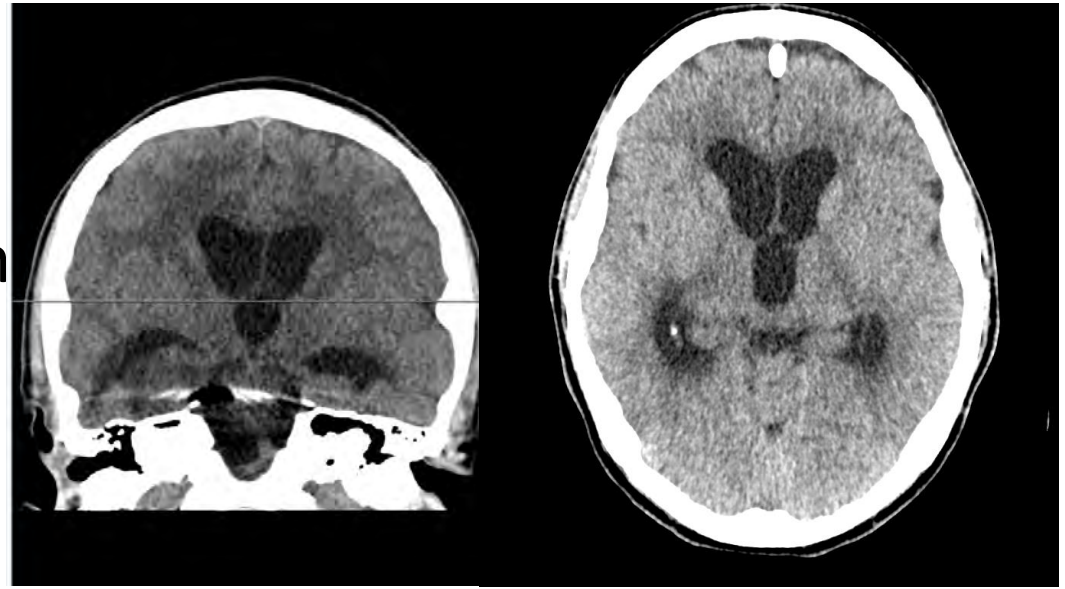


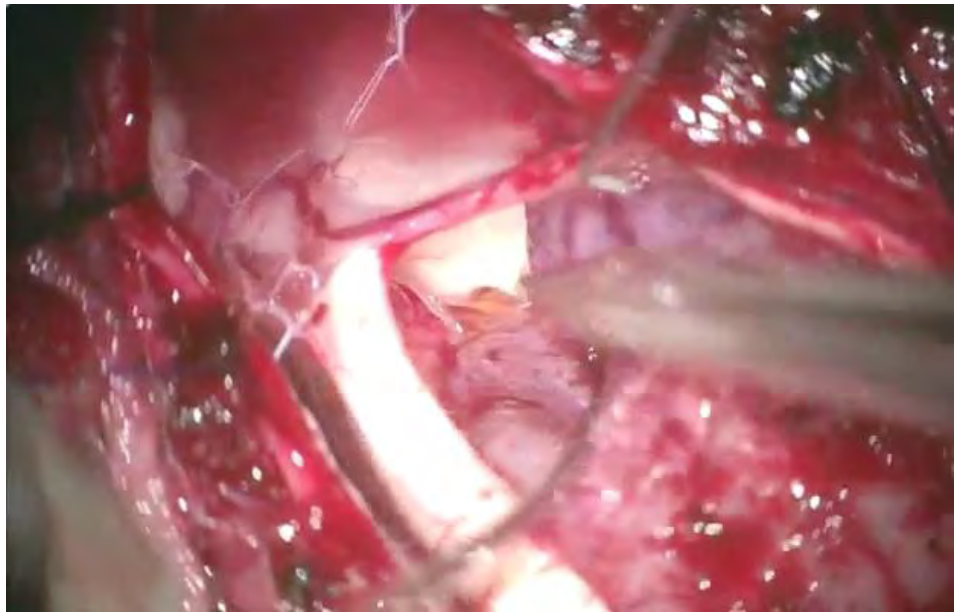
SAH





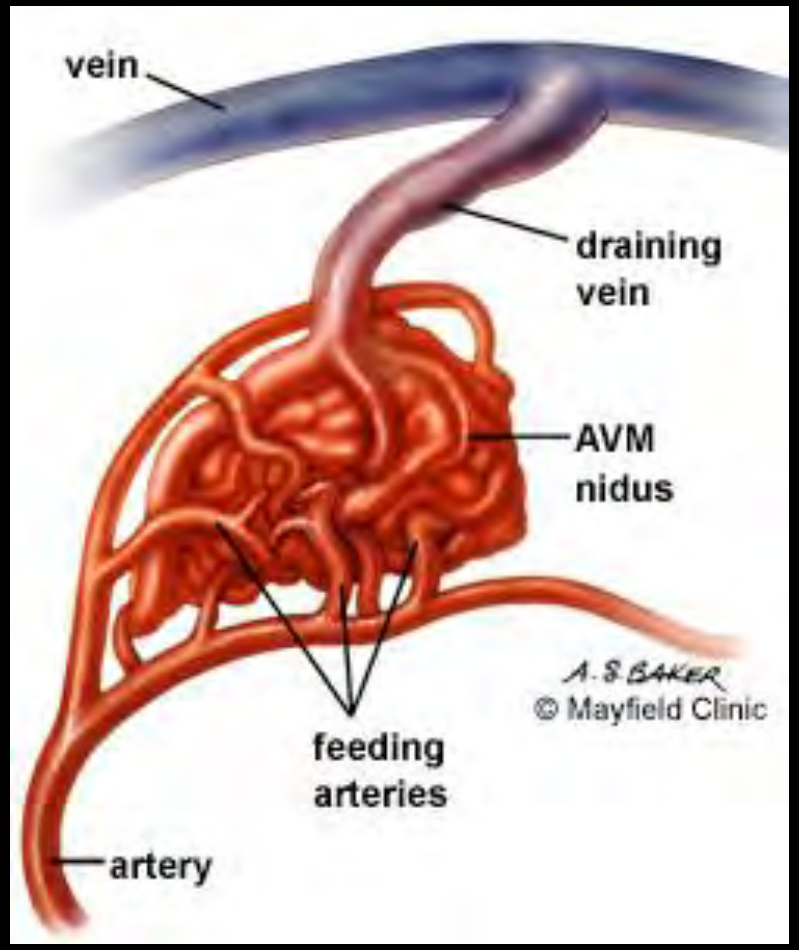
- Aneurysm treatment within 2 days
- Vasospasm prevention
  - nimodipine 21 days
  - prevent hypovolemia
  - inotropic medication
- Hydrocephalus treatment
- 2-3 weeks in neurosurgical departm



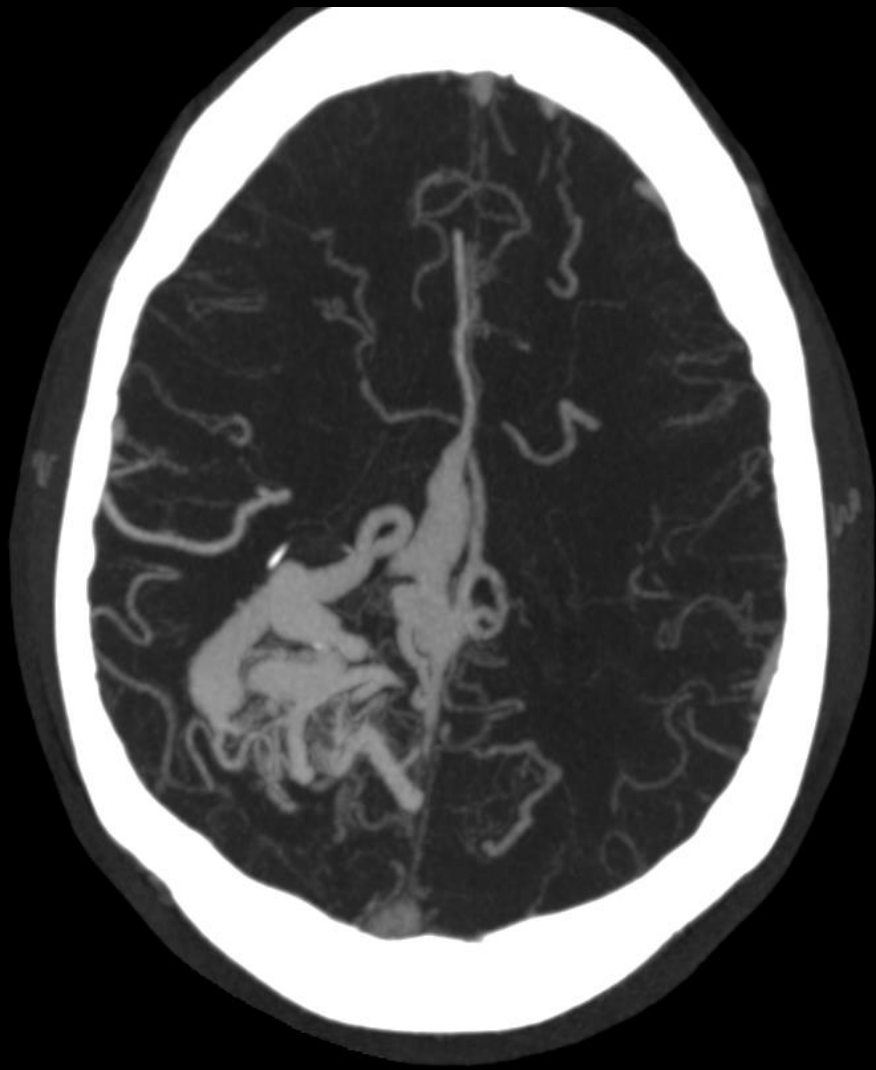


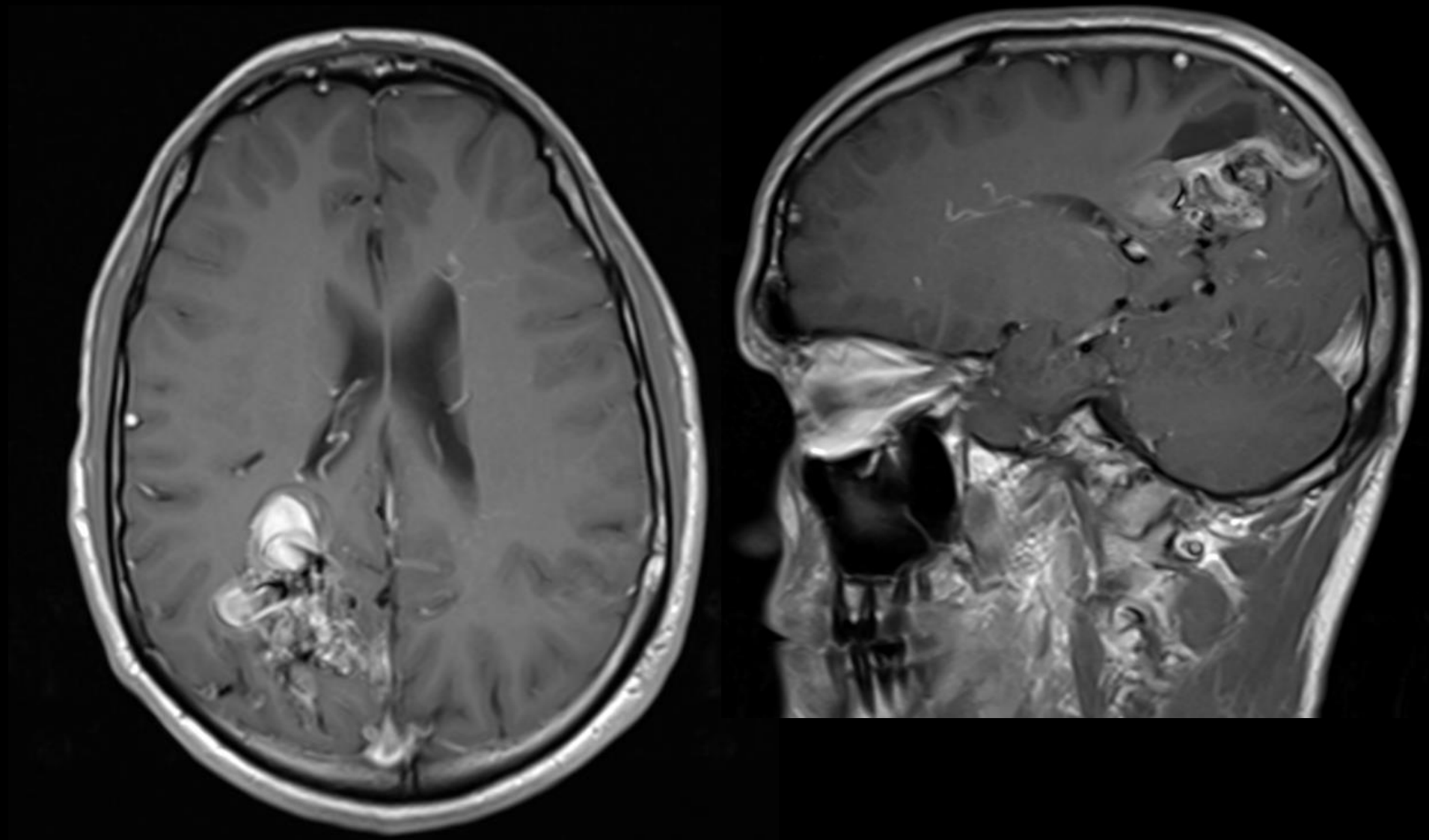
Microscope

Arteriovenous malformation

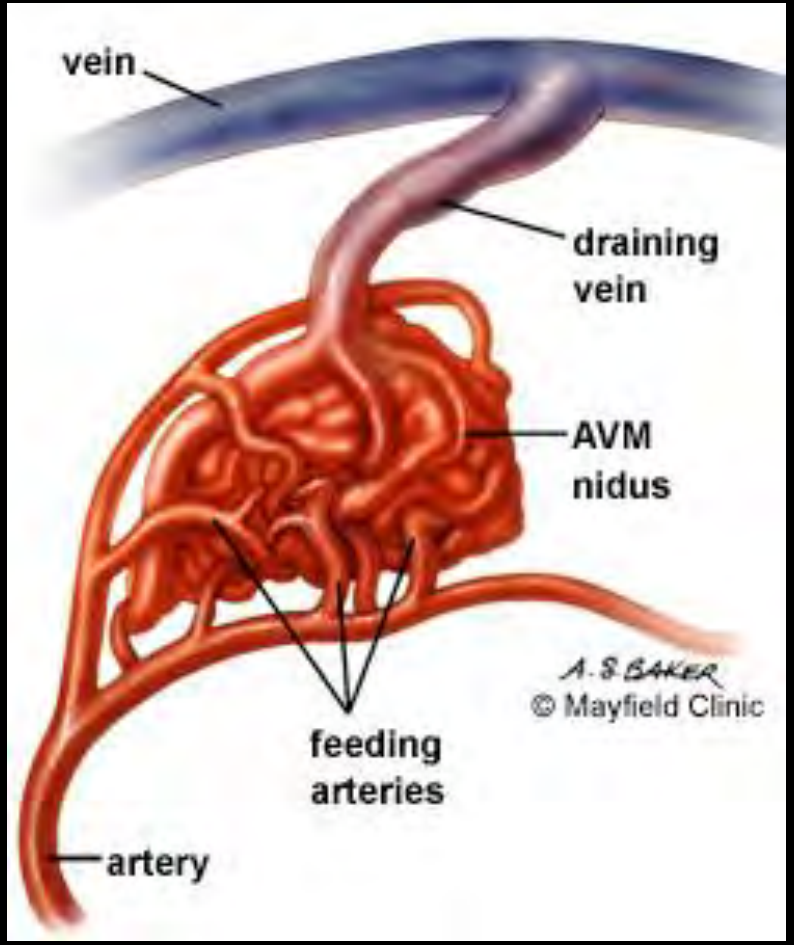


AVM





AVM



Congenital (33v)

Rare

Rupture rate 3%/year

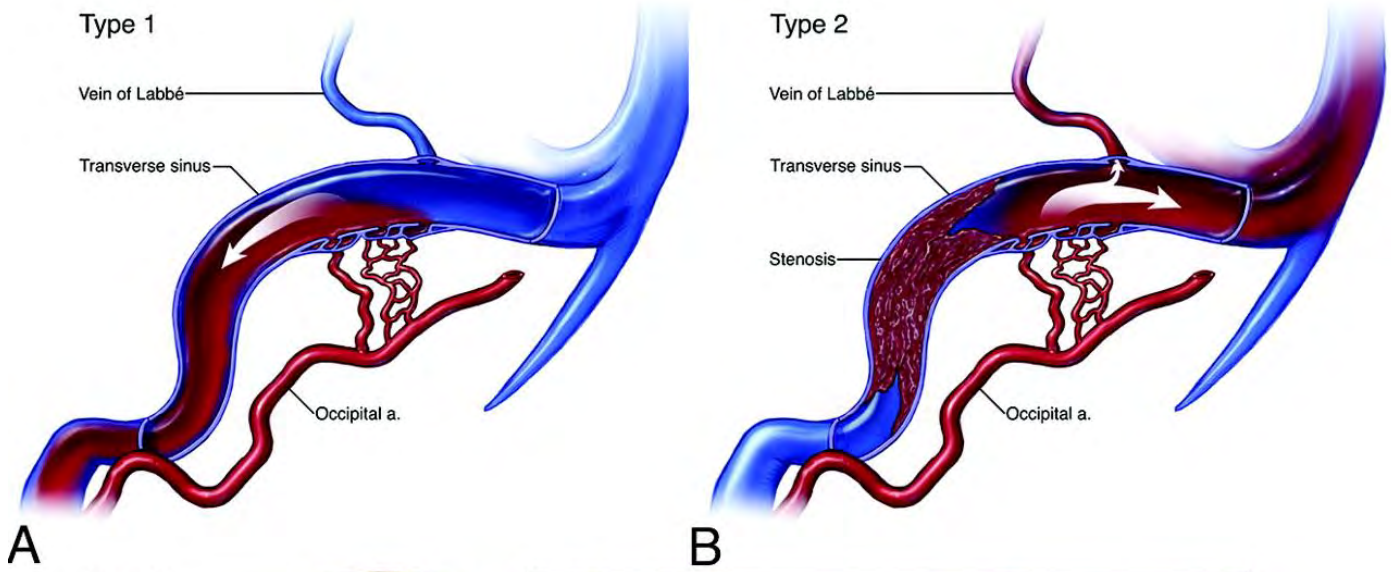
Other symtoms

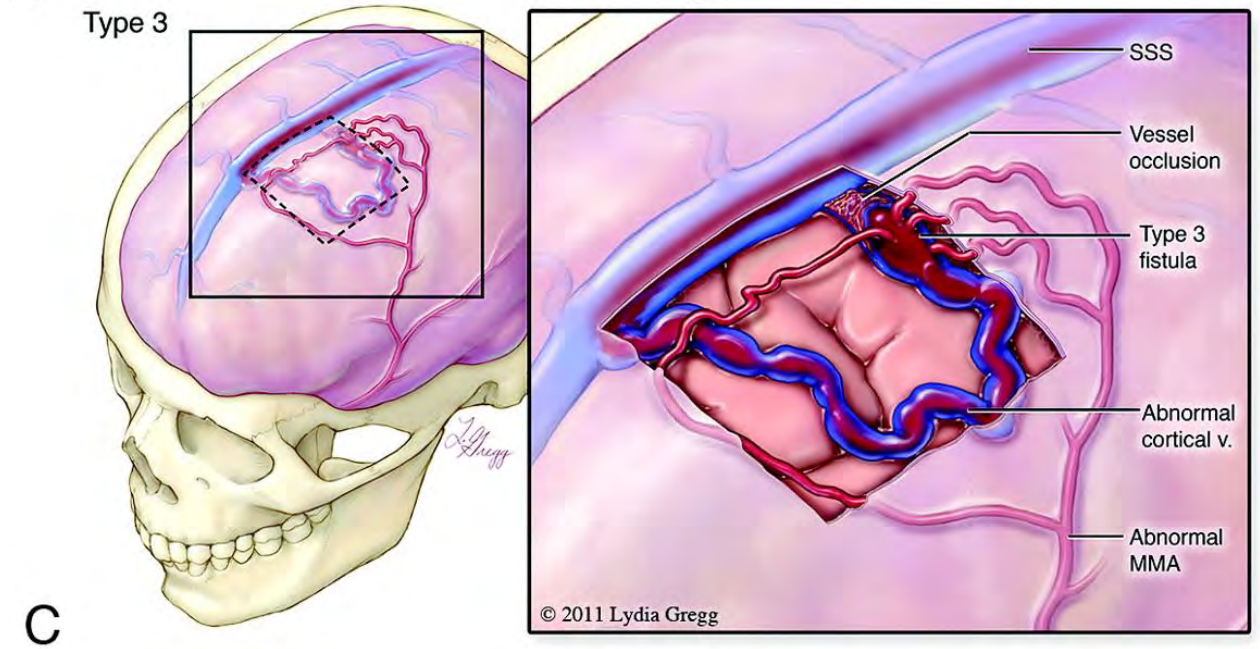
-seizure

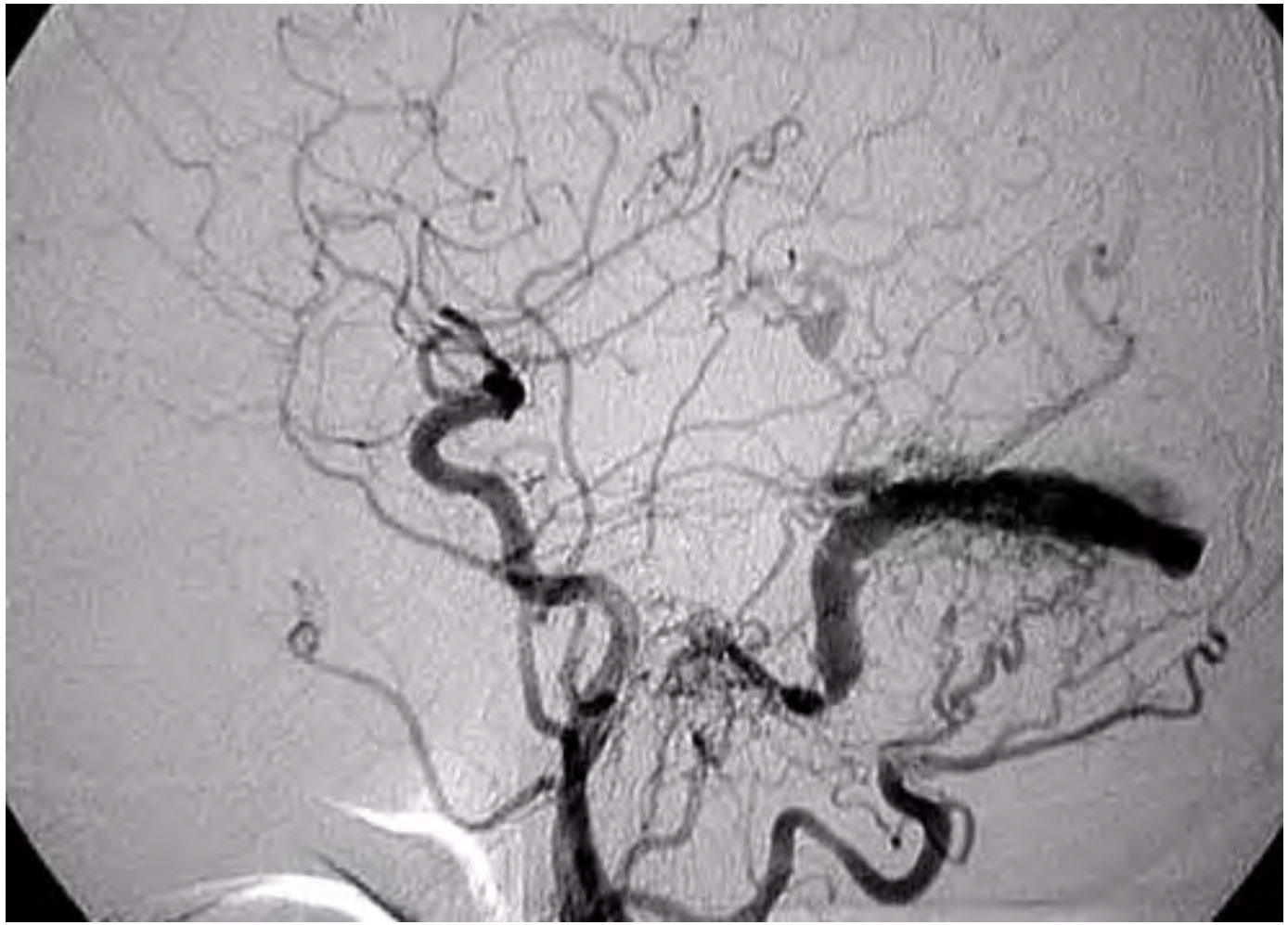
-neurological deficit

Endovascular Microsurgical Conservative Stereotactic radiosurgery

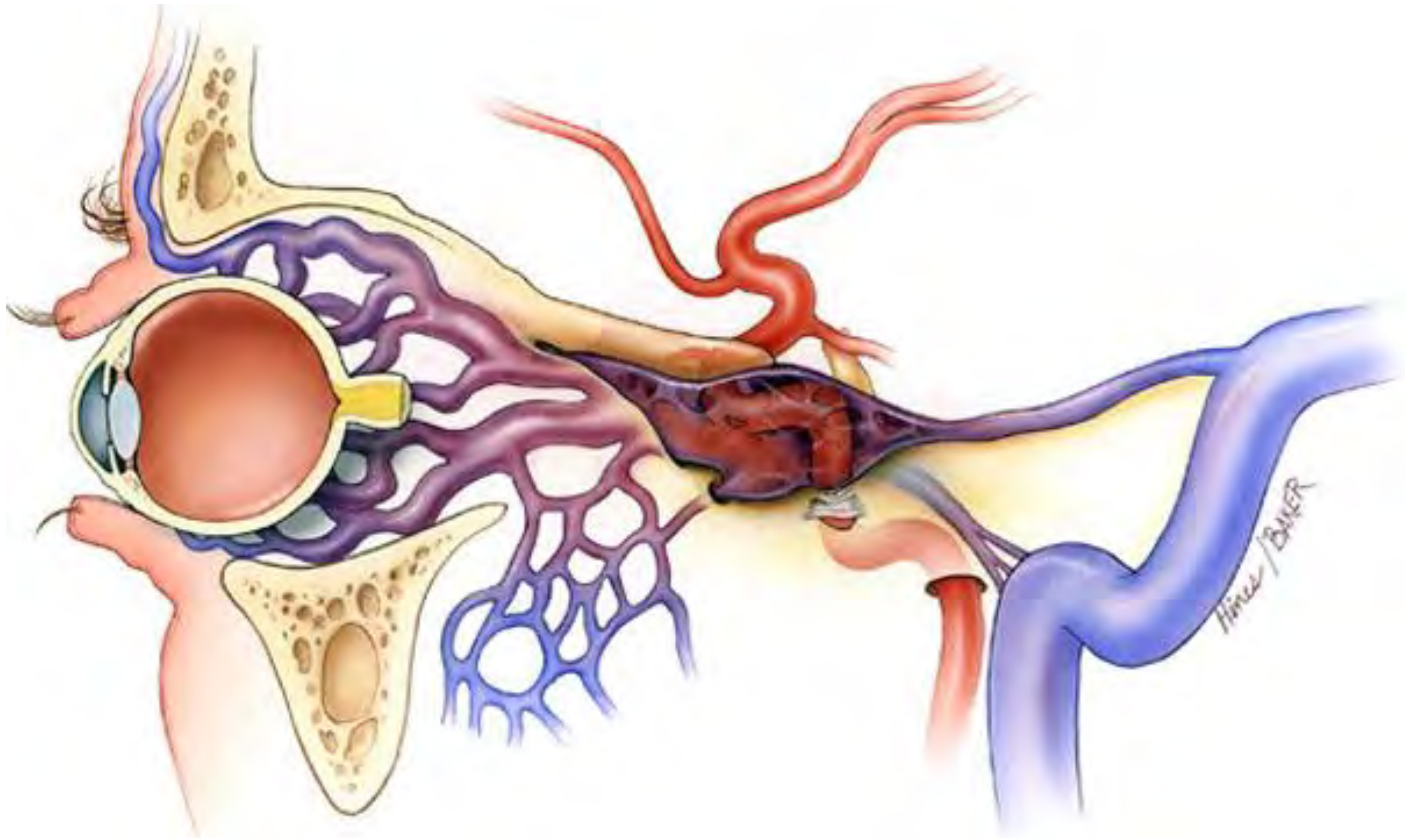
Dural AV-fistula



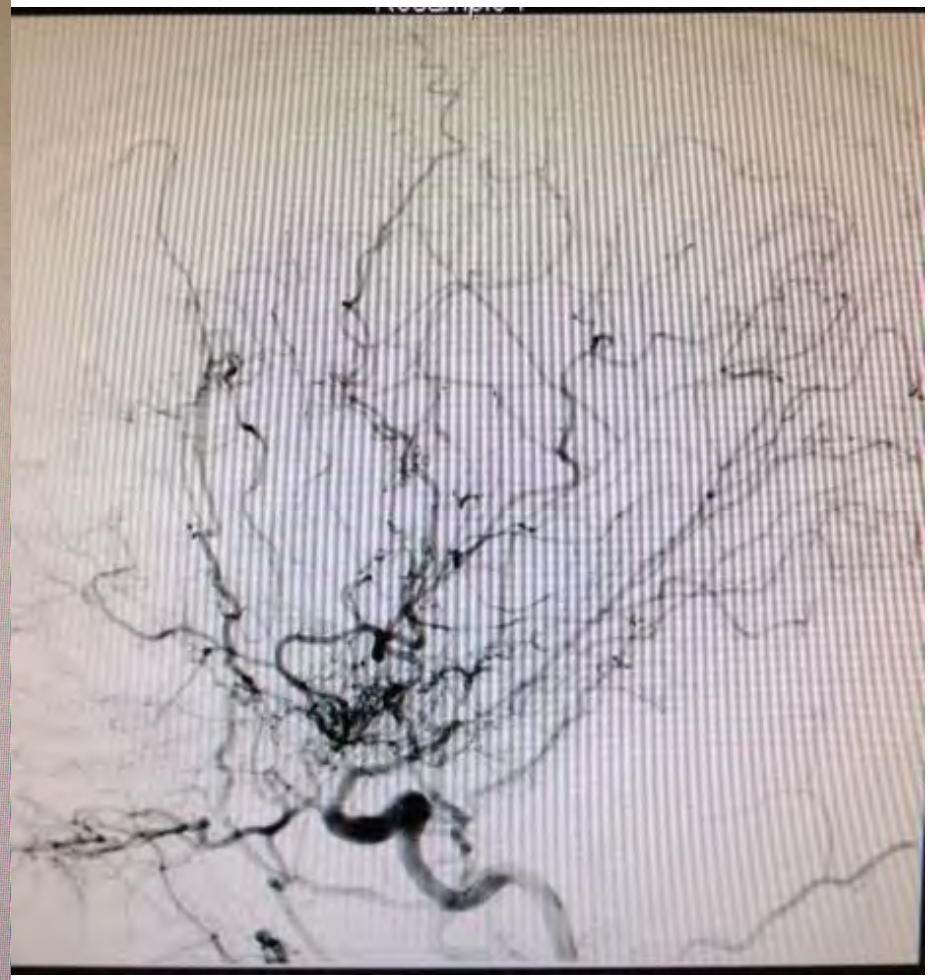




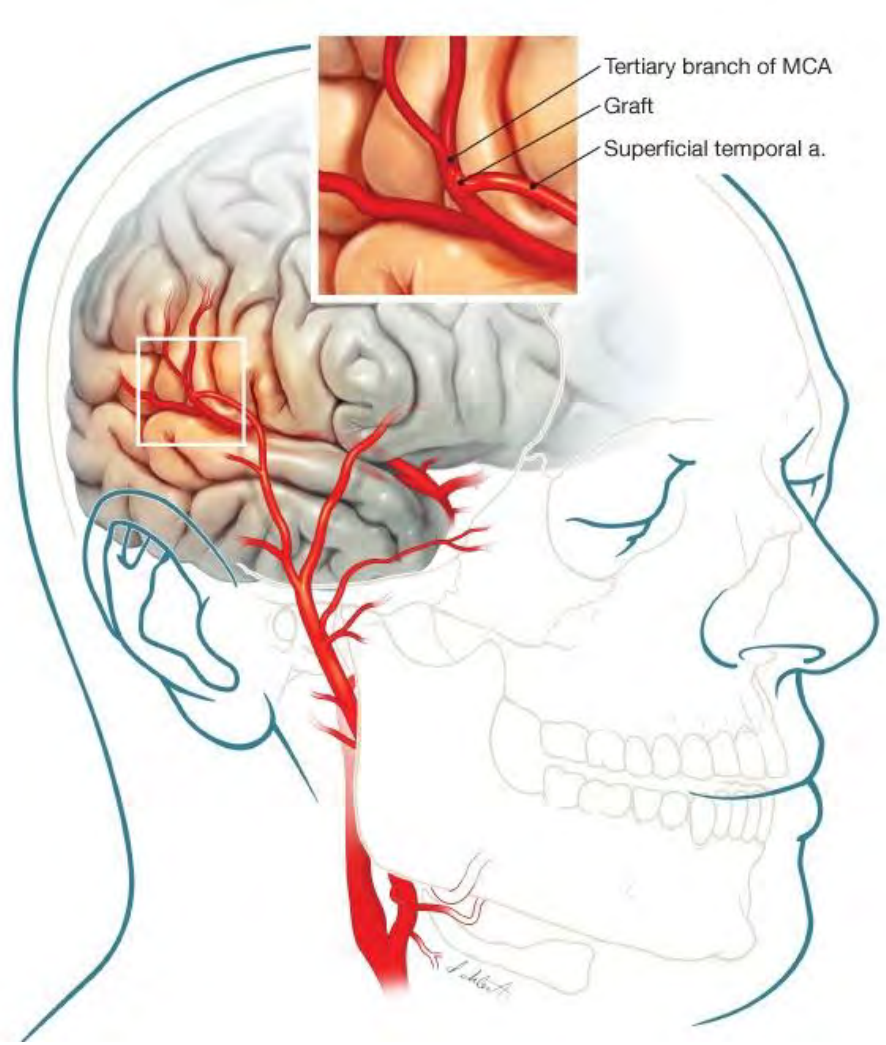
CC - fistula

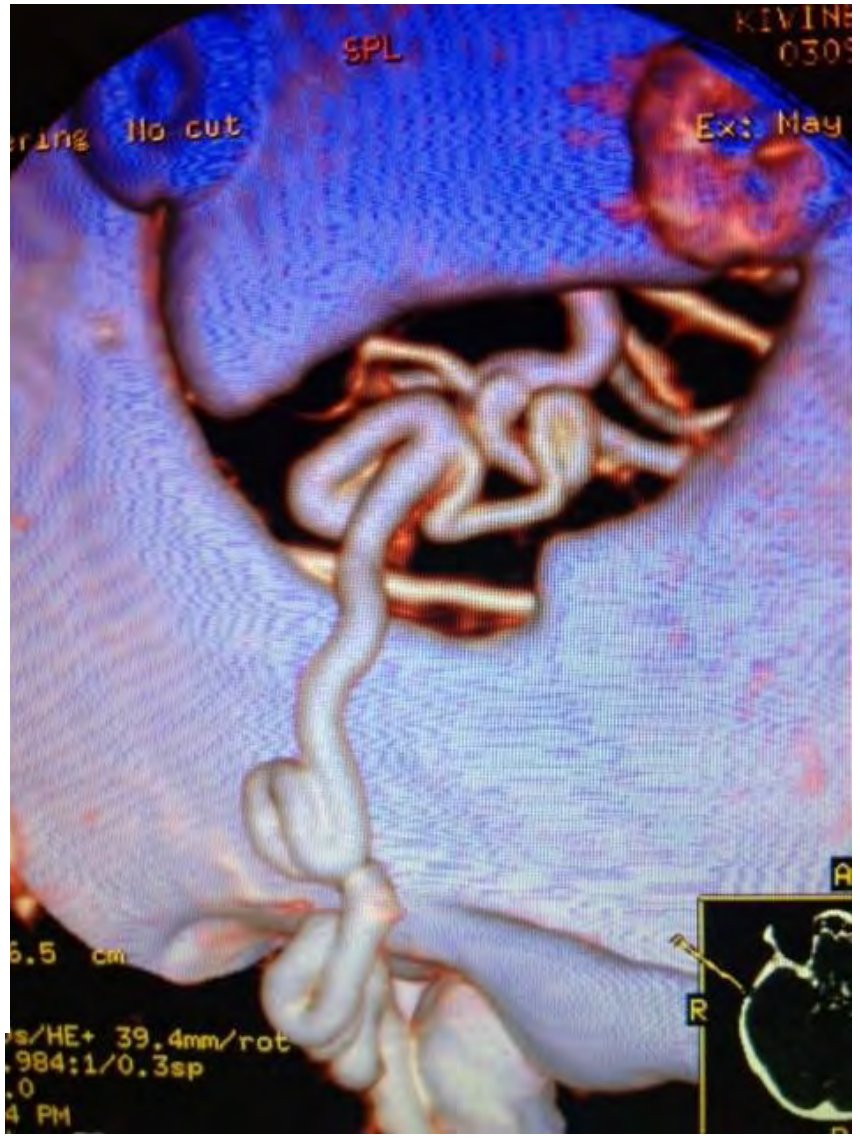


Moya-Moya tauti

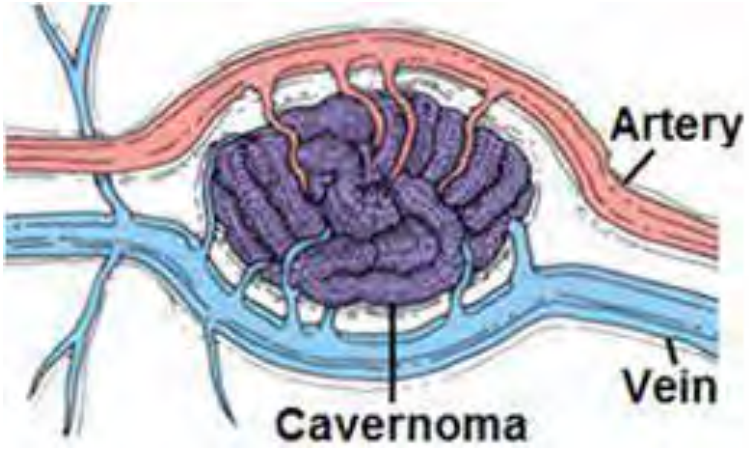


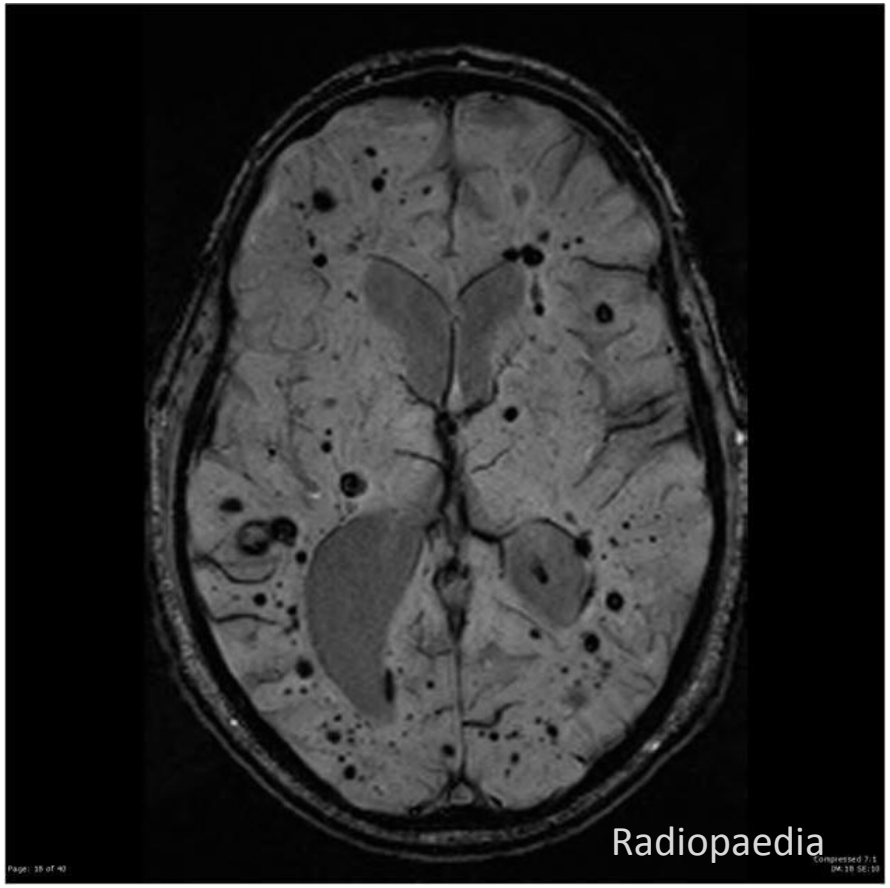
STA – MCA bypass





Cavernous hemangioma





Cavernous hemangioma

Congenital or sporadic

Single or multiple

Bleeding usually minor

Many are incidental

Eloquent or non-eloquent location

Surgical or conservative treatment