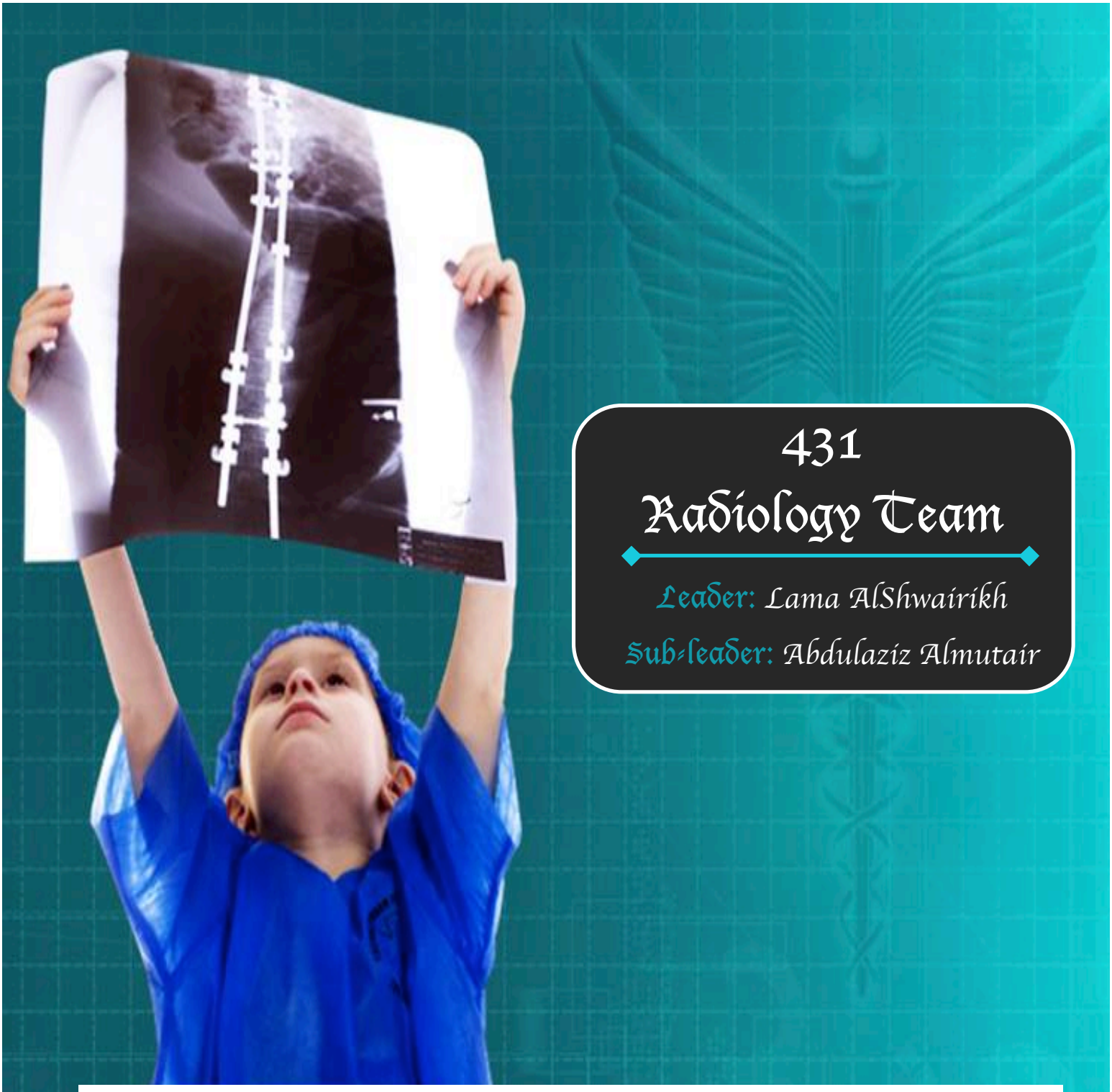

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Radiology Team

Leader: Lama AlShwairikh

Sub-leader: Abdulaziz Almutair

Lecture 13: Interactive Lecture of Nervous System

Done By: Ebtihal Alamer

Revised By: Lama AlShwairikh

◆Important ◆Doctor's notes ◆Team's notes

- **All the images are from the slides**

Sutures of the Skull

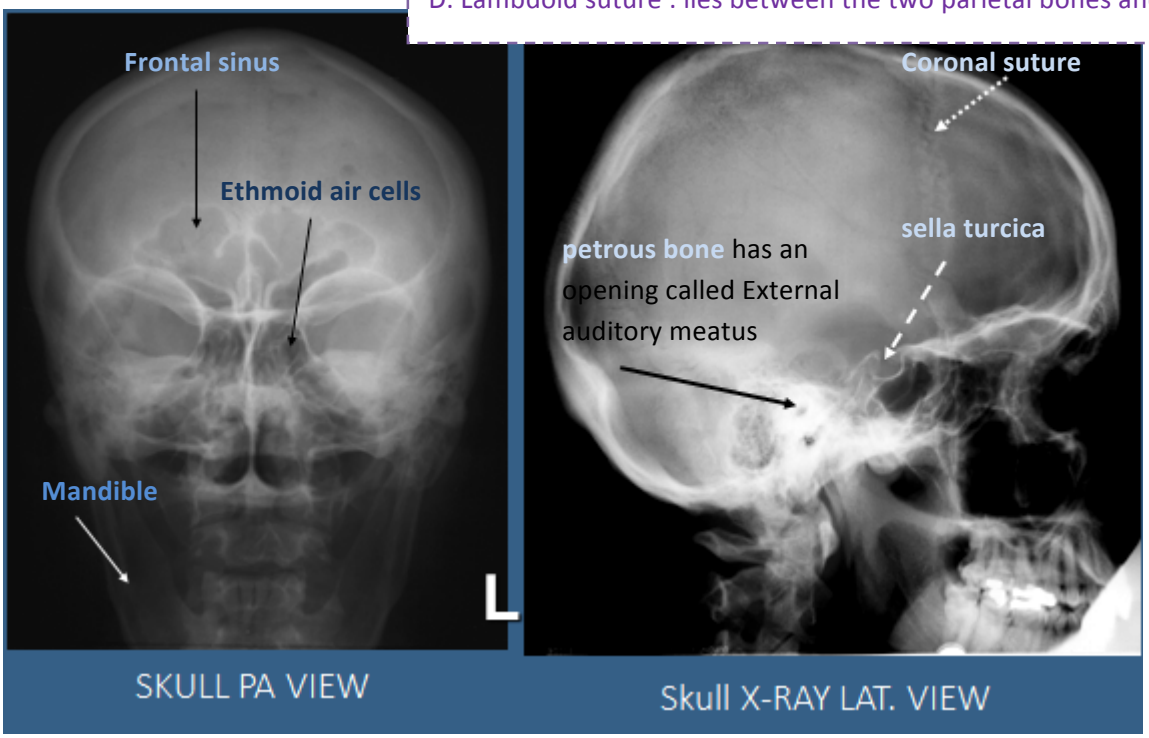
A. Coronal suture: lies between the frontal bone and the two parietal bones.

B. Sagittal suture: lies between the two parietal bones.

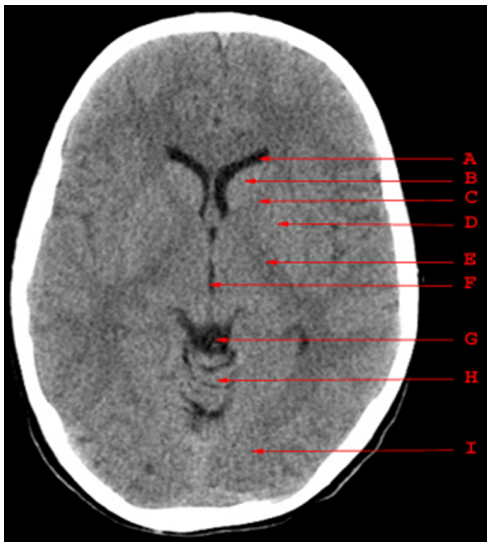
C. Squamous (squamoparietal) suture: lies between the parietal bone and the squamous part of the temporal bone.

D. Lambdoid suture : lies between the two parietal bones and the occipital

❖ **Name the structures**



❖ **Which is true on this brain CT regarding anatomy:**



A. Internal capsule (X) **anterior (frontal) horn of the lateral ventricle**

B. Caudate head or nucleus (✓)

C. Cerebral peduncle (X) **anterior limb of internal capsule**

D. Putamen (✓)

E. Thalamus (X) **posterior limb of internal capsule**

F. 4th ventricle (X) **3rd ventricle**

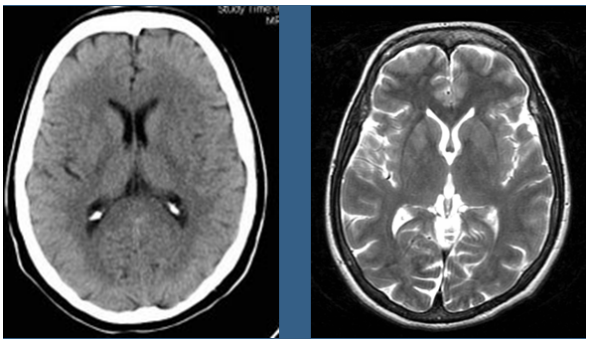
❖ **Which is true in CT?**

A. Bone is black (X)

B. CSF is black (✓)

C. Gray matter is darker than white matter (X)

D. Gray and white matter cannot be differentiated (X)

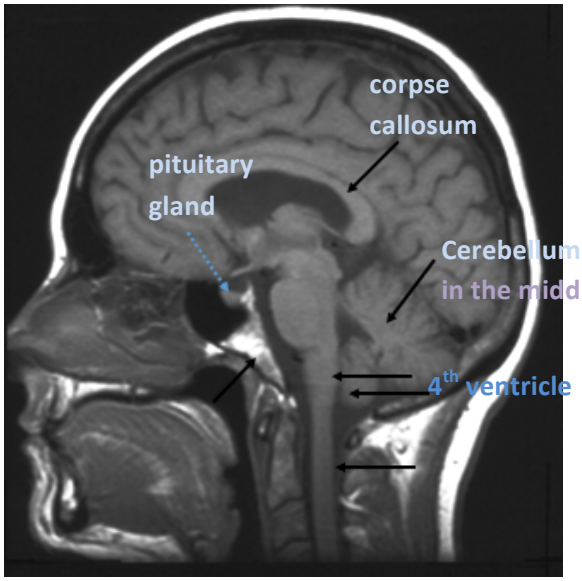


- White matter is darker than Grey matter because there is a lot of fluid between the axons, and the myelin sheath is composed of fat.

- When we lose the ability to differentiate between W & G matter then we are dealing with **brain edema** global like cardiac arrest or localized like infarction.

❖ **Name the structures:**

In CT: bone is white



❖ **Contraindication of MRI include all the following EXCEPT:**

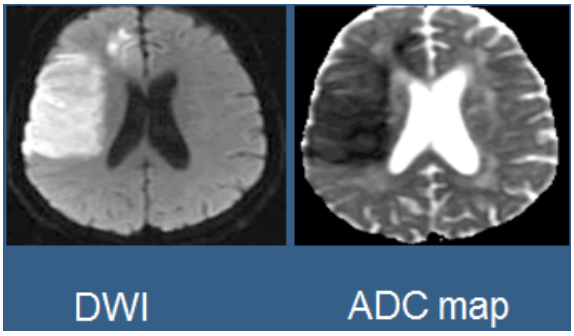
A. Cardiac pacemaker (it will stop)
B. Cochlear implants (it will cause hyperstimulation)
C. Metal close to the eye (may move and injure the eye)
D. Neurostimulators (will cause hypersyimulation)
E. Pregnancy (3rd trimester)

❖ **MRI diffusion (DWI) is particularly helpful In assessment of:**

A. Brain infarction (only in acute infarction – 1 week-)
B. Brain abscess
C. Brain tumors (only in certain types)
D. Hydrocephalus

❖ **MRI Diffusion.**

Very helpful in assessment of:
A. Early brain infarction.
B. Brain abscess.
C. Certain types of brain tumor.



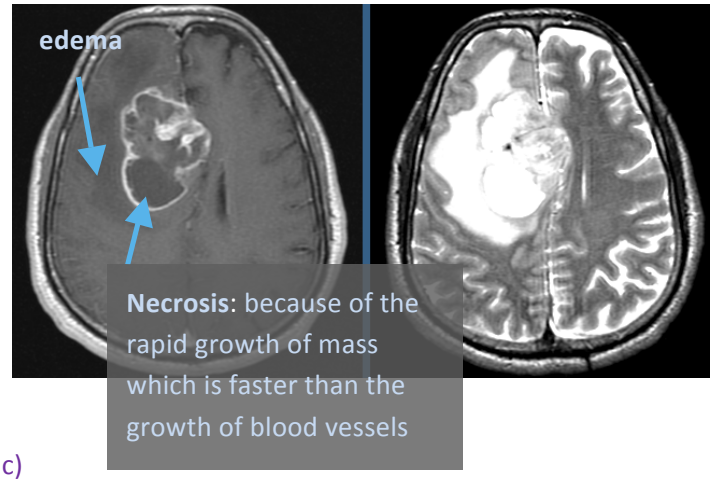
❖ **Which of the following is true?**

A. This is CTA study (in CT bone is white)
B**. This is MRA study** (MR Arteriography)
C. This can only be done with contrast (it could be done without because MRI is very sensitive for flow " we don't need contrast")
D. This is good to diagnose cerebral venous thrombosis (these are arteries)

Angiography = arteriography or venography (MRV)

❖ **An MRI showed intra-axial lesion that is necrotic, irregular, strongly enhancing, and crossing midline.**
This lesion is most likely:

A. Meningioma (it's extra axial)
B. Infarction (it doesn't cross midline)
C. Multiple sclerosis (usually regular, not necrotic, multiple and not strongly enhanced)
D. Glioblastoma multiforme (usually not multifocal so not systemic)

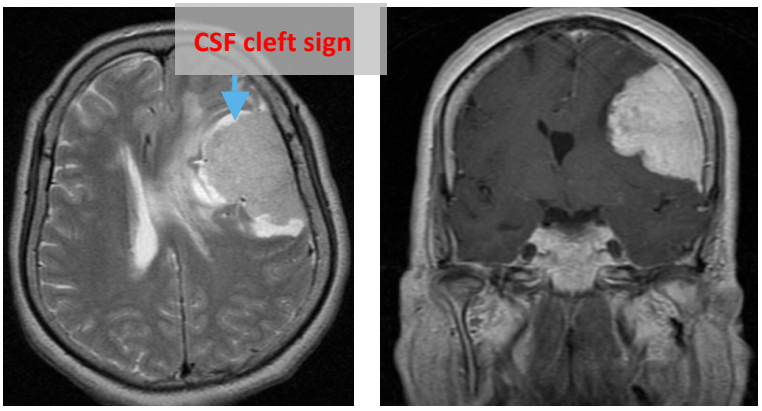


❖ **The lesion on this CT is:**

A. Meningioma
B. Abscess (regular wall + no nodularity)
C. Multiple sclerosis
D. Glioblastoma multiforme

❖ **The lesion on this MRI is:**

A. **Meningioma** (extra axial)
B. Infarction
C. Metastasis
D. Abscess

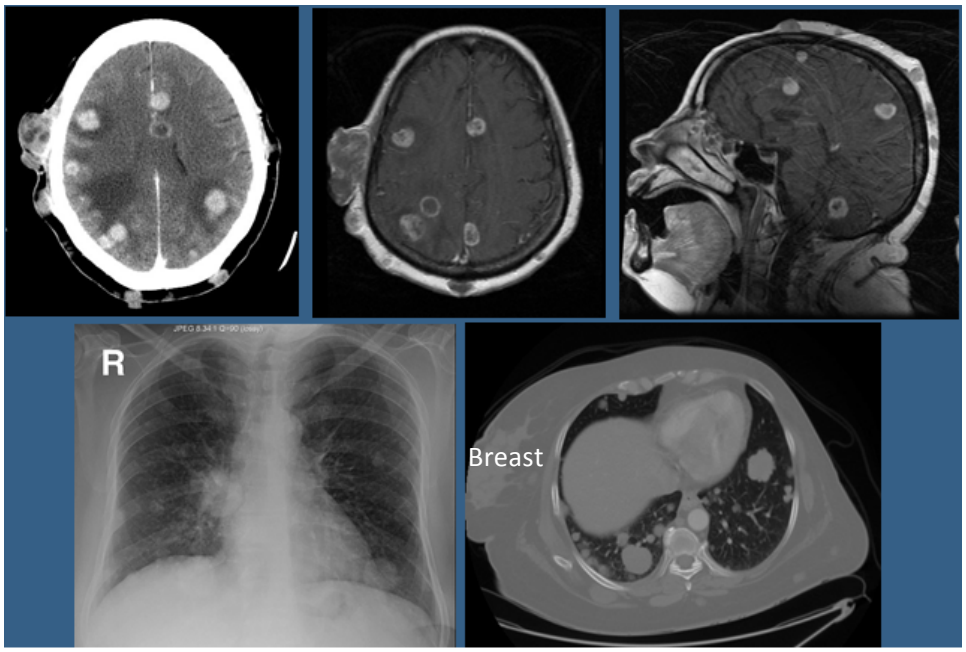


- **Metastasis**

-Multiplicity & systemic process

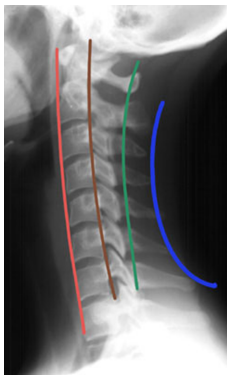
-Lung nodules and the primary is breast cancer

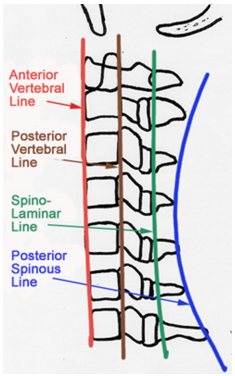
-we can see only one breast which means the other breast was removed by surgery



❖ **Which of the following is true about the lines of the cervical spine?**

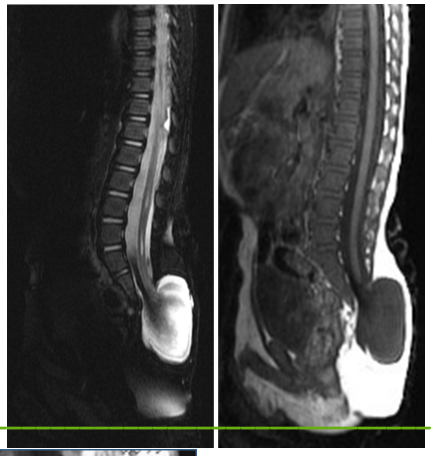
A. Red is intervertebral line
B. Brown is posterior spinous line
C. Green is spinolaminar line
D. Blue is posterior vertebral line

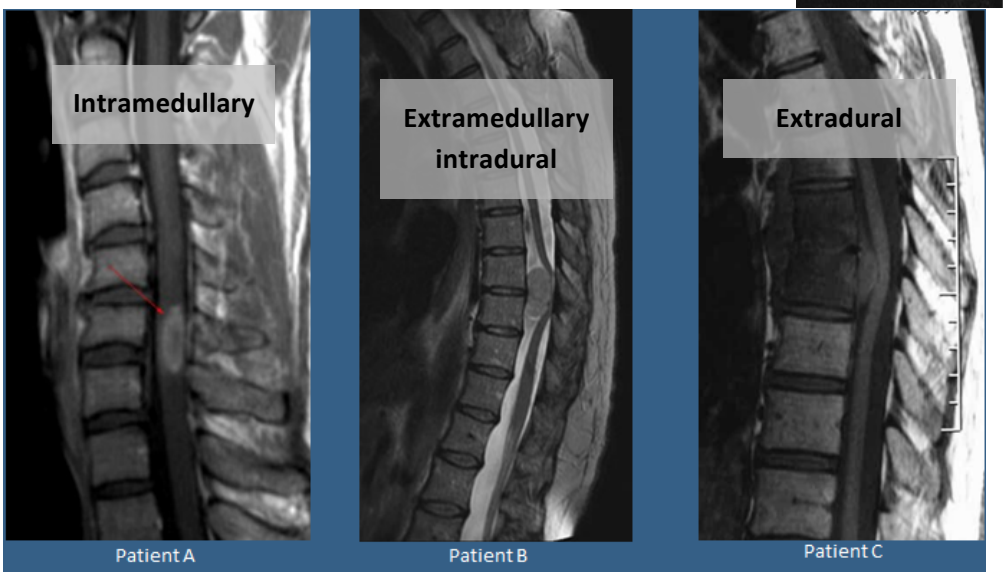


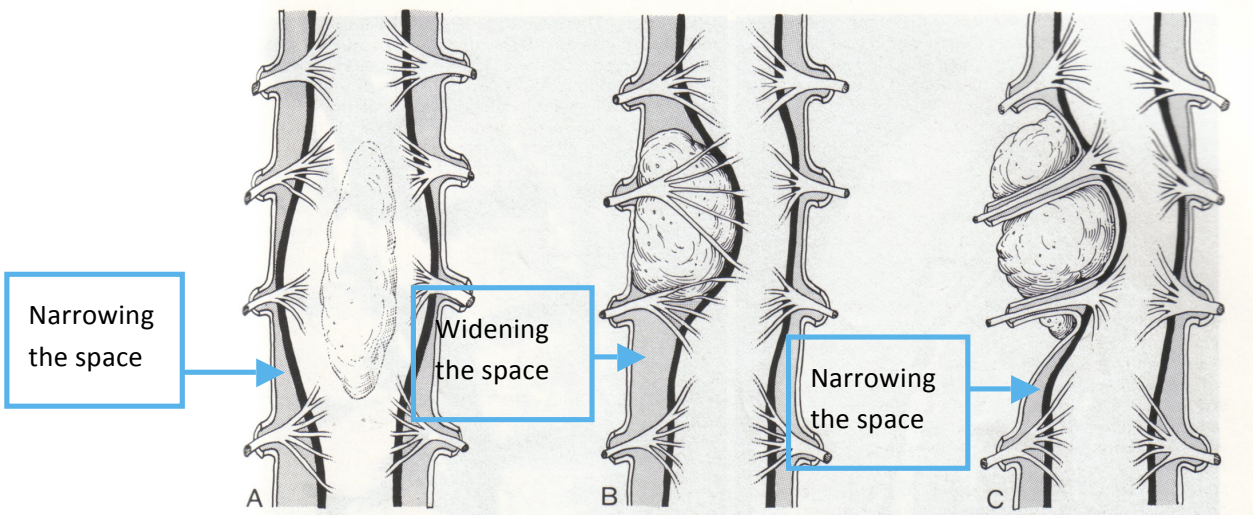


❖ **This MRI of the spine shows:**

A. Meningocele + Tethered spinal cord
B. Extradural tumor
C. Discitis
D. Vertebral fusion

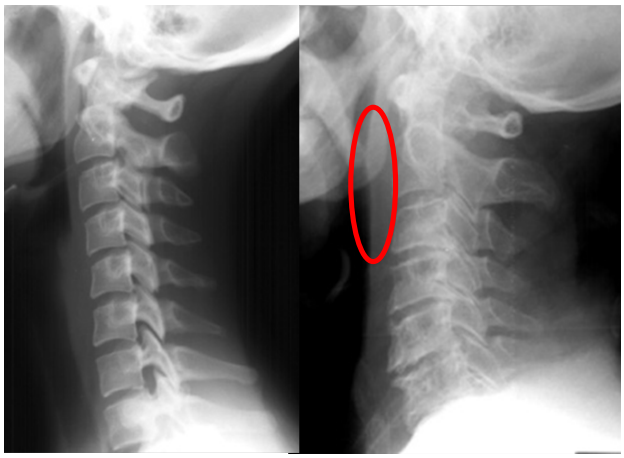






❖ **What is the difference?**

- Degeneration due to aging
- **The prevertebral retropharyngeal space** shouldn't exceed 3 mm.
  so here it indicates abnormality such as hematoma due to fracture (Hx of trauma) or retropharyngeal abscess or infection (after tonsilits)

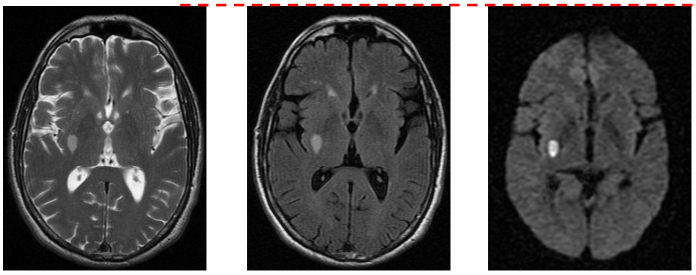


Normal control Patient

❖ **This MRI shows an infarction in the right basal ganglia.**
The infarction is:

A. **Acute (recent)**
B. Chronic (old)
C. Hemorrhagic
D. In PCA territory (basal ganglia is supplied by branches of MCA)

The doctor said these two are his favorite slides



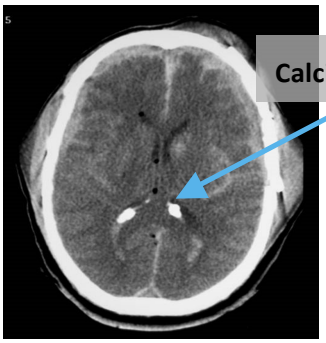
T2WI FLAIR DWI

❖ **This patient is most likely to have:**

A. Left monoplegia (left paralyzed leg) only in case of cortical infarction involving the medial part of the cerebral hemisphere- ACA territory" area of legs")
B. Left hemiplegia (infarction in the corticospinal tract in the basal ganglia, pons or medulla)
C. Diplegia
D. No symptoms

❖ **This CT shows:**

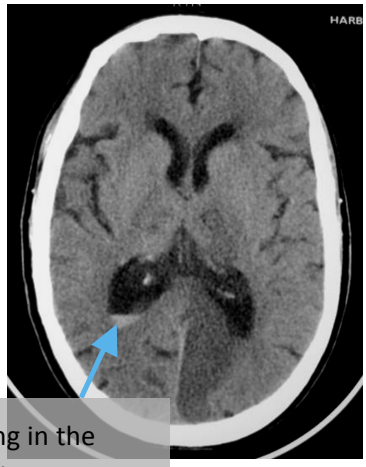
A. Subdural hematoma
B. Subarachnoid hemorrhage **(sulci and fissures filled with blood)**
C. Intraventricular hemorrhage
D. All of the above



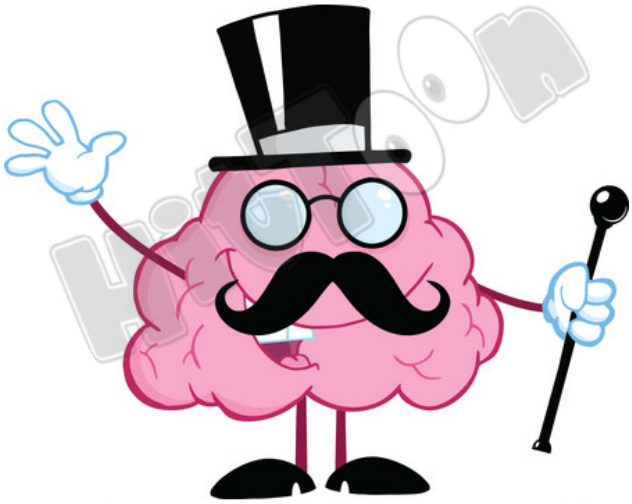
❖ **The hematoma pointed by the arrow is:**

A. **Acute epidural** (cross the midline)
B. Chronic epidural (hematoma will be grey)
C. Acute subdural
D. Chronic subdural
E. None of the above

- **This CT shows:**
  - **A. Acute PCA** infarct (it's in the occipital & the **thalamus too is infract**)
  - B. Chronic ACA infarct
  - C. Subarachnoid bleeding
  - D. Meningioma
  - E. Abscess



Bleeding in the ventricle



Best of Luck!