

Dural venous sinuses (DVS)

➤ - **Spaces** between the **endosteal and meningeal layers** of the dura

➤ ***Features:***

1. Lined by **endothelium**
2. **No musculare tissue** in the walls of the sinuses
3. Valueless
4. Connected to diploic veins and scalp veins by emmissary veins

.Function:

receive blood from the brain via cerebral veins and CSF through arachnoid villi

Classification:

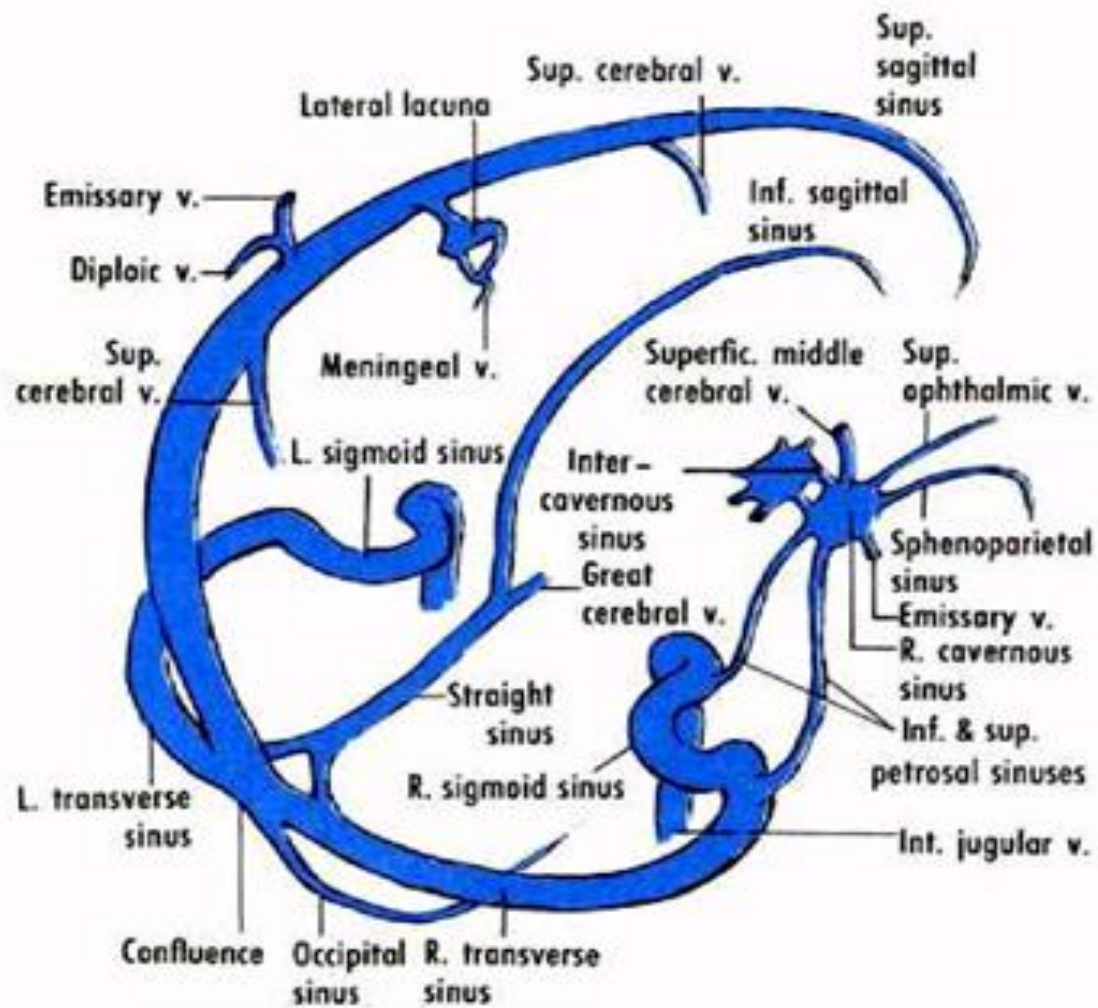
15 venous sinuses

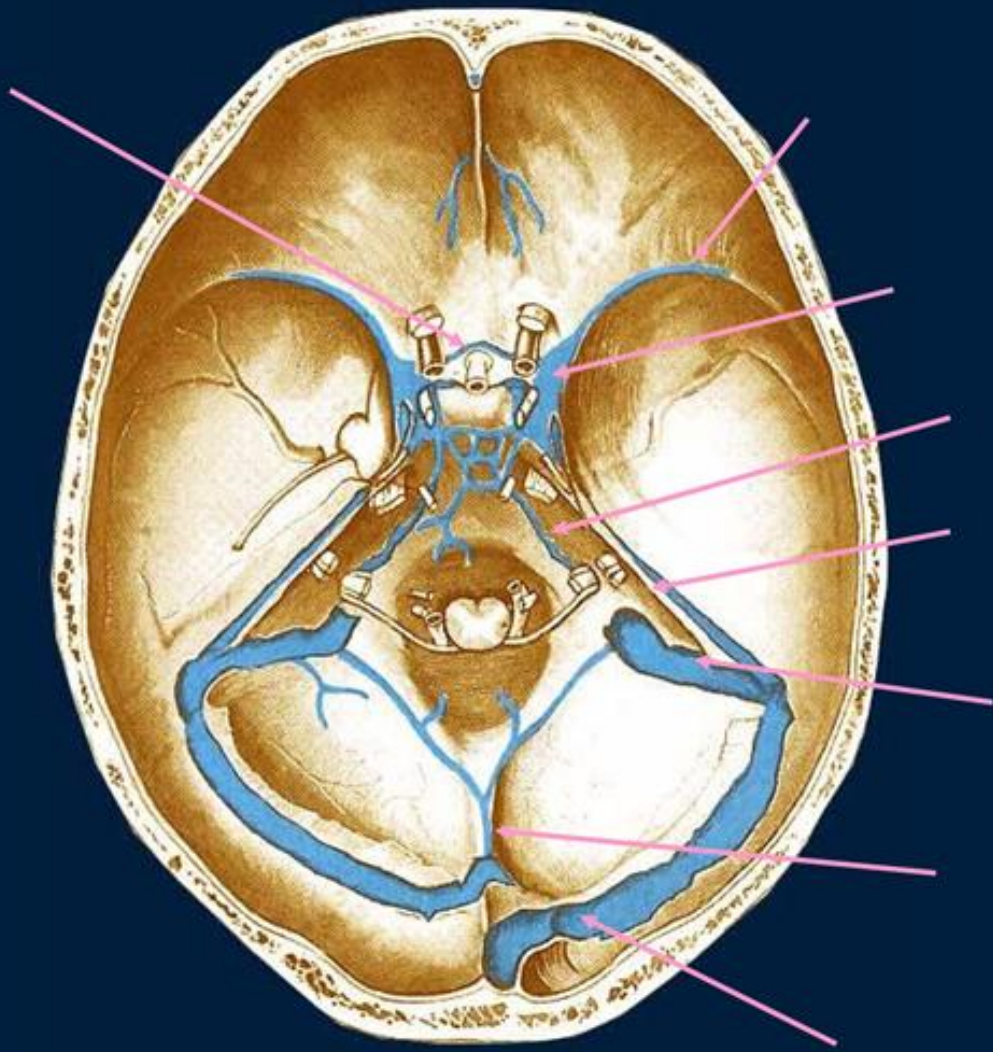
Paired venous sinuses

- (lateral in position)* •
- * cavernous sinuses •
 - * superior petrosal sinuses •
 - * inferior petrosal sinuses •
 - * transverse sinuses •
 - * sigmoid sinuses •
 - * sphenoparietal sinuses •
 - * middle meningeal veins •

Unpaired venous sinuses

- * superior sagittal sinus •
- * inferior sagittal sinus •
- * occipital sinus •
- * anterior intercavernous sinus •
- * posterior intercavernous sinus •
- * basilar plexuses of vein •





Dural venous sinuses

1) Superior sagittal sinus

2) Inferior sagittal sinus

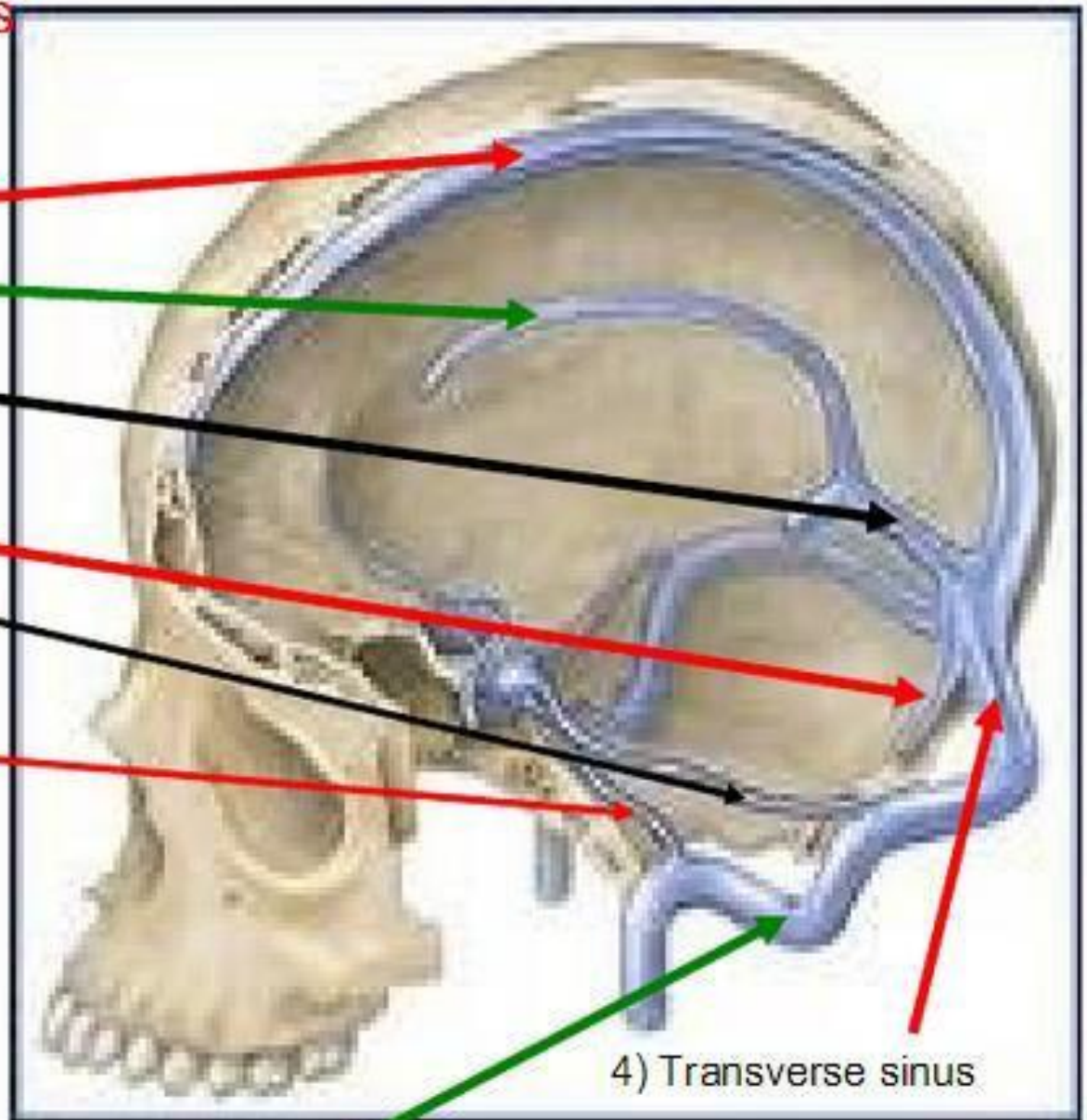
3) Straight sinus

6) Occipital sinus

7) Superior petrosal sinus

8) Inferior petrosal sinus

9) Cavernous sinus

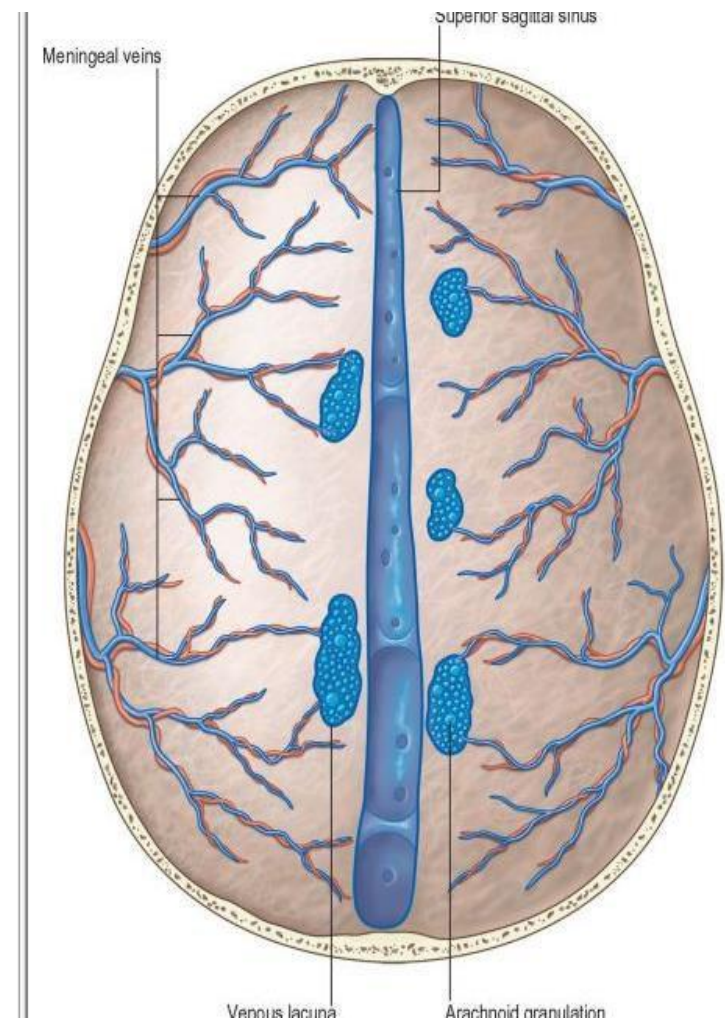


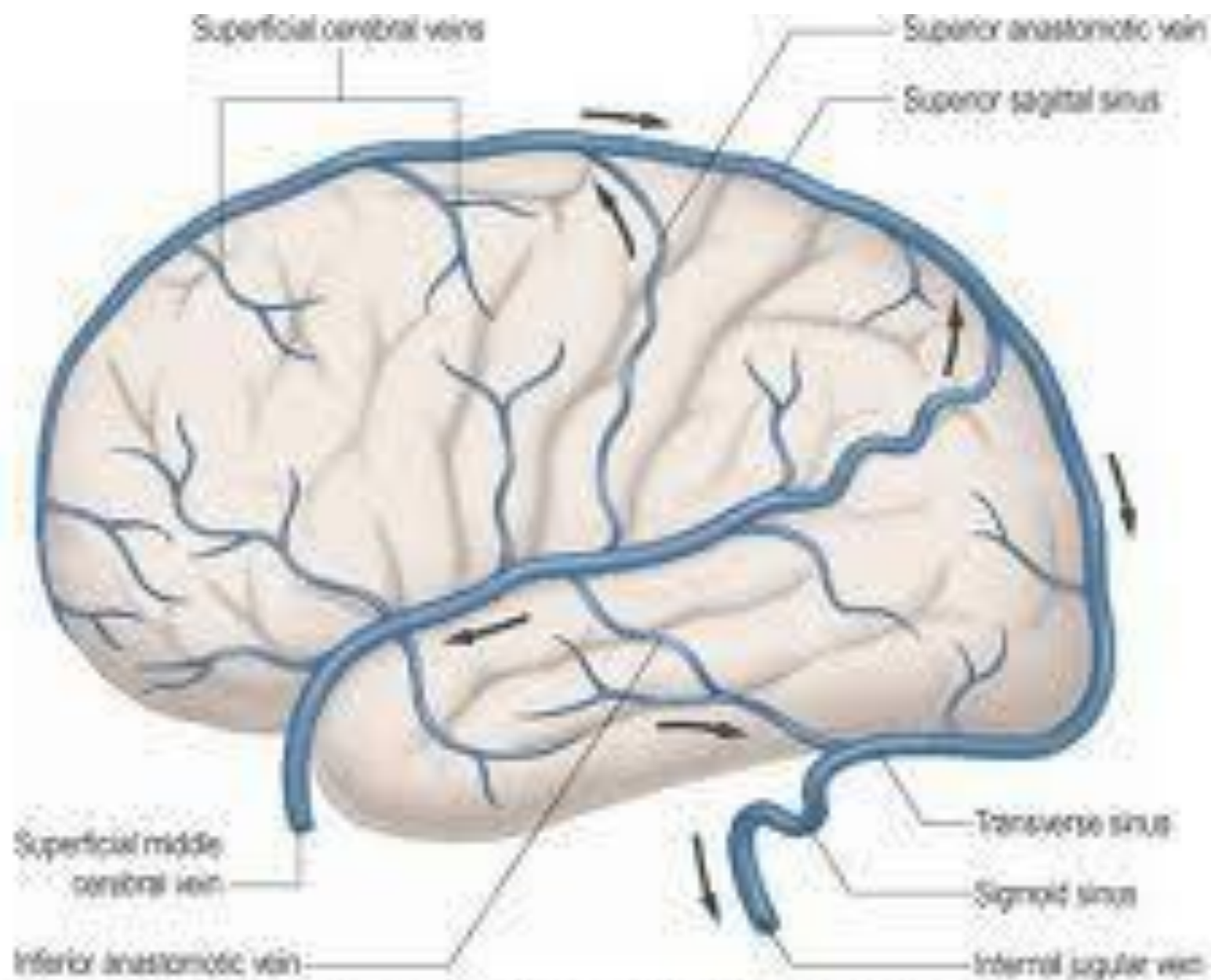
4) Transverse sinus

5) Sigmoid sinus




SUPERIOR SAGITTAL SINUS

- **Begins** in front at the frontal crest
- **ends** behind at the internal occipital protuberance
 - dilated to form confluence of sinuses
 - and venous lacunae
- • The superior sagittal sinus **receives** the following :
 - 1- Superior cerebral veins
 - 2- dipolic veins
 - 3- Emissary veins
 - 4- arachnoid granulation
 - 5- meningeal veins



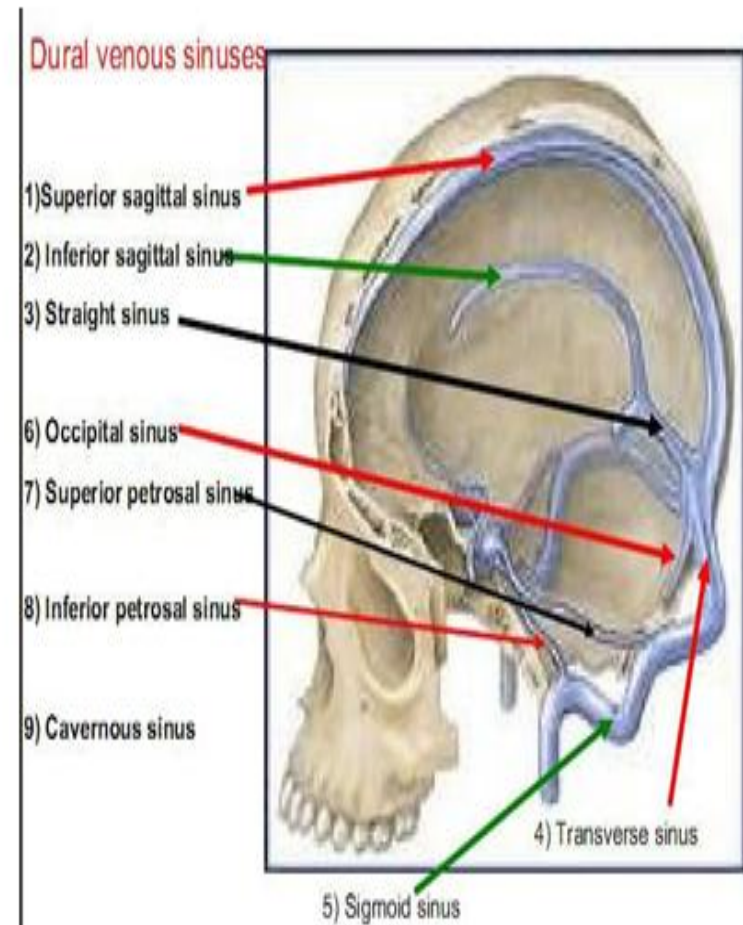


Clinical significance

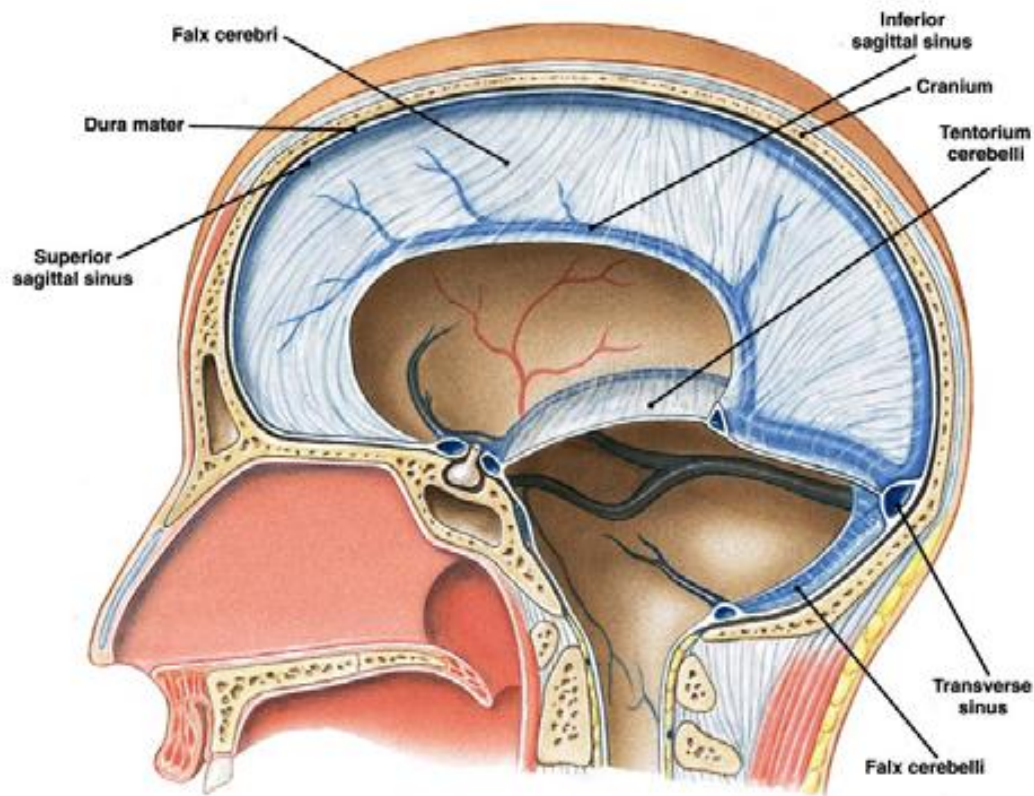
- Infection from scalp, nasal cavity & diploic tissue
-  septic thrombosis 
- CSF absorption  intracranial thrombosis (ICT)
-

Inferior sagittal sinus

- - small channel occupy **lower** free margin of falx cerebri (post 2/3)
- - runs backward and **joins** great cerebral vein at free margin of tentorium cerebelli to form straight sinus.
- - **receives** cerebral veins



Inferior sagittal sinus



Straight sinus

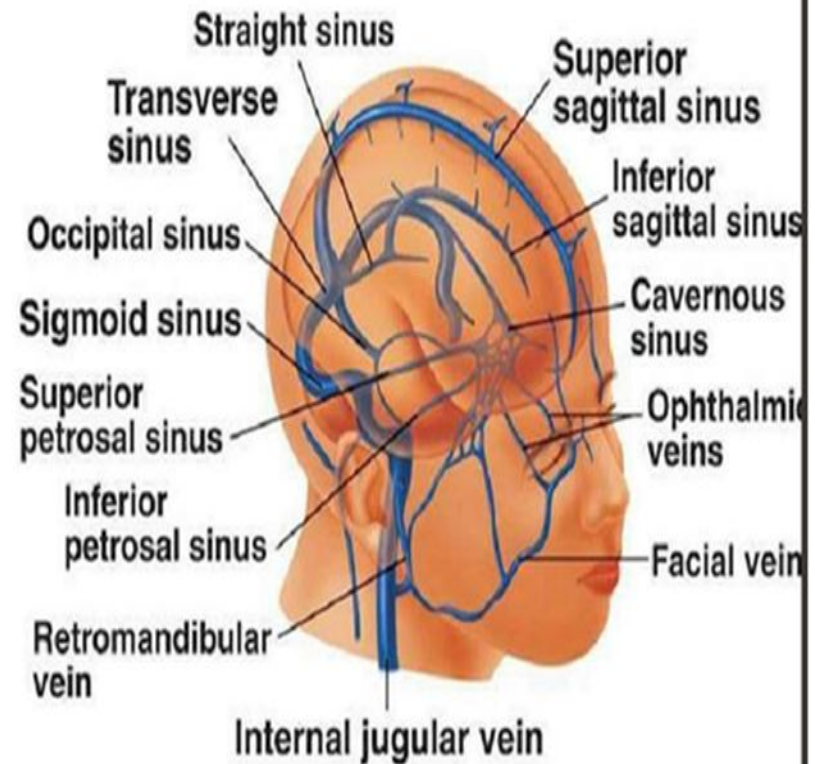
- At the **junction** of falx cerebri and tentorium cerebelli
- **End** at transverse sinus
- **Connected** to confluence of sinuses

Tributaries:

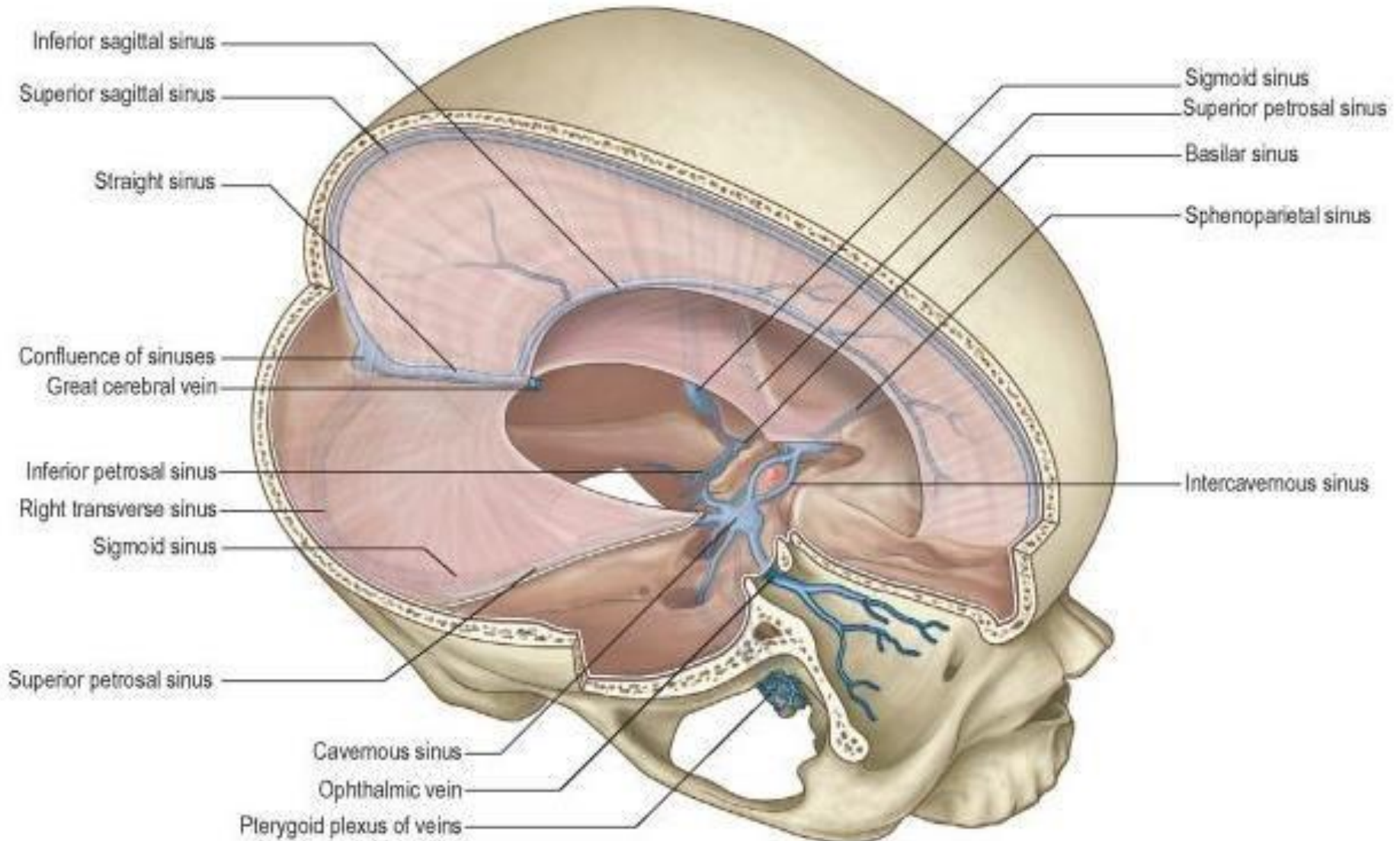
Inferior sagittal sinus

Superior cerebellar veins

Greater cerebral vein (Galen)

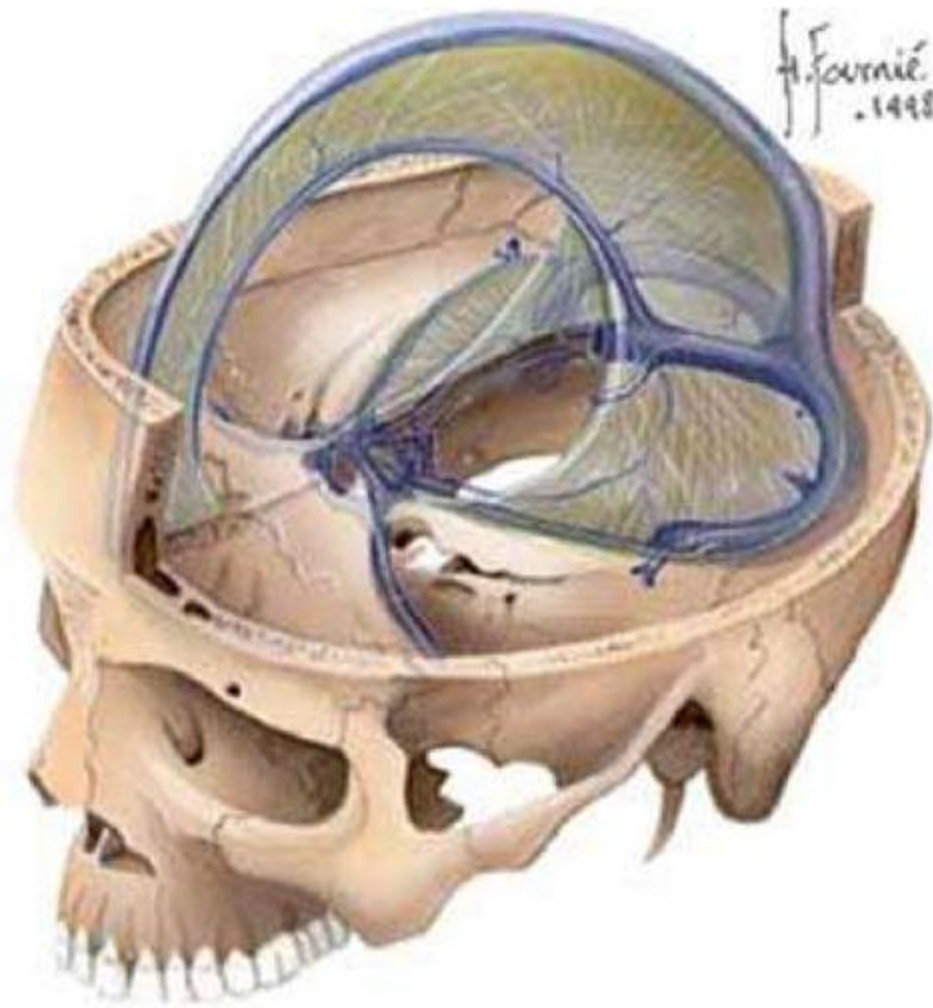


Superior ,inferior & straight sinus

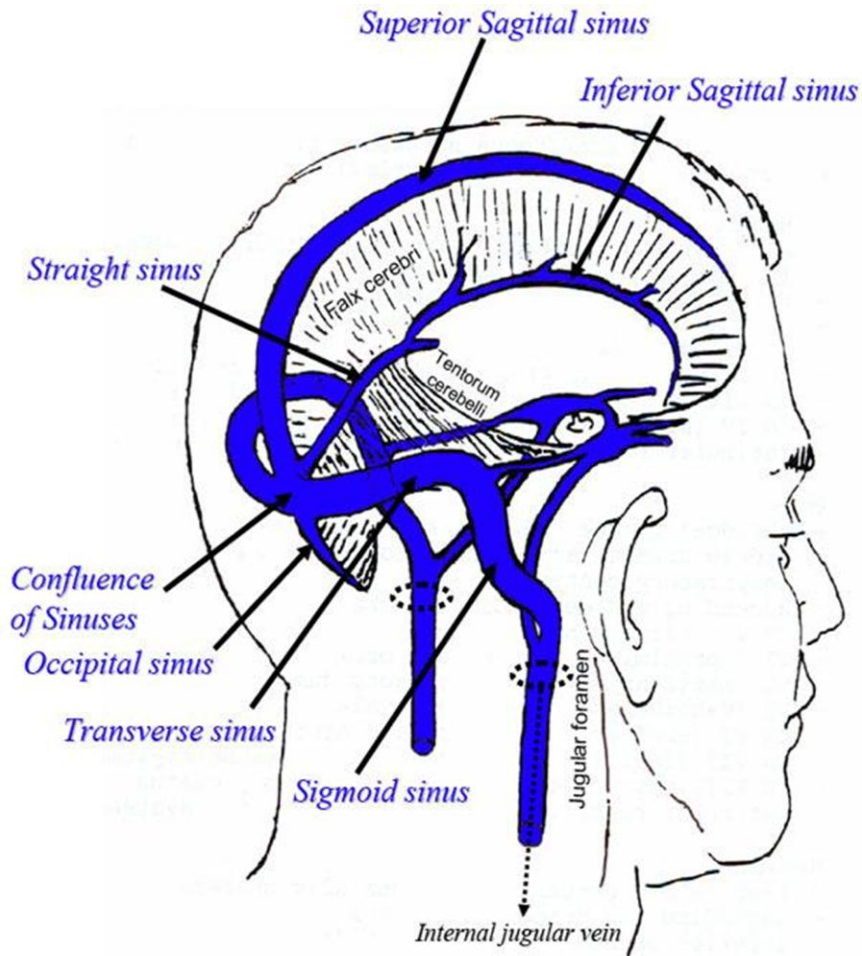


Transverse sinuses

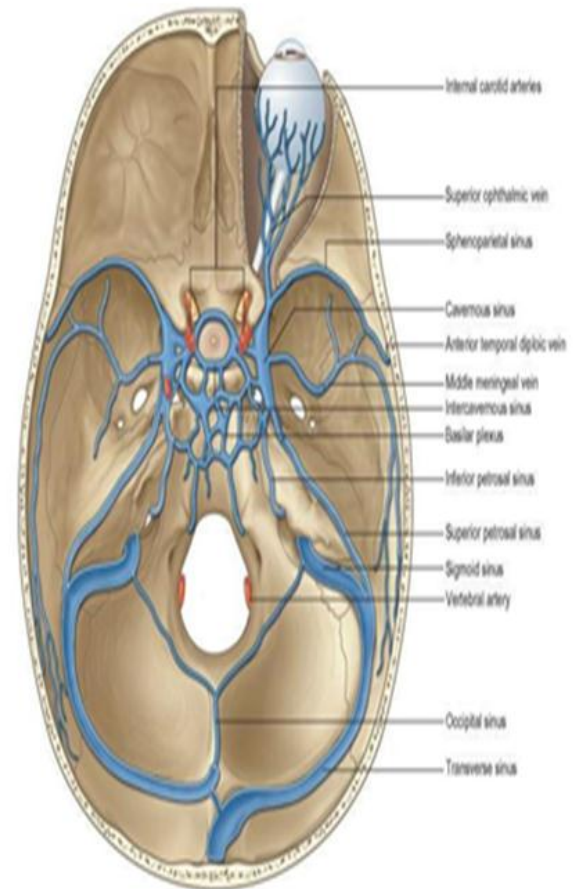
- - **Paired** sinus
- - It extends horizontally in the attached border of tentorium cerebelli at confluence of sinus
- • The **right** sinus receive the superior sagittal sinus
- the **left** sinus receive the inferior sagittal to straight sinus
- • Each sinus **end** by becoming continuous with sigmoid sinus
- The transverse sinus receive the following **tributaries** :
 - Superior petrosal sinus
 - cerebellar veins
 - Occipital diploic vein.



Transvers esinus

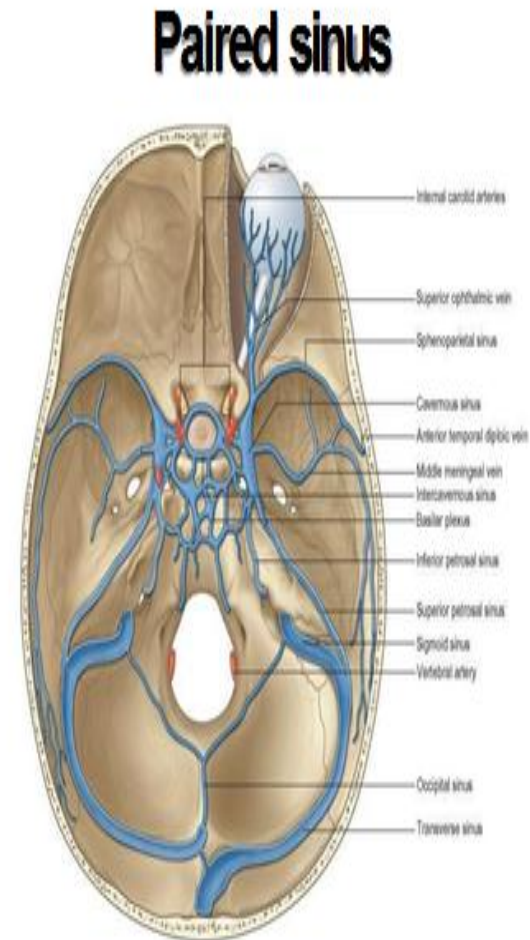


Paired sinus



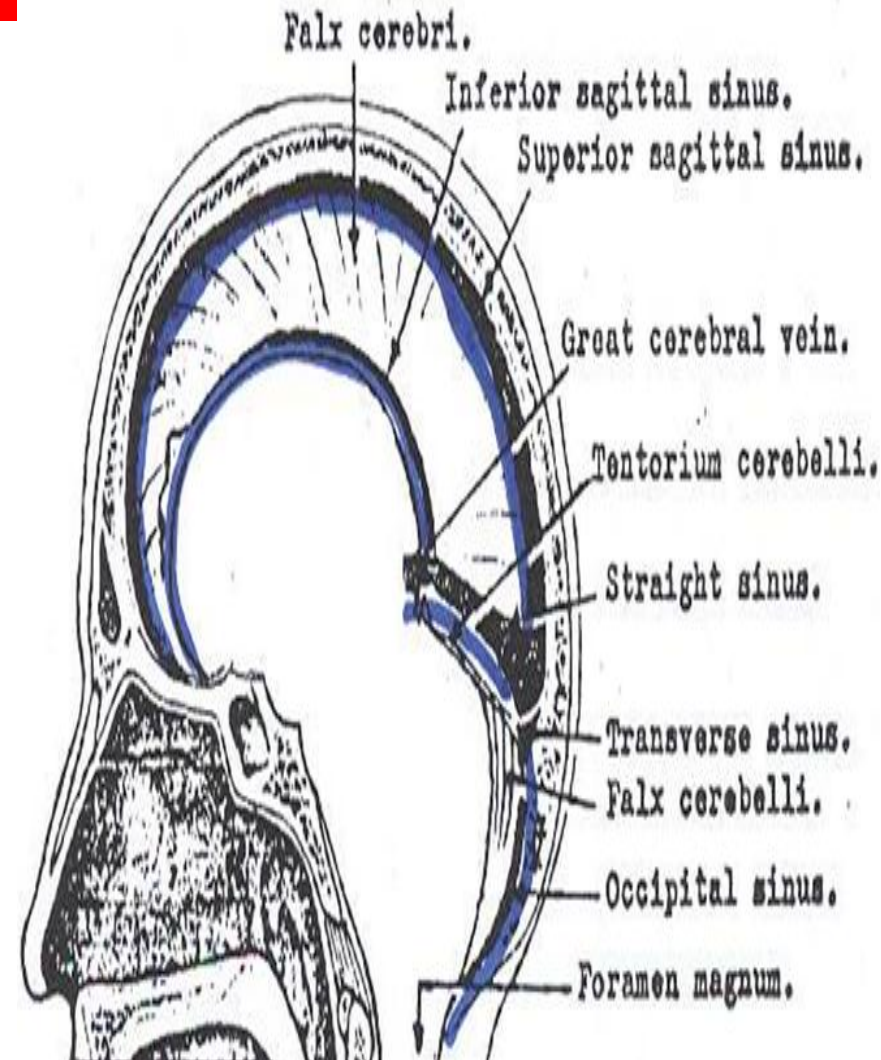
Sigmoid sinus

- It is wide **S-** shaped sinus which **begins** as continuation of transverse sinus
- Exit from skull through posterior compartment of **jugular foramen**
- **Continues** with superior bulb of internal jugular vein
- **Tributaries:**
 - Mastoid & condylar emissary v.
 - Cerebellar vein
 - Labyrinthine vein



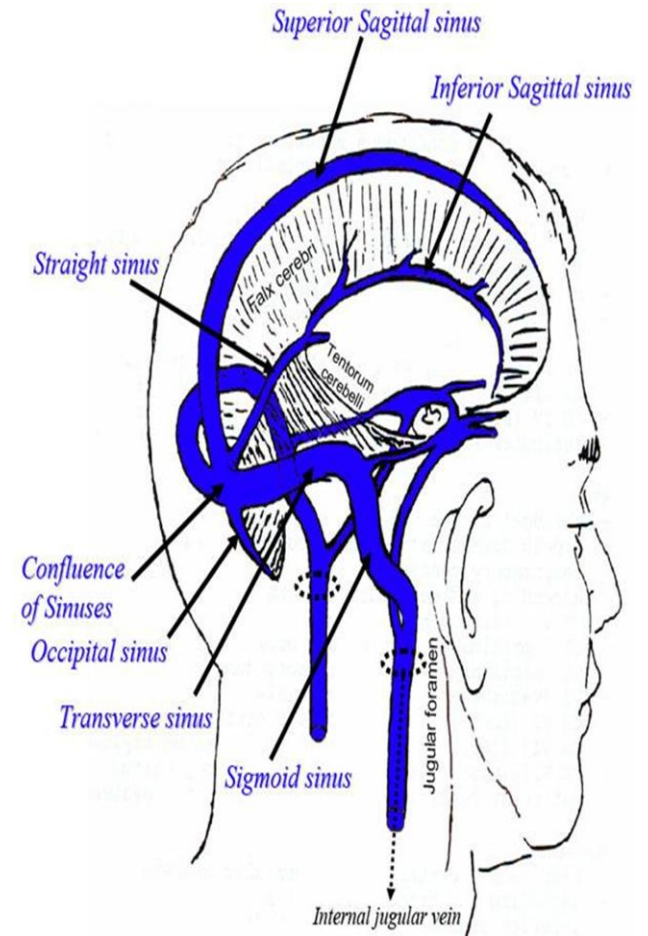
OCCIPITAL SINUS

- It is the **smallest** dural sinus & is situated in the attached margin of falx cerebelli
- It continues with the internal vertebral plexus of veins



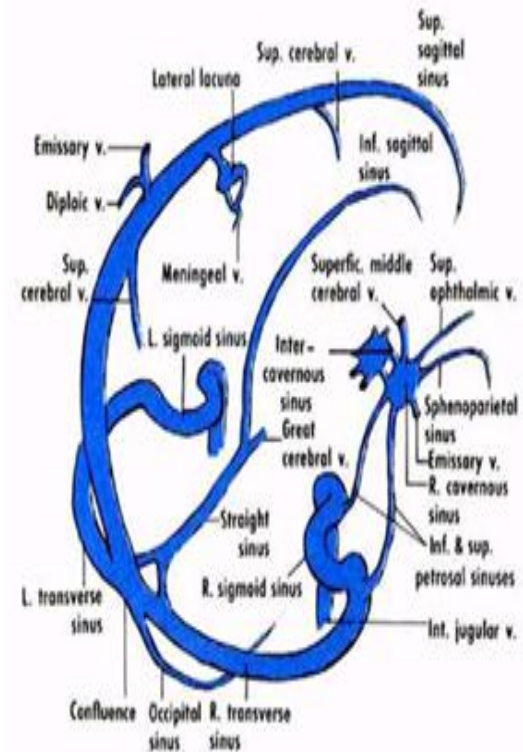
CONFLUENCE

- Lies at intersection of falx cerebri and tentorium cerebelli
- Confluence of sinuses
- Common for sup- sag sinus and inf -sag sinus .



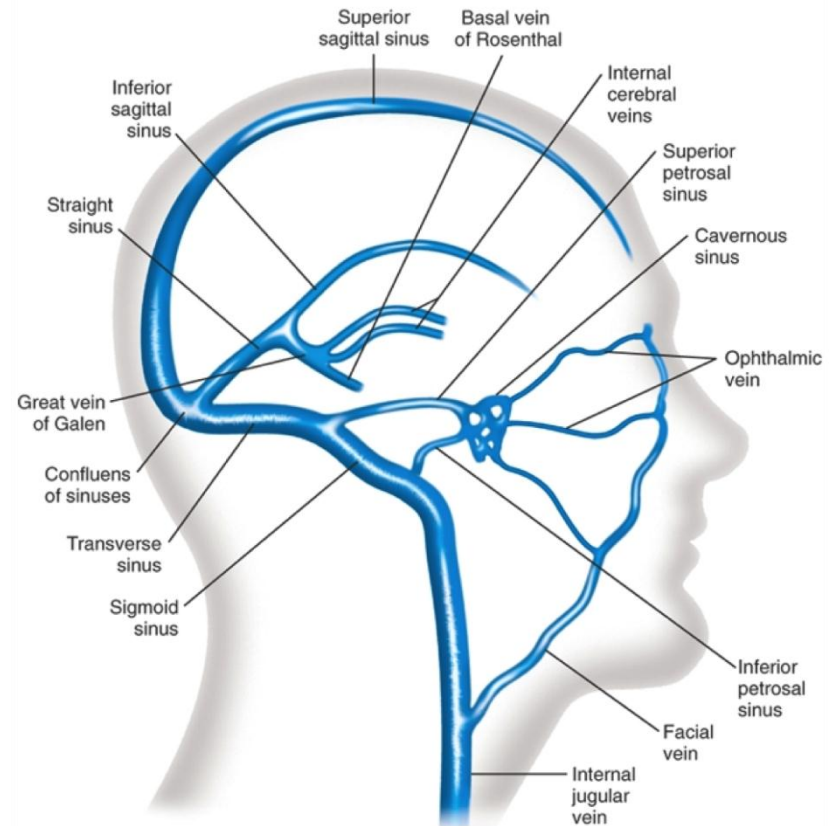
SPHENOPARIETAL SINUS

- paired sinus
- It lies on the edge of the lesser wing of sphenoid

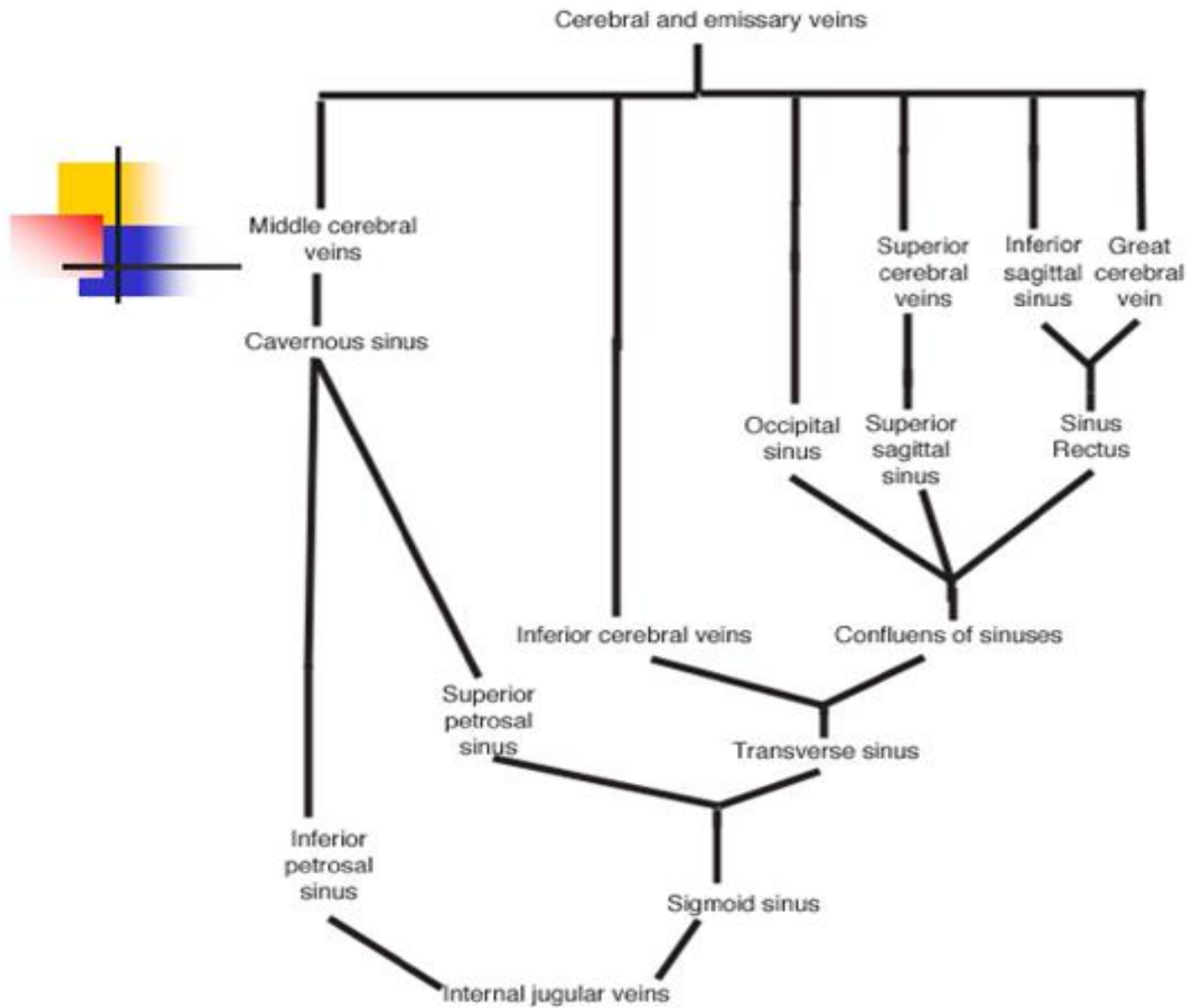


Superior and Inferior Petrosal Sinuses

- They are **small** and situated on the superior and inferior borders of the **petrous part** of the temporal bone on each side
- Each superior sinus drains the cavernous sinus into the transverse sinus
- Each inferior sinus drains the cavernous sinus into the internal jugular vein



Dural venous sinuses



Name	Drains to
<u>Inferior sagittal sinus</u>	Straight sinus
<u>Superior sagittal sinus</u>	Typically becomes right transverse sinus or confluence of sinuses
<u>Straight sinus</u>	Typically becomes left transverse sinus or confluence of sinuses
<u>Occipital sinus</u>	Confluence of sinuses
<u>Confluence of sinuses</u>	Right and Left transverse sinuses
<u>Sphenoparietal sinuses</u>	Cavernous sinuses
<u>Cavernous sinuses</u>	Superior and inferior petrosal sinuses
<u>Superior petrosal sinus</u>	Transverse sinuses
<u>Transverse sinuses</u>	Sigmoid sinus
<u>Inferior petrosal sinus</u>	Sigmoid sinus
<u>Sigmoid sinuses</u>	Internal jugular vein