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**MBBS 300L**

1. **THE CARVANOUS SINUS:**

The cavernous sinus, a large venous plexus, is located on each side of the sella turcica on the upper surface of the body of the sphenoid, which contains the sphenoid (air) sinus. The cavernous sinus consists of a venous plexus of extremely thin-walled veins that extends from the superior orbital fissure anteriorly to the apex of the petrous part of the temporal bone posteriorly. It receives blood from the superior and inferior ophthalmic veins, superficial middle cerebral vein, and sphenoparietal sinus. The venous channels in these sinuses communicate with each other through venous channels anterior and posterior to the stalk of the pituitary gland—the intercavernous sinuses and sometimes through veins inferior to the pituitary gland. The cavernous sinuses drain posteroinferiorly through the superior and inferior petrosal sinuses and emissary vein to the basilar and pterygoid plexuses.

The cavernous sinus contains:

* The internal carotid artery with its small branches, surrounded by the carotid plexus of sympathetic nerve(s), and the abducent nerve (CN VI).
* The oculomotor nerve (CN III)
* The trochlear nerve(CN IV)
* Two of the three divisions of the trigeminal nerve (CN V) are embedded in the lateral wall of the sinus.

The artery, carrying warm blood from the body’s core, traverses the sinus filled with cooler blood returning from the capillaries of the body’s periphery, allowing for heat exchange to conserve energy or cool the arterial blood. This does not appear to be as important in humans as it is in running animals (e.g., horses and cheetahs) in which the carotid artery runs a longer, more tortuous course through the cavernous sinuses, allowing cooling of blood before it enters the brain.

Pulsations of the artery within the cavernous sinus are said to promote propulsion of venous blood from the sinus, as does gravity.

1. **WALLS OF THE NOSE:**

The nose is the part of the respiratory tract superior to the hard palate and contains the peripheral organ of smell. It consists of the external nose and nasal cavity, which is divided into right and left cavities by the nasal septum.

The functions of the nose include:

* Olfaction (smelling)
* Respiration (breathing)
* Filtration of dust
* Humidification of inspired air and
* Reception and elimination of secretions from the paranasal sinuses and nasolacrimal ducts.

**THE WALLS OF THE NOSE:**

The nasal cavities have a roof, floor, and medial and lateral walls.

• The roof of the nasal cavities is curved and narrow, except at its posterior end, where the hollow body of the sphenoid forms the roof. It is divided into three parts (frontonasal, ethmoidal, and sphenoidal) named from the bones forming each part.

• The floor of the nasal cavities is wider than the roof and is formed by the palatine processes of the maxilla and the horizontal plates of the palatine bone.

• The medial wall of the nasal cavities is formed by the nasal septum.

• The lateral walls of the nasal cavities are irregular owing to three bony plates, the nasal conchae, which project inferiorly, somewhat like louvers.`