**GROSS ANATOMY OF HEAD AND NECK**

**ASSIGNMENT II**

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MEDICINE AND SURGERY

1. **Write an essay on the cavernous sinus**

The Dural venous sinuses are spaces between the external Periosteal and internal meningeal layers of the dura. They contain venous blood that originates for the most part from the brain or cranial cavity. The sinuses contain an endothelial lining that is continuous into the veins that are connected to them.

The cavernous sinuses are found on either side of the body of the sphenoid bone in middle cranial fossae. They receive blood from the sphenoparietal sinuses which are located underneath the free edges of the lesser wings of the sphenoid bone. Blood also drains into the cavernous sinuses via the superior and inferior ophthalmic veins. The intercavernous sinuses provide a communication between the cavernous sinuses. They are located in the diaphragma Sella which covers the hypophyseal fossa and surrounds the hypophyseal stalk. The internal carotid artery, sympathetic nerve plexus and the abducens nerve are inside the cavernous sinuses. In the wall of the cavernous sinuses are the oculomotor, trochlear, ophthalmic and maxillary nerves. The cavernous sinuses drain posteriorly through the superior and inferior petrosal sinuses and inferiorly through the pterygoid plexus of veins.

**2) Discuss the walls of the nose**

The walls of the nose are divided into

1. Medial wall
2. Lateral wall

**MEDIAL WALL:**

The medial wall of the nasal cavity comprises the nasal septum, the septal cartilage and various bones of the skull. The **nasal septum** is a structure consisting of both bony and cartilaginous components. The septal cartilage is approximately 3-4mm thick. It divides the nasal cavity into two halves. The antero-inferior part of the cartilage has an expansion known as the ‘footplate’ which is 4-8mm wide. This foot plate lies in free contact with the membranous septum. The cartilage is expanded in other regions, namely the junction with the lateral nasal cartilage termed the posterior process. The cartilage is firmly adhered to the nasal bone by taut collagen fibers. The cartilage of the septum is also termed the ‘quadrangular cartilage’ due to its shape. The posterior nasal spine is a sharp pointed projection of the posterior border of the palatine bone. The musculus uvula gains its attachment here.

The Bony framework and its relation to the Lateral wall Nasal cavity are;

* Perpendicular plate of the ethmoid superoinferiorly
* The vomer posteroinferiorly
* The crests of the maxillary bone anteroinferiorly
* The crest of the palatine bone inferior to the vomer

**LATERAL WALL:**

The lateral wall of the nasal cavity is a region of the nasopharynx essential for humidifying and filtering the air we breathe in nasally. Here we can find a structure called agger nasi. The agger nasi is also referred to as the ‘nasoturbinal concha’ or ‘nasal ridge.’ It can be described as a small mound or ridge found in the lateral side of the nasal cavity. The structure is located midway along the anterior aspect of the middle nasal concha. An abnormally enlarged form may restrict the drainage of the frontal sinus by obstructingthe frontal recess area.

The anterior nasal aperture in the Nasal Septum is simply the area where the anterior bony aspects of both the maxilla and the nasal bone terminate and form an opening into the cartilaginous nasal vestibule. Three cartilages also contribute to the nasal septum:

Lesser alar cartilages are paired cartilages suspended in the fibro-fatty tissue that forms the lateral aspect of the nostril. The structures lie free from the other cartilages and provide the nostril with stability and form.

Greater alar cartilages are paired cartilages that form part of the antero-superior nostril as well as the nasal tip. The structures give the tip of the nose stability and flexibility and are a crucial element of the cartilaginous apparatus of the nose.

Lateral nasal cartilages are structures that articulate inferiorly with the greater alar cartilages and superiorly with the anterior nasal aperture formed by both the nasal bone superiorly and for a short part of its border with the perpendicular plate of the ethmoid bone. These structures form the cartilaginous part of the bridge of the nose and form in conjunction with the greater alar cartilages, the major structural appearance of the nose.

The Bony framework and its relation to the Lateral wall Nasal cavity are;

* Ethmoid bone superiorly
* Frontal bone anteriorly
* Lacrimal forms the posterior nasal skeleton
* Nasal bones form the nasal bridge with the frontal process of the maxilla laterally
* Palatine bones are situated at the posterior part of the nasal cavity
* Sphenoid bone is one of the seven bones to form the orbit and also forms part of the mid lateral surface of the skull