

Air sinuses

FRONTAL

Description: present in frontal bone and it is triangular in shape.

Drainage: infundibulum.

Innervation: supraorbital nerve, a branch of the ophthalmic nerve.

Number: 1 pair.

ETHMOIDAL

Description: three pairs of sinuses; anterior, middle and posterior. Each sinus represents one cell that has its own duct.

Drainage:

1. The anterior sinus opens in the anterior part of hiatus semilunaris.
2. The middle sinus is in the bulla ethmoidalis.
3. The posterior sinus opens in the superior meatus.

Innervation: anterior and posterior ethmoidal branches of nasociliary nerve, a branch of ophthalmic nerve.

Number: 3 pairs.

MAXILLARY

Description: It is the largest sinus. It has bad drainage (because the duct is located high up).

The apex is directed laterally, and the base is in the wall of nasal cavity.

Drainage: in hiatus semilunaris posteriorly.

Innervation: infraorbital and alveolar branches of the maxillary nerve.

Number: 1 pair.

Relations:

- Above: orbit
- Below: upper molars and premolars.
- Laterally: infratemporal fossa.
- Medially: lower part of nasal cavity.

SPHENOIDAL

Description: In the body of the sphenoid bone.

Drainage: in sphenoethmoidal recess.

Innervation: posterior ethmoidal nerve of the ophthalmic nerve & orbital branches of the maxillary nerve

Number: 1 pair.

Relations:

- Above: pituitary gland & optic chiasma
- Below and Infront: the nasal cavity.
- Laterally: cavernous sinuses.

*They're all lined with pseudostratified ciliated columnar epithelium (the mucos is thin).

*All sinuses open by ducts into the lateral wall of the nose.

*The innervation is branches from the Trigeminal nerve

*Functions: Resonance / decreased weight of the skull / protection.

Pterygopalatine fossa

WALLS

Anterior wall: posterior surface of the maxilla

Posterior wall: pterygoid plate (part of sphenoid bone).

Roof: greater wing of sphenoid bone.

Medial wall: lateral surface of the palatine bone .

Lateral wall: infratemporal fossa.

CONTENTS

- Maxillary nerve
- Terminal part of the maxillary artery
- Nerve of the pterygoid canal
- The pterygopalatine ganglion
- Veins and lymphatics

FORAMINA

Foramen Rotundum: Maxillary nerve.

Pterygoid canal: greater petrosal nerve & Lesser petrosal nerve.

Palatovaginal canal: pharyngeal artery and nerve

Palatine canal: palatine artery and nerve (Palatine nerve divides into two branches: greater and lesser palatine nerves).

Sphenopalatine foramen: Sphenopalatine vessels and nerve.

Pterygomaxillary fissure: Maxillary vessels and nerve.

Inferior orbital fissure: zygomatic, infraorbital and inferior orbital nerves

PTERYGOPALATINE GANGLIA

Parasympathetic:

1. greater petrosal nerve (preganglionic)
2. branches of maxillary nerve
3. (postganglionic)

Sympathetic:

deep petrosal nerve, come from superior cervical sympathetic ganglia.

* Sympathetic: to the blood vessels

* Parasympathetic: to the glands in the submucosa in the nasal cavity, oral cavity and nasopharynx (secretomotor to the glands)

Done by
Shahed Atiyat