PTERYGO-PALATINE FOSSA

It is a small pyramidal cul-de-sac that projects medially from the pterygo-maxillary fissure from infratemporal fossa. It forms a space between posterior wall of maxillary antrum in front and pterygoid extension of greater wing of sphenoid bone. This fossa serves as a distribution channel for nerves and vessels to face, nose and palate.

It contains maxillary artery (third part), the maxillary nerve and its branches. Superiorly this fossa opens in to apex of orbit via inferior orbital fissure. Inferiorly it is closed by pyramidal process of palatine bones. Medially the pterygo-palatine fossa extends to lateral wall of nose, here formed by vertical plate of palatine bone. Superiorly the vertical plate of palatine bone bifurcates in to a short sphenoid process and larger orbital process. Here lies the sphenoplatine foramen.

APPROACHING THE PTERYGO-PALATINE FOSSA ACROSS MAXILLARY ANTRUM

- An elliptical area of posterior wall of the maxillary antrum is removed.
- In the postero-medial corner the bone is thick and it provides strong bony buttress.
- Through this window, posterior wall of the fossa can be visualised.
- There are two foramina in this wall; foramen rotundum and the pterygoid canal (these are the fundamental landmarks)
- Foramen rotundum transmits maxillary nerve. This foramen lies just below upper limit of the fossa and superior orbital fissure.
- The pterygoid canal (1 cm long) transmits the vidian nerve. Anteriorly this canal is funnel shaped and lies 8-9 mm below foramen rotundum. This canal runs along infero-lateral aspect of the sphenoid sinus.
Vidian nerve passing through the pterygoid canal combines both cholinergic and adrenergic fibres - derived separately from Greater Superficial Prerosal Nerve and sympathetic plexus around internal carotid artery. These fibres form autonomic root of sphenopalatine ganglion - whence they are distributed to nasal mucosa. Glands get cholinergic fibres and blood vessels essentially get adrenergic innervation.

**INDICATIONS OF VIDIAN NEURECTOMY**

- Severe intractable secretomotor rhinopathy of cholinergic type.
- Atopic cases where other measures have failed.
- Crocodile tears (where tympanic neurectomy has failed)
- Severe senile nasal disease
- Severe recurrent nasal polyposis

**PROCEDURE OF VIDIAN NEURECTOMY/ MAXILLARY ARTERY LIGATION**

- Performed under general anesthesia
- Cald-wel procedure position
- Maxillary antrum opened as in CWL procedure
- Inferior orbital foramen is preserved and pressure on inferior orbital nerve avoided.
- Mucosa removed from over the posterior wall of the maxillary antrum
- Elliptical window created which is not to be extended towards roof.
- Bone is cut through but the periosteum is not cut at this stage.
- An operating microscopic with an objective lens of 300mm focal length is used along with 6x or 10x magnification
- The bone covering the window is now removed from the periosteum with a curved elevator
- Now a scissor is thrust into the periosteum and widened both in horizontal and vertical planes
- Part of maxillary artery is seen and a hook is passed around it - the artery is cleaned of the fat surrounding it
- While artery is held back under tension, titanium clips are clipped are applied to occlude the proximal trunk and infra-orbital branch.
To reach the vidian canal, one has to encounter and pass beyond the veins, arteries, nerves and fat in the pterygopalatine fossa, all of which make the operation very difficult.