

# 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

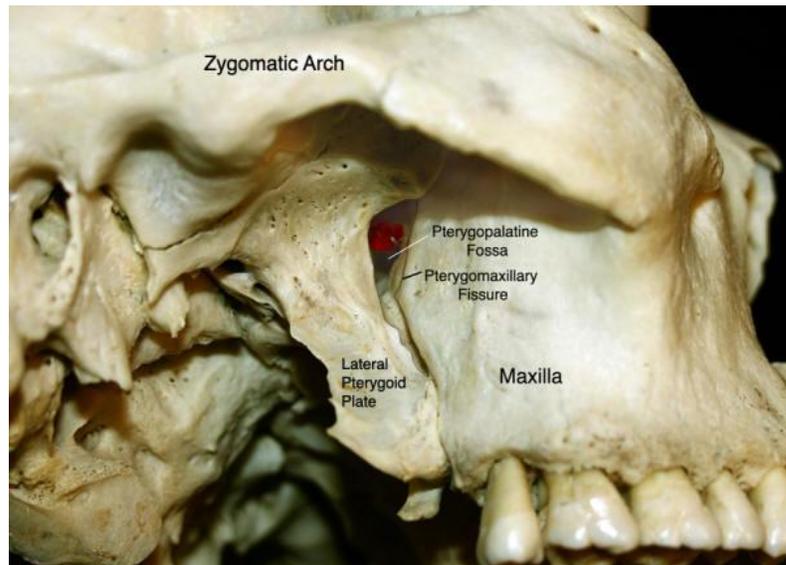


Figure 1 Source: <http://dentallecnotes.blogspot.ca/2012/03/note-on-pterygopalatine-fossa.html>

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

- Ψ An elliptical area of posterior wall of the maxillary antrum is removed.
- Ψ In the postero-medial corner the bone is thick and it provides strong bony buttress.
- Ψ Through this window, posterior wall of the fossa can be visualised.
- Ψ There are two foramina in this wall; foramen rotundum and the pterygoid canal (these are the fundamental landmarks)
- Ψ Foramen rotundum transmits maxillary nerve. This foramen lies just below upper limit of the fossa and superior orbital fissure.
- Ψ 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.

- Ψ 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

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

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

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

Ψ 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.

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