

ANATOMY OF

parasympathetic ganglion

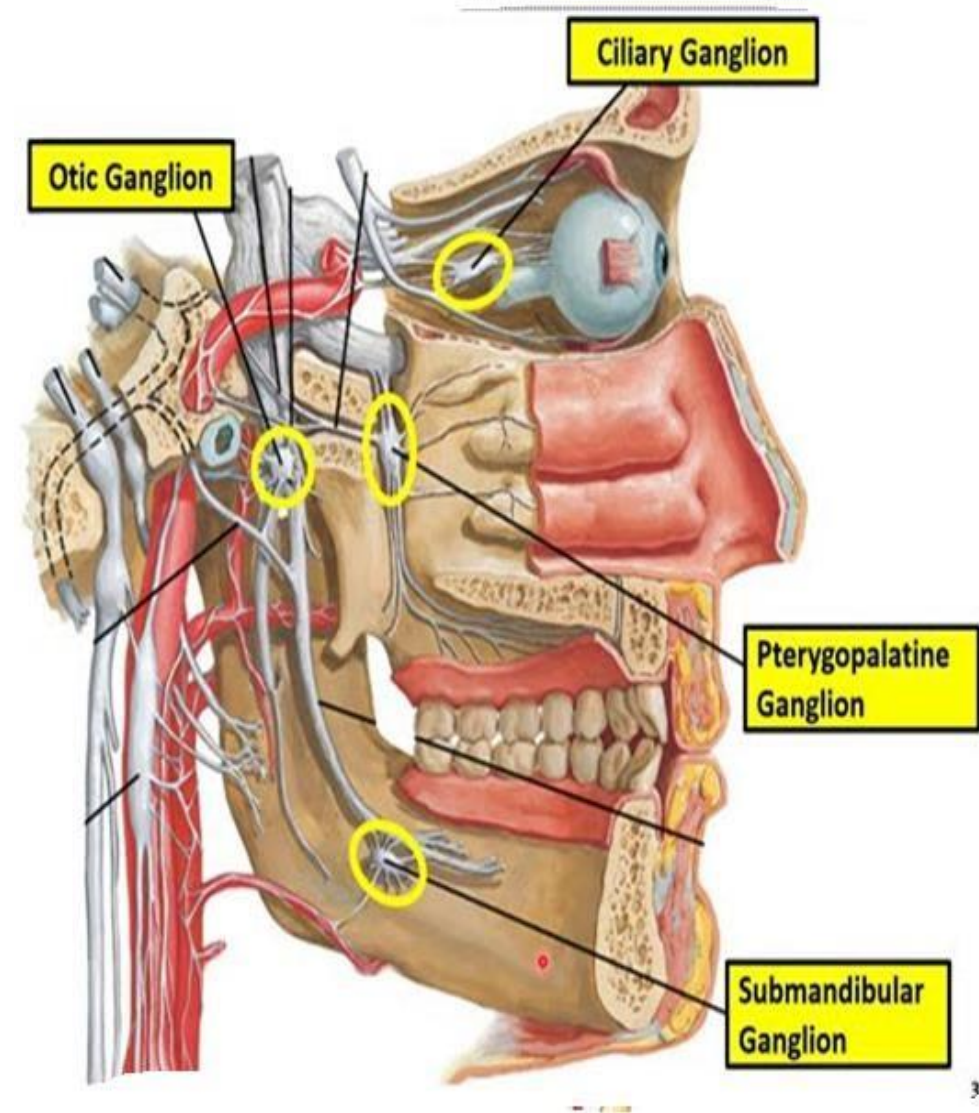
By

Dr. REDA SAMIR

rtaha@zu.edu.jo

There are 4 parasympathetic ganglion

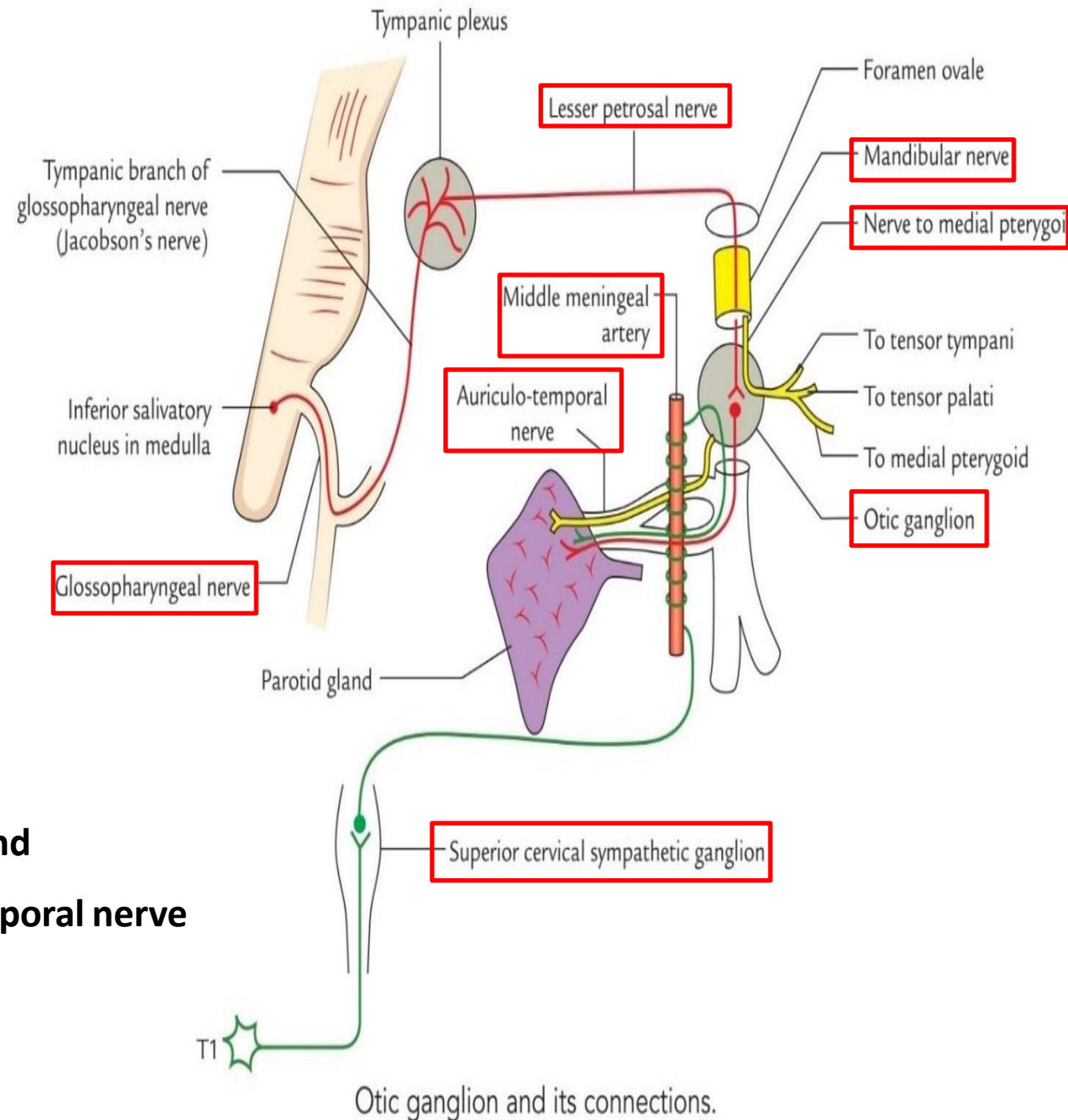
- 1 Otic Ganglion.
- 2 Submandibular Ganglion.
- 3 Sphenopalatine ganglion.
- 4 Ciliary Ganglion



Otic Ganglion

- **Type: Parasympathetic Ganglion**
- **Site:** Infratemporal fossa connected to the mandibular division of trigeminal nerve but **functionally** related to glossopharyngeal nerve.
- **Size:** Pinhead (2–3 mm in size).
- **Roots or Connections**
 1. **Parasympathetic motor (secretomotor):** From lesser petrosal nerve.
 2. **Sympathetic:** From sympathetic plexus around the middle meningeal artery
 3. **Sensory:** From auriculotemporal nerve (with 2 roots).
 4. **motor:** Nerve to medial pterygoid
- **Branches**
 1. Postganglionic parasympathetic
 2. Postganglionic sympathetic
 3. Sensory

} **All supply parotid gland through auriculotemporal nerve**



Submandibular Ganglion

- **Type:** Parasympathetic Ganglion
- **Site:** outer surface of the hyoglossus muscle.
connected to the lingual nerve by two roots but **functionally** related to the facial nerve

➤ **Size:** the size of a pinhead

➤ Roots

❑ **Parasympathetic root:** derived from facial nerve (chorda tympani)

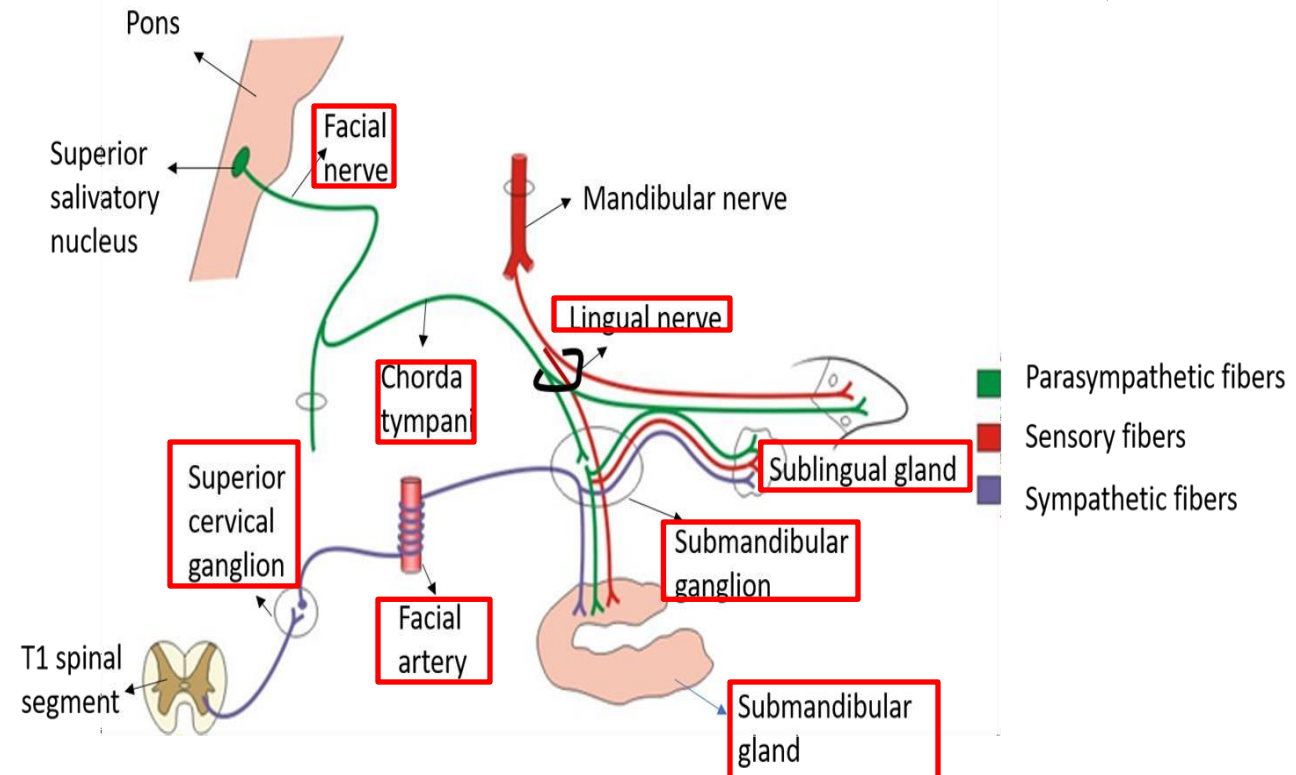
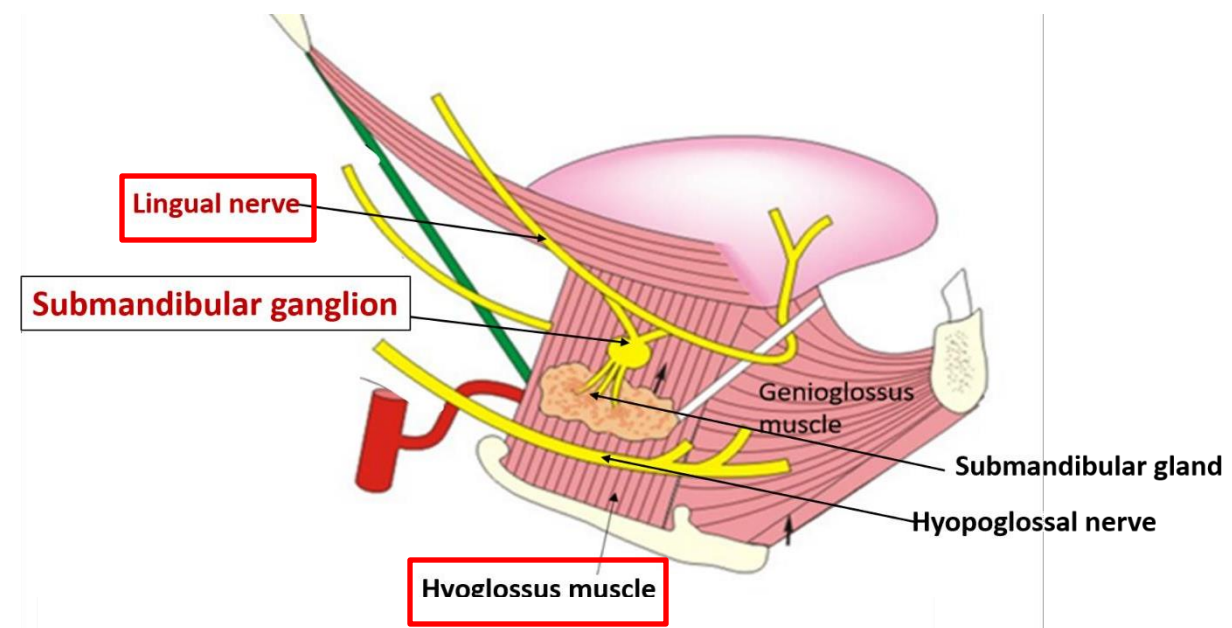
❑ **Sympathetic root:** It is derived from sympathetic plexus around the facial artery (T1).

❑ **Sensory root:** It is derived from lingual nerve.

➤ Branches

The branches of the submandibular ganglion are:

1. Five to six branches, which supply the submandibular gland.
2. Other fibers join the lingual nerve to supply the sublingual gland.



Sphenopalatine ganglion = Pterygopalatine ganglion

Type: Parasympathetic Ganglion

Site: Pterygopalatine fossa suspended from maxillary n. by 2 roots but **functionally** related to facial n.

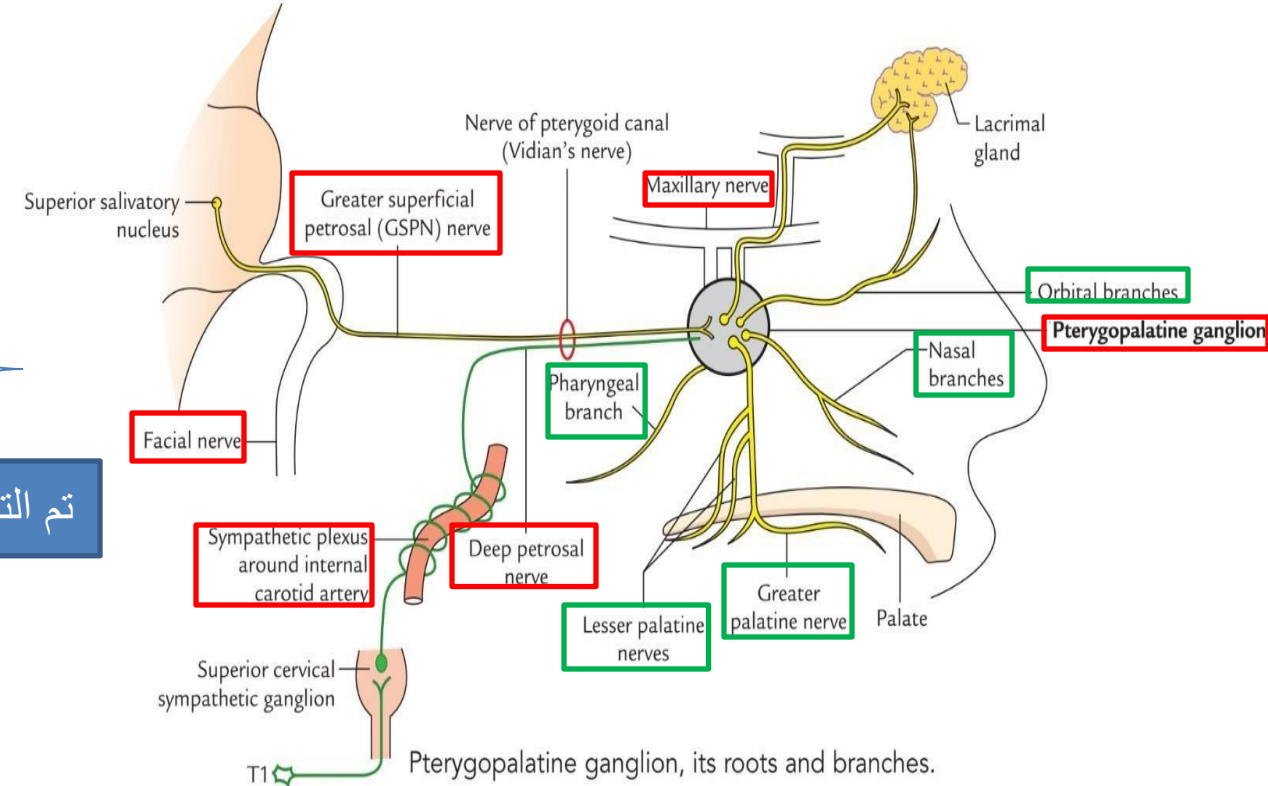
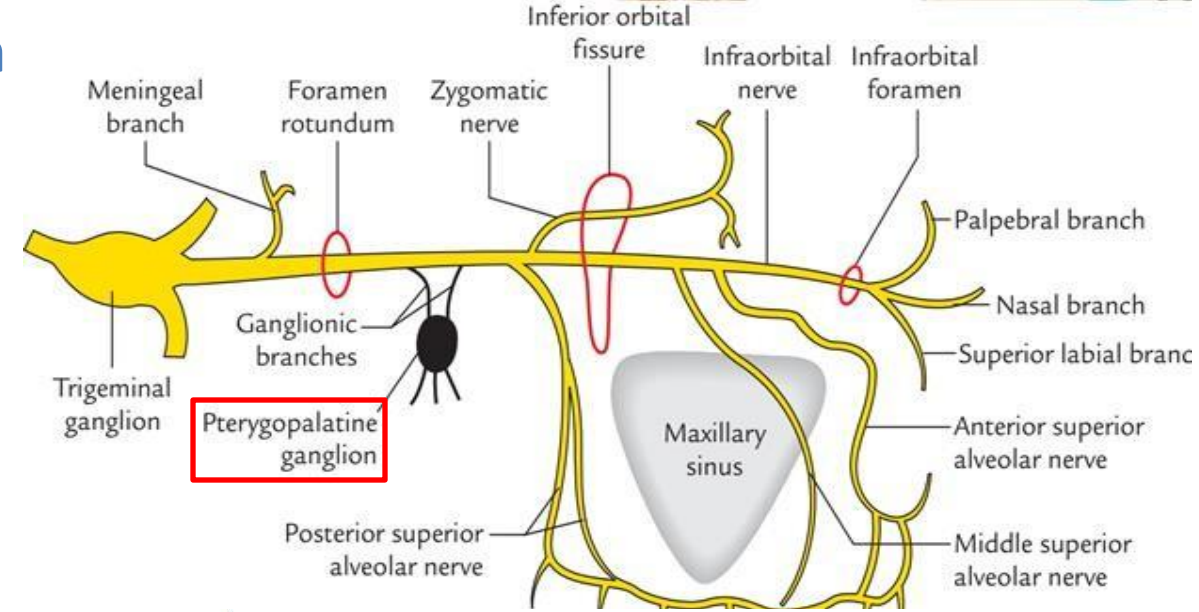
Roots entering the ganglion:

- ❑ **Parasympathetic:** greater superficial petrosal n. (from facial n.) (relay)
- ❑ **Sympathetic:** deep petrosal n. from plexus around I.C.A. (without relay)
- ❑ **Sensory:** 2 sensory branches from maxillary n.

Branches from ganglion:

- 1 **Orbital branches:** Supply the orbit & sphenoidal air sinus
- 2 **Pharyngeal branches:** supply nasopharynx & eustachian tube
- 3 **Greater palatine n.:** gives sensations to the posterior 2/3 of the hard palate.
- 4 **Lesser palatine n:** gives sensations to the soft palate.
- 5 **Lateral Posterior superior nasal. :** to lateral wall of nose
- 6 **Medial Posterior superior nasal n:** nasal septum
- 7 **Nasopalatine ns:** nasal septum (postero-inferior part)

تم التعديل



Ciliary Ganglion:

- **Type:** a parasympathetic ganglion.
- **Site:** It lies between the optic nerve and the lateral rectus.
- **Roots:**
- ❑ **Sensory:** Branch from nasociliary nerve (it passes without relay).
- ❑ **Sympathetic root:** branch from the sympathetic plexus in the wall of the cavernous sinus
- ❑ **Parasympathetic :** Branch from the nerve to the inferior oblique
- **Branches (post-ganglionic fibers):**

They carry the following fibers:

1. Sensory fibers to the cornea, sclera, iris, ciliary body, and choroid.
2. Sympathetic vaso-constrictor fibers to the ciliary vessels.
3. Parasympathetic fibers to the ciliary and constrictor pupillae muscles.

