SUBMANDIBULAR REGION

- This region includes the area between the mandible and the hyoid bone
- Submandibular region contains the suprahyoid muscles,submandibular and submandibular salivary glands and submandibular ganglion
- **Suprahyoid muscles** are the *digastric*,the *stylohyoid*,the *mylohyoid*,and the *geniohyoid*
- **First layer** formed by digastric and styloid
- **Second layer** formed by mylohyoid
- **Third layer** formed by geniohyoid and hyoglossus
- **Fourth layer** formed by genioglossus

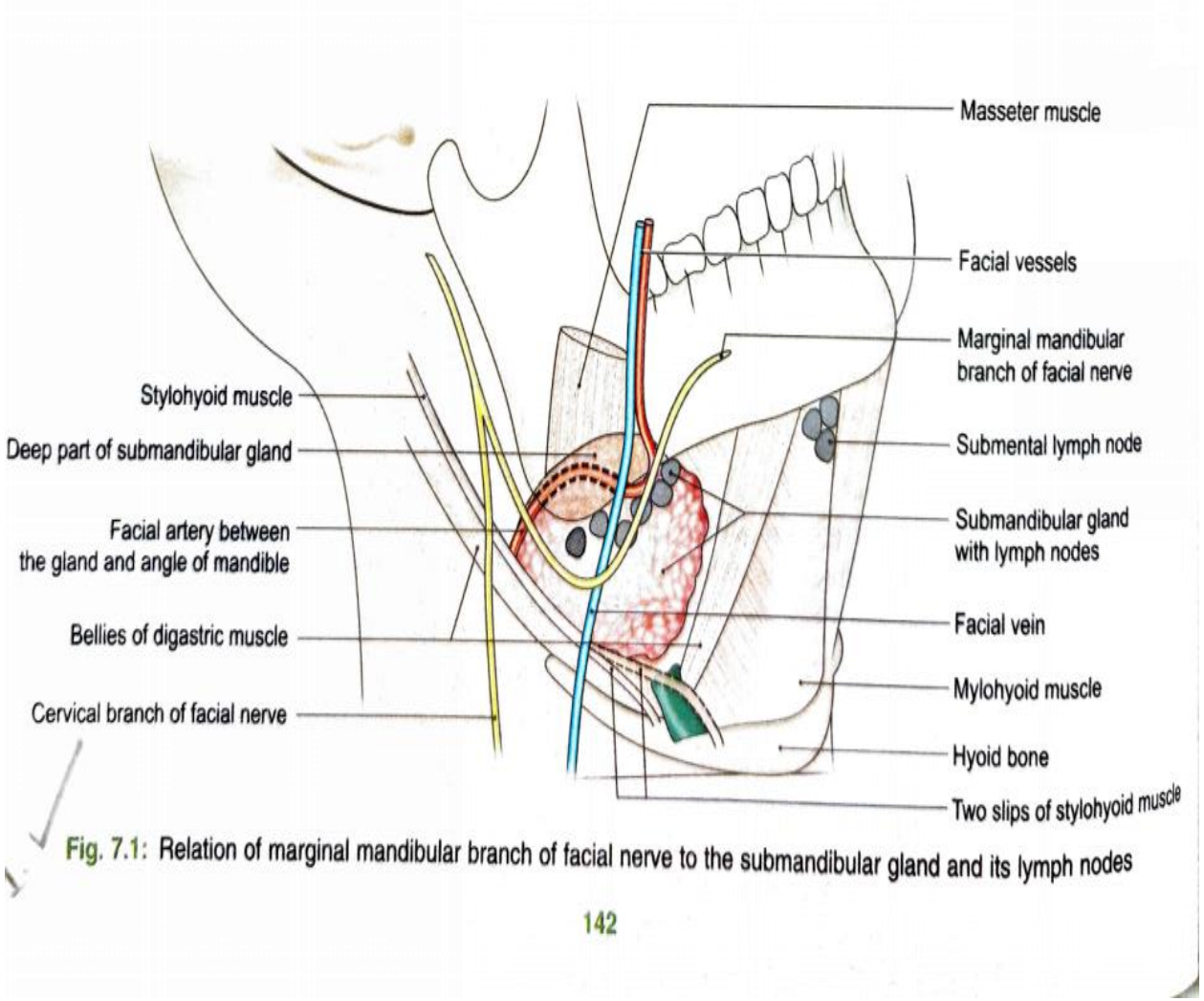

Fig. 7.1: Relation of marginal mandibular branch of facial nerve to the submandibular gland and its lymph nodes

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SUBMANDIBULAR SALIVARY GLAND

- This is a large salivary gland ,situated in the anterior part of the digastric triangle
- The wt of the gland is 15-20 gms
- roughly **j-shaped**,indented by posterior border of mylohoid which divides it in to a larger part superficial to the muscle,and a smaller part lying deep to the muscle
- **Coverings-**The gland is partially enclosed between two layers of deep cervical fascia

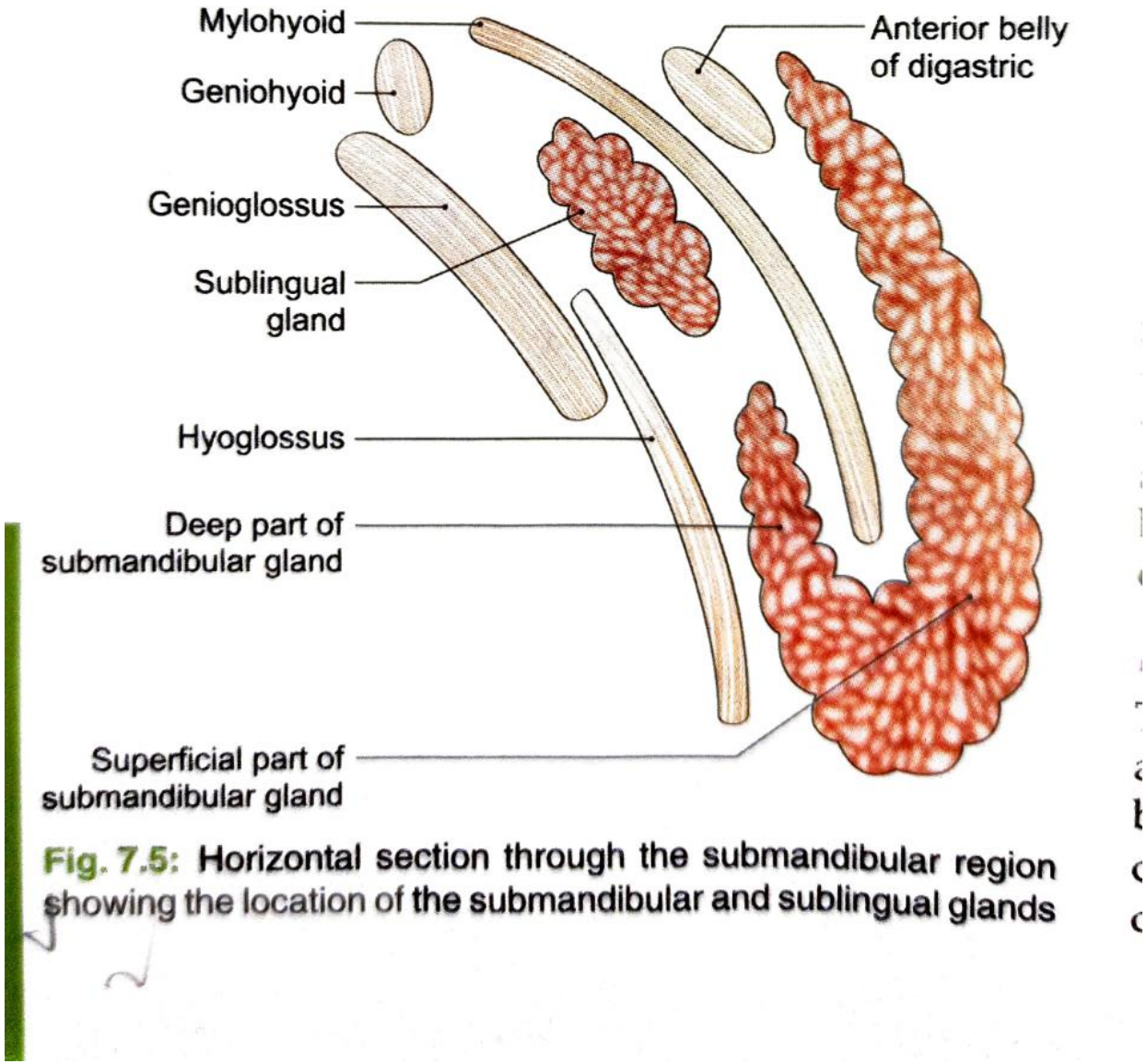


Fig. 7.5: Horizontal section through the submandibular region showing the location of the submandibular and sublingual glands

SUPERFICIAL PART

- This part of the gland fills the digastric triangle
- It extends superiorly deep to the mandible up to the mylohyoid line
- Inferiorly-it overlaps stylohyoid and the posterior belly of digastric.
- It has **three surfaces**-
  - **Inferior**
  - **Lateral**
  - **Medial**
- **Relations-**the inferior surface is covered by -skin,platysma,cervical branch of the facial nerve and deep fascia,facial vein,and submandibular lymph nodes

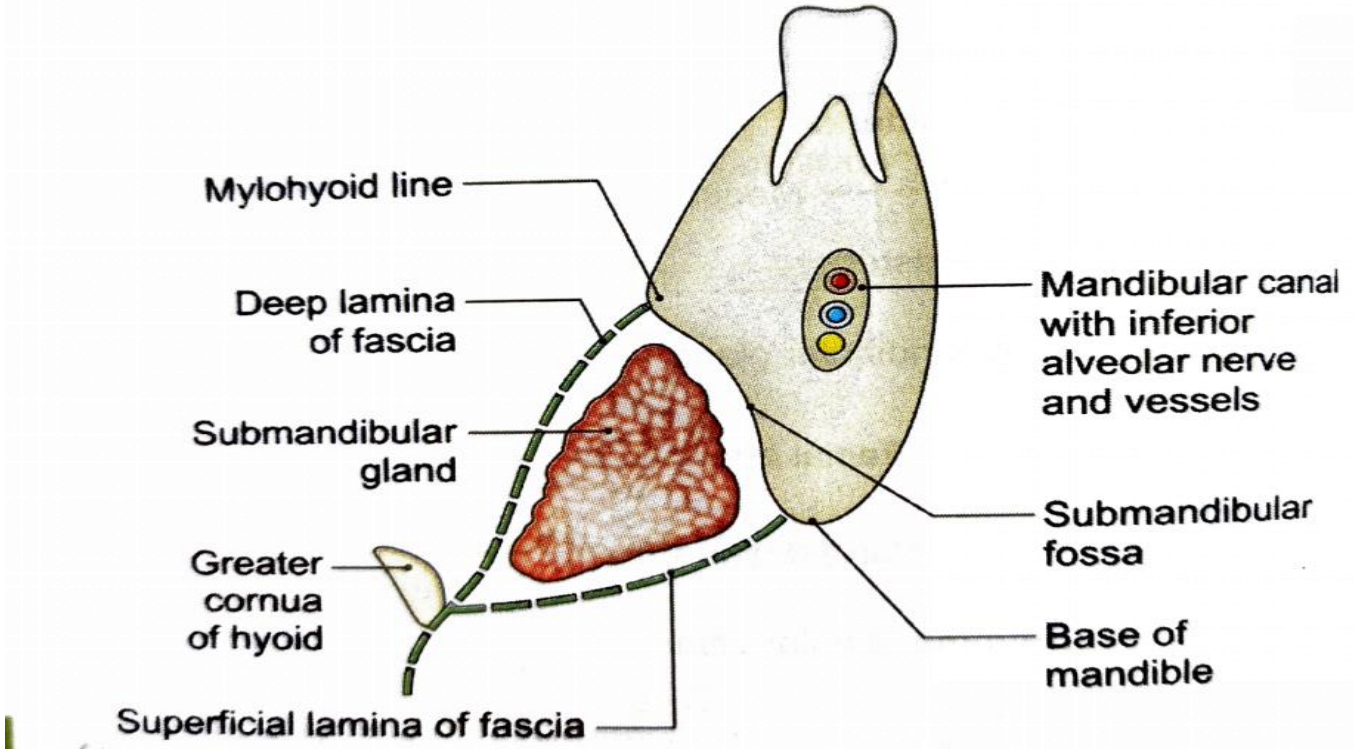


Fig. 7.6: Fascial coverings of the superficial part of the submandibular salivary gland

- **LATERAL SURFACE**-Is related to submandibular fossa on the mandible,insertion of medial pterygoid and facial artery

- **MEDIAL SURFACE**-Is related to

- **Anterior part-**mylohyoid,submental branch of facial artery,mylohyoid nerve and vessels

- **Middle part-**hyoglossus,styloglossus,lingual artery,XII cranial nerve

- **Posterior part-**stylohyoid,styloglossus,IX cranial nerve

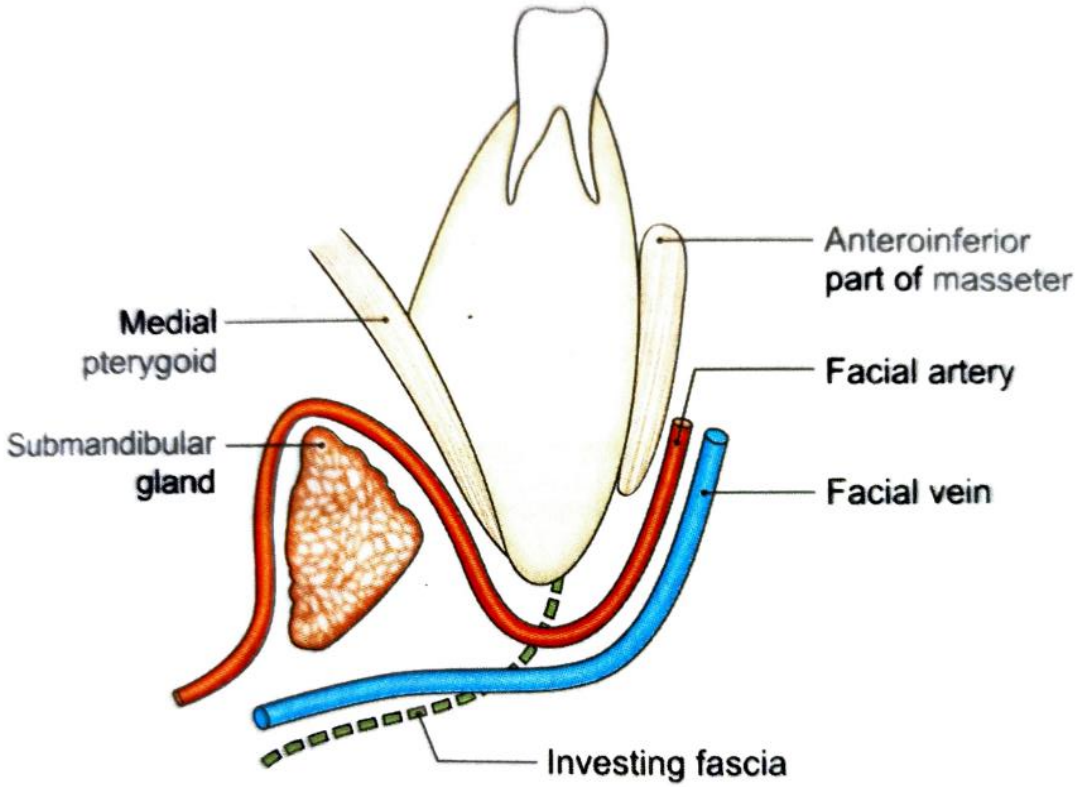


Fig. 7.7: Relationship of the facial vessels to the submandibular gland and to the mandible

DEEP PART

- This part is small in size
- It lies deep to the mylohyoid, and superficial to the hyoglossus and the styloglossus
- Posteriorly,it is continuous with the superficial part around the posterior border of the mylohyoid
- Anteriorly, it extends up to the posterior end of the sublingual gland
- **RELATIONS-**
- Laterally-mylohyoid
- Medially-hyoglossus
- Above-lingual nerve and submandibular ganglion
- Below-hypoglossal nerve

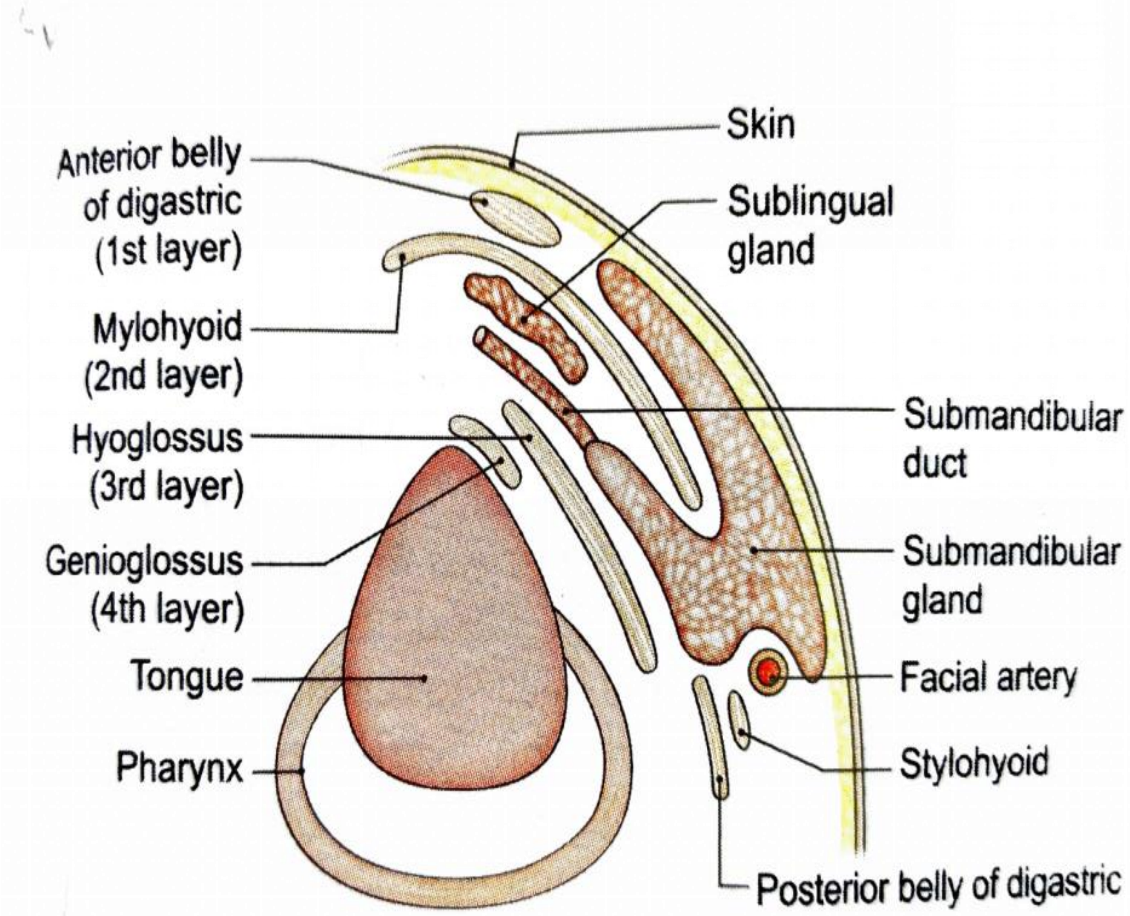


Fig. 7.8: Schematic horizontal section through the submandibular region

BLOOD SUPPLY & LYMPHATIC DRAINAGE

- Submandibular gland is supplied by facial artery
- The veins drain in to the common facial or lingual vein
- Lymph passes to submandibular lymph nodes

❑ SUBMANDIBULAR DUCT/WHARTONS DUCT

- It is thin walled, **5cm long**
- It emerges at the ant end of deep part of gland and runs upward& forward on the hyoglossus,between the hypoglossal& lingual nerve
- At the ant border of the hyoglossus,the duct is crossed by the lingual nerve
- It opens on the floor of the mouth,on the summit of the sublingual papilla,at the side of the frenulum of the tongue

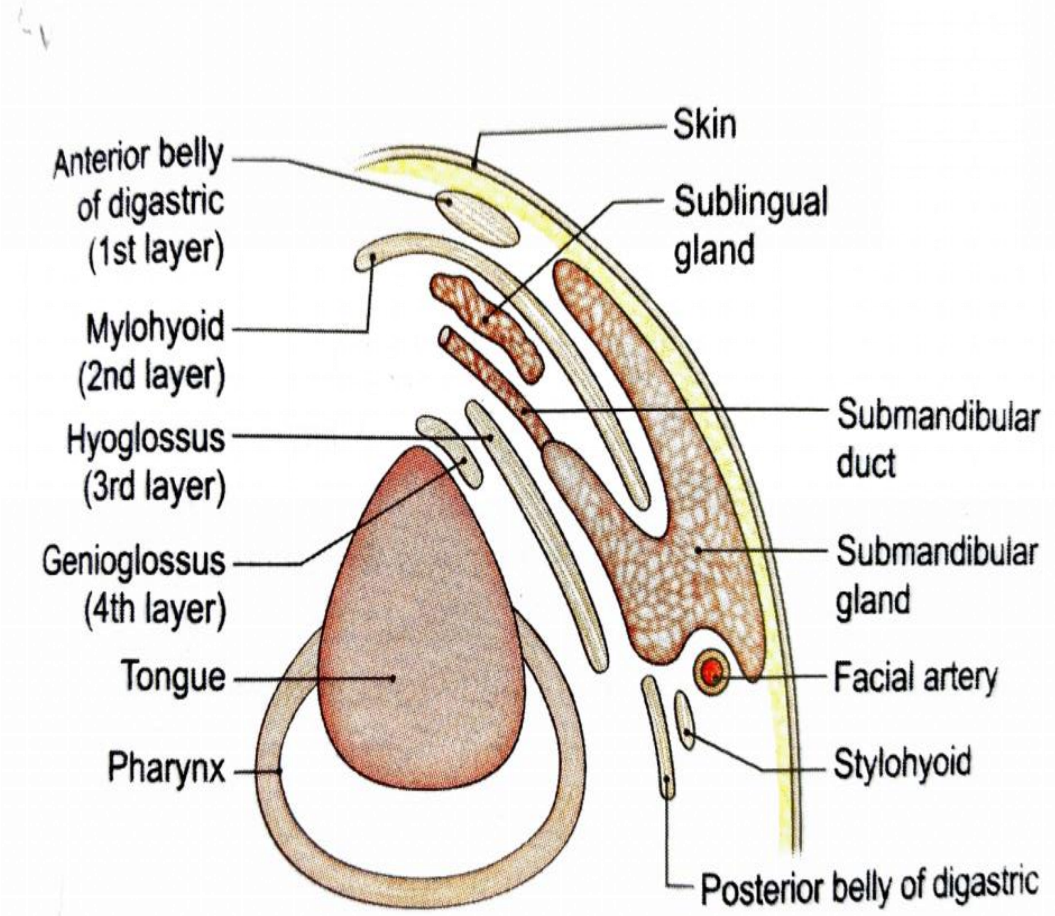
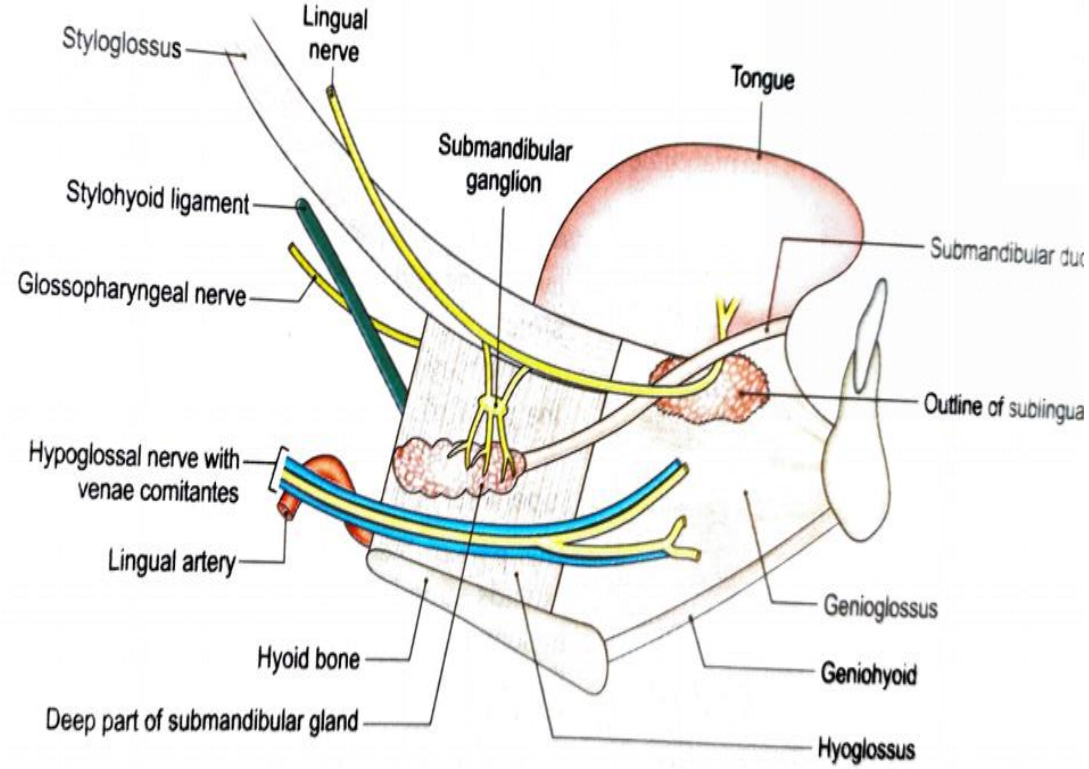


Fig. 7.8: Schematic horizontal section through the submandibular region

SUBMANDIBULAR GANGLION

- This is peripheral parasympathetic ganglion
- It is a relay station for secretomotor fibers to the submandibular & sublingual salivary glands
- Topographically it is related to the lingual nerve, but functionally it is connected to the chorda tympani branch of the facial nerve
- This ganglion lies on the hyoglossus muscle just above the deep part of the submandibular salivary gland,suspended from the lingual nerve by two roots



Submandibular region showing the superficial relations of the hyoglossus and genioglossus muscles, the dibular gland is also shown

CONNECTIONS & BRANCHES

- The secretomotor fibres pass from the lingual nerve to the ganglion through the posterior root.These are para sympathetic preganglionic fibres that arise in the sup salivatory nucleus and pass through nervus intermedius till the facial nerve,the chorda tympani and the lingual nerve to reach the ganglion for relay. post ganglionic fibres for the submandibular gland reach the gland through 5or 6 branches from the ganglion
- Post ganglionic fibres for the sublingual glands re-enter the lingual nerve through the ant root and travel to the gland through the distal part of the lingual nerve
- The sympathetic fibres are derived from the plexus around the facial artery.It contains postganglionic fibres arising in the sup cervical sympathetic ganglion.They pass through submandibular ganglion without relay and supply vasomotor fibres to the submandibular and sub lingual glands
- Sensory fibres reach the ganglion through the lingual erve.

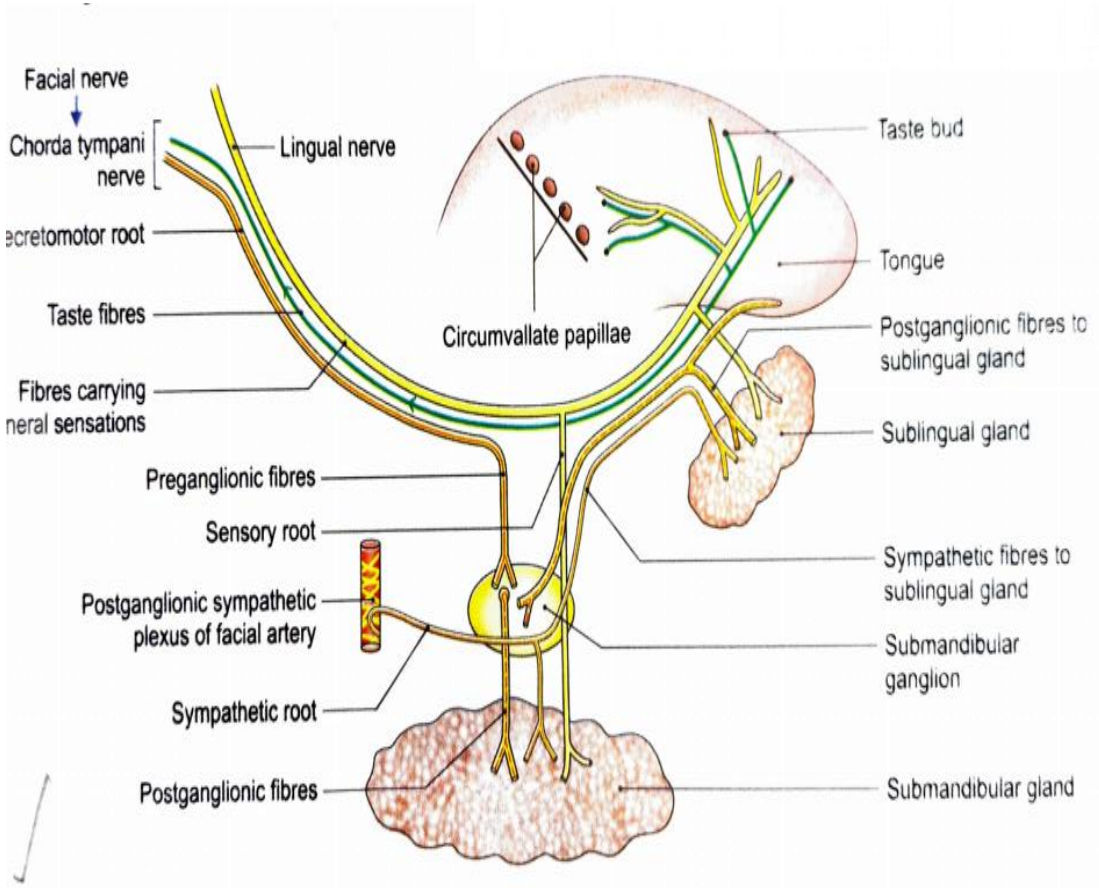
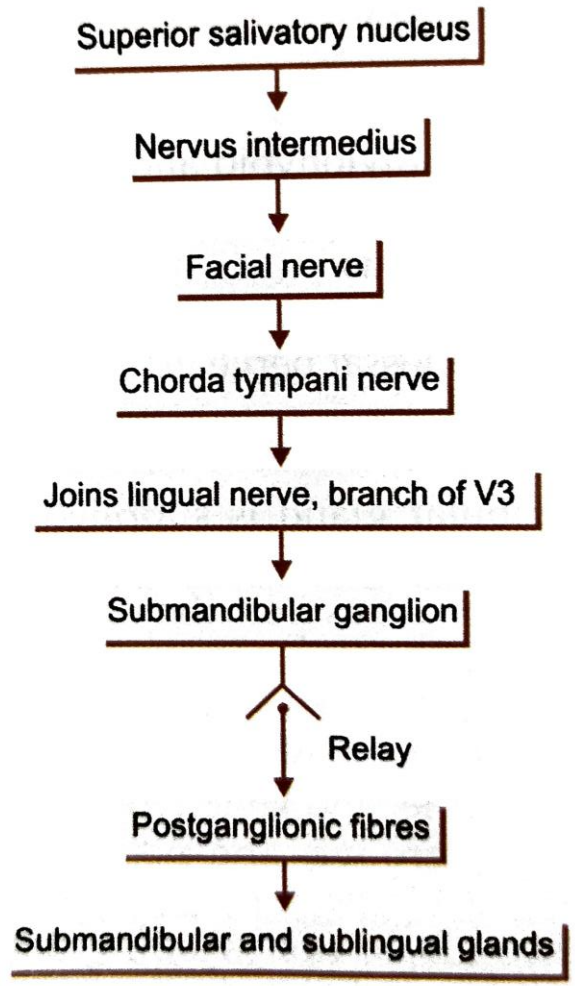


Fig. 7.9: Connection of the submandibular ganglion

Flowchart 7.1: Secretomotor fibres to the glands



medial to the sublingual fossa of the mandible and lateral to the genioglossus (Figs 7.2, 7.4 and 7.8).