

Parasympathetic Nucleus:

It lies posterolateral to the main motor nucleus.

- i. Salivary Nucleus: (receives fibers from hypothalamus concerned with taste)
- ii. Lacrimal Nucleus: (receives fibers from hypothalamus concerned with emotions, tear).

Sensory Nucleus:

- It lies close to the main motor nucleus.
- It concerned with the taste sensation.
- It receives taste sensation from anterior 2/3 of the tongue.
- It synapse to the geniculate ganglion.
- Then it goes to the thalamus and then to the internal capsule of the cerebral cortex.

Pathway:

- It consists of sensory and motor roots
- The fibers of the motor root first travel posteriorly around the medial side of the abducens nerve.
- Then pass around the nucleus in the floor of 4th ventricle
- Finally, pass anteriorly to emerge from the brainstem.
- The two roots of facial nerve emerge b/w pons & medulla.
- They pass laterally with the vestibulocochlear nerve through internal acoustic meatus in the petrous part of temporal bone.
- At the bottom of meatus, the nerve enters into facial canal in the inner ear.
- On reaching, the tympanic cavity of inner ear, it passes through stylomastoid foramen.

Facial Nerve Distribution:

At the level of facial canal:

- i. Nerve to stapedius:
(supply stapedius muscle)
- ii. Chorda Tympani Nerve:
(Supply chorda Tympani muscle)
- iii. Greater Superficial Petrous Nerve:

At the level of Mastoid foramen:

- i. Post Auricle Nerve:
(Supply post occipital muscle)
- ii. Digastric Nerve:
(Supply Digastric muscle)
- iii. Stylohyoid Nerve:
(Supply Stylohyoid muscle)

Terminal Branches:

- A. Temporal:
(supply Orbicularis oculi, Frontalis, Corrugator)
- B. Zygomatic:
(Supply Orbicularis oculi, Zygomaticas)

- The cochlear nerve conducts nerve impulses from the organ of Corti in the cochlea.
- The fibers enter the anterior surface of brainstem at the lower border of pons.
- On entering the pons, the nerve fibers divide into two.
 - =One branch entering the Posterior cochlear nucleus
 - =Other branch entering the anterior cochlear nucleus.

Functions:

The cochlear nerve is responsible for hearing.

Clinical Problems:

Damage to cochlear nerve results the deadness, tinnitus.

Examination Test:

1. Rinne's Test
2. Weber's Test

Course of Vestibulocochlear Nerve:

- The vestibular and cochlear part of the nerve leaves the anterior surface of the brain b/w the pons & the medulla oblongata.
- They runs laterally in the Posterior cranial fossa
- Then enter the internal acoustic meatus with the facial nerve.
- The fibers are then distributed to the different parts of the internal ear.

9- Glossopharyngeal Nerve

Component: Mixed Nerve

Glossopharyngeal Nerve nucleus:

1. Main Motor Nucleus
2. Parasympathetic Nucleus
3. Main Sensory Nucleus

Main Motor Nucleus:

It lies deep in the reticular formation of medulla oblongata.

Parasympathetic Nucleus:

- It is also called the inferior salivatory nucleus.
- It receives afferent fibers from hypothalamus.
- It receives efferent fibers to parotid glands.

Main Sensory Nucleus:

- It is the part of the Nucleus of the tractus solitarius.
- It takes taste sensation in thalamus.

Pathway/course:

- The glossopharyngeal nerve leaves the anterolateral surface of the medulla oblongata.
- It passes b/w the olive and the inferior cerebellar peduncle.