Abstract

- Why the cranial parasympathetic ganglia are going with the Trigeminal nerve branches (V1, V2, V3)?
- Why the lacrimal organ gets secretomotor filaments from pterygopalatine ganglion which is situated in pterygopalatine fossa by means of zygomatic part of V2 to lacrimal nerve of V1 and not get such strands from the neighboring ciliary ganglion?

Introduction

The trigeminal nerve is the biggest of the cranial nerves. It starts from the brainstem at the midlateral surface of the pons, close to its upper outskirt, by a little engine and a bigger tactile root. The afferent strands transmit data from the face, oral and nasal holes, and the vast majority of the scalp. The vast majority of these strands have their cell bodies situated in the trigeminal ganglion or Gasserian ganglion [1]. Except for periodontal tendon mechanoreceptors, the cell assortments of the neurons associated with proprioception and the stretch receptors are situated in the mesencephalic core. Moreover, the trigeminal nerve likewise contains instinctive efferent strands for lacrimal, salivary and nasal mucosa organs; these filaments originate from facial and glossopharyngeal nerves and run into the trigeminal nerve after an anastomosis with a part of the facial or glossopharyngeal nerves. Substantial efferent strands of the trigeminal nerve innervate the masticatory muscles. They begin from the engine core of the trigeminal nerve situated in the pons.

The trigeminal nerve gives three branches distal to the trigeminal ganglion. The upper part of the trigeminal nerve is the ophthalmic nerve (V1) [1,2]. It goes ahead in the parallel mass of the huge sinus and accesses the circle by means of the predominant orbital crevice. The ophthalmic nerve offers branches to gracefully sensation to the eyeball, conjunctiva, lacrimal organs, nasal mucosa, and skin of the nose, eyelid and brow.

The center branch is the maxillary nerve (V2). Maxillary division leaves the center cranial fossa through the foramen rotundum and goes into the pterygopalatine fossa where it radiates a few branches for the dura, the maxillary teeth and related gingiva, the maxillary sinus, the upper lip, the horizontal surface of the nose, the lower eyelid and conjunctiva, the skin of the cheek and of the side of the temple, the nasal depression and the mucosa of the hard and delicate sense of taste. Pterygopalatine parasympathetic ganglion went with V2 and its secretomotor strands appropriated with V2 branches (to minor salivary organs, nasal organs and lacrimal organs) [2,3].

The lower branch is the mandibular nerve (V3). V3 runs along the floor of the noggin at that point exits through the foramen oval into the infratemporal fossa and innervates the dura, the craniomandibular joint, the skin over the side of the head over the ears, the auricle, the tongue and its contiguous gingiva, the muscle of the floor of the mouth, the mandibular teeth and related gingiva, the mucosa and skin of the cheek, the lower lip and the jaw and the muscles of rumination. Optic and submandibular parasympathetic ganglia are going with V3 and their secretomotor strands are disseminated to the major and minor salivary organs [4].

Since the rumination procedure begins by utilization of muscles of rumination that provided by V3. It needs liquid like spit, in this way, the rumination improves the salivation procedure which is an imperative to finish the rumination of the nourishments. During rumination and because of smells and kinds of nourishments, the salivation likewise expanded.

The lacrimal organs likewise take an interest during the time spent rumination by incitement of tears creation (as such an insurance of the eyes) when the hot food presented inside the mouth notwithstanding the sort of food, for example, flavors food.

With respect to address why ciliary ganglion not innervates the lacrimal organ rather than pterygopalatine ganglion? The appropriate response of such inquiry is: Ciliary organ controls the vision procedure (convenience).

References


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