

4. Clinical Considerations on the Function of the Glossopharyngeal Nerve

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We made section of the glossopharyngeal nerve for the treatment of glossopharyngeal neuralgia in a patient who had suffered from neuralgia for a long time, and had never been relieved by any medication.

We should like to show some considerations on the function of the glossopharyngeal nerve from the clinico-neurological point of view, on the base of neurological findings following the operation.

5. Histological Studies on the Sensory Paths of Glossopharyngeal and Vagal Nerve in the Bulb of Mammals

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The glossopharyngeal and vagal nerves played an important role in various visceral reflexes such as respiration, circulation and other functions. In this condition, we studied mostly intramedullary sensory courses of the nerves.

The glossopharyngeal or vagal nerve of a mongrel dog was severed at the site of the neck and their intracranial rootlets. Degeneration of nerve fibers was microscopically investigated in the bulb by means of serial preparations of Marchi's staining.

(1) In addition to the already known courses of vagal nerve in the bulb, we newly found degenerated fibers which ran through the solitary fascicle on a level of entrance of the vagal rootlets and proceeded toward dorsalwards along the medial border of the descending vestibular root and reached to the most dorsal region of the lateral border of the basal grey substance. When the vagal nerve was severed between the jugular and nodose ganglion, we found the same degenerated fibers as the ones after cutting intracranial rootlets.

(2) In case of the glossopharyngeal nerve, we also found new fibers which passed through the solitary fascicle on a level of entrance of glossopharyngeal rootlets and reached to the most dorsal region of the lateral border of the basal grey substance. Degenerated fibers were similarly observed when the nerve was cut both at the intracranial rootlets and at the part between intracranial and petrous ganglion, though the number of degenerated fibers of glossopharyngeal nerve was less than those of the vagal nerve.

(3) These degenerated fibers were observed in a cat after cutting the vagal nerve between the jugular and nodose ganglion, while in a rabbit no degenerated fibers were recognized after the same procedure.