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CHAPTER VII.

DISEASES OF THE GLOSSO-PHARYNGEAL NERVE.

THE glosso-pharyngeal nerve leaves the brain between the root fibres of the auditory and those of the vagus, at the side of the medulla oblongata, by five or six filaments; these soon unite to form an anterior (small) and a posterior (larger) bundle; they both pass outward, under and in front of the flocculus, to the anterior division of the jugular foramen, through which the nerve leaves the skull. Whether the so-called jugular ganglion which the nerve presents while still inside the skull has to be looked upon as a special ganglion or only as a group of nerve-cells which have separated themselves from the petrous ganglion, which is seen on the nerve immediately after its exit from the skull, remains to be decided.

The glosso-pharyngeal has no nucleus of its own, but originates in a large collection of nerve cells, which are regarded as the nucleus common to this nerve, the vagus, and the accessorius. This nucleus is situated midway between the anterior and posterior spinal roots. In the manner in which its root fibres originate it corresponds partly to the motor, partly to the sensory type (Wernicke). It is therefore designated as the mixed lateral system (Deiters), and it is supposed that the glosso-pharyngeal originates in the upper, the vagus in the middle, and the accessory in the inferior portion of the nucleus (cf. Fig. 17, p. 96). The manner in which this common nucleus is composed is not yet understood, nor do we know how many modes of origin for root fibres of this "lateral mixed system" we have to assume. Exact data may be found in Wernicke's text-book, i, p. 155 *et seq.*

The glosso-pharyngeal, which, according to our present ideas, has to be regarded as the only genuine nerve of taste, is the third one which is to be taken into consideration in the examination of the functions of taste. The trigeminus (the third branch (lingual), possibly also the second branch) and the facial (chorda tympani) we have treated of, and it remains, therefore, to determine whether and if so under what condi-

tions diseases confined to the glosso-pharyngeal occur, and in what manner taste is altered by them. Since it only supplies the posterior third of the tongue with sensory fibres (ramus lingualis nervi glosso-pharyngei), it is not to be wondered at that, in determining an isolated affection of the nerve, we not rarely meet with considerable difficulties.

We know but little about central diseases of this nerve. It is supposed, however, that there exists a bulbar affection, a gray degeneration of the nucleus which is found in tabes (Erb), also that the gustatory paths may be in a state of irritation which gives rise to alterations in taste-perception analogous to the paræsthesias which occur with irritation of the paths of tactile sense in the posterior columns of the cord. Conduction anæsthesias are also said to occur, although it is impossible to decide whether only the glosso-pharyngeal or whether in addition the trigeminal and the facial paths are concerned (cf. Fränkel, Berl. klin. Wochenschr., No. 3, 1875). A central paralysis of taste manifesting itself solely on the posterior third of the tongue has never been observed. With the cortical centre of the glosso-pharyngeal we are not as yet acquainted.

Peripheral anæsthesia, anæsthesia gustatoria, ageusia (*a priv.*, γεισις, sense of taste), impairment or loss of taste produced by affections of the peripheral nerve endings, has been met with in diseases of the mucous membrane of the tongue, and has been known to be produced by the action of low temperatures (ice) or acrid substances (vinegar, chewing tobacco, red pepper). In testing for such alterations the patient is asked to close his eyes, open his mouth widely, and protrude his tongue; then a small portion of sugar or quinine, etc., is placed upon that part of the tongue the function of which is to be tested, and the patient is to indicate with his finger where he perceives the taste before he retracts his tongue, and tell us by signs what he has tasted. The test is made with bitter, sour, sweet, and salty substances, and for the purpose any one, as long as it is not poisonous, may be selected. Further, it is possible to accurately determine the boundaries of the area with normal and that with disturbed function of the tongue by means of the galvanic current. As we know, a sour, metallic, the so-called galvanic taste is perceived if the electrode is placed upon the tongue and the current is closed; the same taste is experienced during galvanization of the throat, the neck, or head, and is probably produced by the current acting upon the

taste nerves in their peripheral or central course. The use of the galvanic current is also to be recommended in the treatment of the affections of the nerve. The spontaneous appearance of a sweet or sour taste in the mouth (parageusia) has often been observed in cases of diabetes, though we are ignorant of the cause of this symptom. Therapeutically the leaves of *Gymnema sylvestre*, or the gymnemic acid contained in them, have been recommended in this condition (℞ *Acidi gymnemici* (Merck), 0.1 (1.5 gr.); spir. vin., 9.5 (3 ijss.); theæ nigr. Pekoe, 4.0 (3j); exsicca leni calore; scatula lignea. D. S.: One to two wafers to be taken into the mouth repeatedly during the day and allowed to melt (Oefele, Aertzl. Rundschau, 1893, Nos. 37, 38).

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