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## Original Communications.

### GLOSSO-LARYNGEAL PARALYSIS.

Read before the Suffolk District Medical Society, Oct. 31st, 1868, by S. G. WENNER, M.D.

J. T., æt. 63, was sent to me by Dr. Bowditch with a request that I would examine him, and he subsequently asked me to report the case to this Society.

His mother died of cancer. He is a manufacturer of german-silver ware. His general health has been good during life, excepting that four or five years ago he had boils on his back, side, and lower part of body. He has never had any fever nor rheumatism; never had syphilis. When he was 22 years of age he went to sea, and was a sailor for seventeen years. For the last sixteen years he has lived on Broadway, Chelsea, on high land with perfect drainage. About a year ago had an eruption on the skin over the sternum—according to description, pityriasis.

Last July, his present trouble commenced. He has been subject to colds every spring and fall, but they would disappear after a few weeks without leaving any unpleasant symptoms. Last July he had an attack, which he considered nothing more than a common cold. Soon after the commencement of the attack, he could not pronounce his words well. He felt weak and miserable, cold and chilly, but with no great feverishness; he had headache, but at no time very sudden and severe paroxysms. During a few days the headache was very severe, there was much discharge from the nose, and he coughed up much phlegm. Once in a while he had pain about the waist. He went out of town, and while gone had a severe fever, so as to require a physician's care. The physician told his friends that it was lung fever. He has not been able to speak distinctly since. His wife said very positively that he did not have diphtheria.

Lately, his cough has disappeared, though the difficulty in pronunciation remains. His wife thinks it is not quite as bad as it was.

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He sometimes chokes on swallowing; more frequently, the food returns through the nostrils. After eating, a quantity of phlegm comes up, seemingly without any effort to clear his throat, and certainly without cough. It rises of itself, and, as he described it, without any effort like vomiting; more as though it had lodged in the back part of the mouth or the fauces, and was brought forward by the tongue. He has no trouble in getting the food out from between his teeth and cheeks, but finds difficulty in turning it over in his mouth, especially a large piece of meat. He is obliged to cut his meat very fine and soak his bread, so as to be able to swallow readily. He can bite hard, as tried on a pencil. No atrophy of tongue or facial muscles visible. He sleeps well. He has no abnormal sensations, as tingling, itching, pricking or formication. He hears well, smells well and tastes well. His intelligence is good, and he understands readily, though sometimes seems a little nervous and slightly excited at not being able to communicate his thoughts easily. His throat is not sore. He has no weakness of limbs, grasps firmly, and no change in the sense of touch. Pain, tickling and temperature not tried. A general tremulous action, of the left side more especially, was noticeable, whether sitting or standing.

His eyes are injected, and sometimes they itch. The right pupil is slightly larger than the left, but they both react well under the stimulus of light. He can see well with both eyes. Eyes equally open; no drooping of lids; eyes move naturally; no strabismus. He walks well with eyes shut, and stands firmly with feet together and eyes shut.

His tongue is protruded straight, and apparently there is no difficulty in protruding it. The uvula is bent a little to the right, and the soft palate hangs down a little on the left. The fauces are rather sensitive to the presence of a foreign body, and reflex action is so strong I could not examine with the laryngoscope.

The lungs and heart are normal, but the sounds of respiration are rather feeble.

[WHOLE No. 2134.]

Oct. 21st.—Saw him with Dr. Bowditch, at his office. Dr. Knight had found nothing abnormal in the action of the vocal cords or in the throat, on laryngoscopic examination.

On requesting him to repeat the letters, he failed on *g*, *h* and *j*; and *c* and *t* were several times very imperfectly sounded: i. e., those letters more especially that required the tongue to be most closely applied to the roof of the mouth. He could sometimes form his mouth for whistling, but not on every trial. The difference in the two sides of the palate did not exist, but the uvula still deviated. He wrote very well, without any apparent difficulty in expressing his ideas.

The diagnosis is attended with a little difficulty, and perhaps cannot be made definitely without waiting to see the course the disease will take.

It may prove to be a local paralysis; but he does not appear to have had diphtheria to act as the cause. Could, however, his attack of lung fever have produced a functional weakness in the nerves similar to that caused by diphtheria? Or the paralysis may be of reflex origin from some sources of irritation not yet discovered.

The probability, however, is that it belongs to that class of paralyses first described by Duchenne in 1860 under the name of progressive muscular paralysis of the tongue, velum palati and lips.

In reviewing the symptoms, it will be seen to have commenced as in M. Duchenne's cases: first, by a difficulty in pronunciation of words; and afterwards, that symptom continuing, he had also difficulty in swallowing, and it seems from the account given of raising phlegm, that he had special trouble in swallowing saliva, which, being naturally more abundant after eating, and a little viscid, accounts for the name phlegm given to it and the quantity raised. So in M. Duchenne's cases the saliva was viscid.

The paralysis of the tongue is shown by the difficulty in turning his food, and in pronouncing those letters which require the greatest use of the tongue. The muscles of the palate are affected, as shown by food returning through the nostrils. The muscles of deglutition are affected, as shown by choking and the raising or spitting out of the phlegm. The orbicular muscle of the lips is but slightly affected, yet there is a weakness in its action, as shown by the fact that it required particular attention in order to draw the lips up. In talking, the mouth was kept more than usually quiet.

If it is this disease, it is in an early stage, and M. Duchenne says with regard to diagnosis:—"The diagnosis of progressive paralysis of the tongue, of the velum palati and of the lips is difficult at its commencement and in its *first period*, because that paralysis does not attack in the commencement and simultaneously the tongue, velum palati and lips, and especially because it commences by simple muscular weakness, generally localized in the tongue. But, when at a more advanced period, which can be called the *second period*, it has reached the muscles of the velum palati and the orbicular of the lips, when the weakness has progressively increased, its diagnostic signs become most evident and it cannot be mistaken for any other disease."—(Duchenne, *L'Electrisation Localisée*, 1861, p. 636.)

All or nearly all known with regard to glosso-laryngeal paralysis we owe to Duchenne and Trousseau. It was first described by M. Duchenne. Trousseau had taken notes of a case previously, but had not made it public. As he said once of another physician with regard to another disease, "he had seen it but had not recognized it," and he yields to Duchenne whatever credit there may be in recognizing the group of symptoms which are met in such cases.

Trousseau, however, does not consider it a distinct disease, and in support of his view there are several autopsies, which had not been made when Duchenne wrote. According to these autopsies, the pathology is essentially the same as that of wasting palsy.

Trousseau, in his *Clinique Médicale*, gives the autopsies of three cases; in one the result was entirely negative, owing to insufficient examination. In the second autopsy, he says, a very marked atrophy of the roots of the hypoglossal was recognized, without alteration of the muscular fibres. It seemed, also, that the spinal bulb presented a more considerable consistence. "In our third autopsy, we found a very marked thickening with grayish coloration of the dura mater at the level of the bulbar portion, and even to the roots of the fourth cervical pair. That thickening was due to a considerable increase of the fibres of connective and fibro-elastic tissue, and seemed to be the consequence of a chronic hyperemic work, which was confirmed by the great number of capillary vessels and deposits of hæmatin outside of these capillaries.

"The roots of the hypoglossal and of

the spinal accessory were atrophied, thinned and reduced, at different points, to the neurilemma, and at the place where the spinal cord was in relation with the dura mater there was adhesion of the neurilemma to the fibrous envelope of the cord and deposit of a pisiform nucleus of connective tissue. A great number of motor roots in the cervical region were thinned; the nervous tubes had disappeared in part; everywhere was visible, with the microscope, the predominance of the neurilemma over the nervous tissue, and everywhere a considerable hyperæmia, with grayish coloration of the neurilemma; the cord itself, in the upper part of the anterior columns, presented a hyperæmia and coloration analogous to that found in the posterior columns in locomotor ataxy." The facial was flattened at its origin, but not altered.

"The muscular fibres were normal in the paralyzed muscles of the tongue, of the velum palati, of the lips, of the chin and the buccinator, &c." The muscles of the right leg had commenced to degenerate.

A case is recorded by Dr. Duménil, to which both Trousseau and Duchenne refer. The latter considers that it does not belong to this disease, but the former classes it with the other cases which he mentions of glosso-laryngeal paralysis. The patient was 53 years old; he had gradually progressive paralysis of the left upper limb. The tongue became completely paralyzed, but not atrophied. Deglutition was impossible. His saliva flowed out of his mouth. The anterior part of the tongue had lost its sensibility. There was double facial paralysis. Pupils normal. At the *post-mortem* examination, atrophy of the hypoglossals at their origin and at their exit from the condyloid foramen was found, and also atrophy of the anterior roots of the spinal nerves, especially in the cervical region. The lingual, glosso-pharyngeal and chorda tympani were normal. The facial, below the origin of the chorda tympani were atrophied, containing little or no nervous tissue. The pneumogastrics were healthy, and also the third and the ganglion of Gasser.—(*Gazette Hebdomadaire*, June 24, 1859, p. 390.)

The lesion is, then, similar to that found in wasting palsy. The only difference is, that in the latter the muscles are atrophied, whereas in this there is no atrophy. Duménil thinks it may be that the motor nerves of the tongue and face do not exercise the same influence over nutrition as the spinal nerves.

If the facial is implicated above the origin of the chorda tympani, the sympathetic

alone then regulates the secretion of the sub-maxillary gland, and thus is explained the occurrence of viscid saliva; for Eckhardt has shown that there is a change in the saliva according to the nerve irritated. When the chorda tympani is irritated, the saliva is quite fluid; when the sympathetic is irritated, the saliva is viscid. Bernard has noticed the same.

One other symptom, though slight, confirms the opinion that this patient is suffering from a disease allied to wasting palsy—the general tremor, confined mostly to the left side, would indicate a weakness of the nervous influence, though he did not feel that he was losing strength. It will be remembered that the most trouble in the palate and uvula was on the left.

With regard to treatment. Generally, nothing has been found of use. The lesion is very similar to that found in locomotor ataxy, except that the anterior portion is affected instead of the posterior portion of the cord. In the *Gazette des Hôpitaux*, May 9, 1868, Dujardin Beaumetz relates four cases of locomotor ataxy, greatly benefited by phosphorus.

On the strength of these cases, and from the classification of phosphorus as a nervous tonic, in view that there was no other course more highly recommended, Dr. Bowditch kindly agreed to try its effects in this case. As yet it is too early to report any result.

#### EPITHELIAL CANCER OF THE TONGUE— LIGATURE OF THE LINGUAL ARTERY AND EXCISION.

By JOHN HOMANS, M.D., Boston.

C. McC., a stout, healthy blacksmith, of fair and florid complexion, living in Cambridgeport, noticed a small blister on the right side of his tongue, opposite the molar teeth, in July, 1867. He has always been well and strong, has worked hard, and has been intemperate both in the use of liquor and tobacco. He attributed the formation of the sore spot on his tongue to his having swallowed a piece of bread soaked in boiling fat. The sore or blister, as he describes it, was at first the size of a pin's head, and gradually enlarged. In November, 1867, he first began to have pain and an increased flow of saliva, and the diseased spot was much enlarged. On Dec. 10th, the first time I saw him, the pain was described as very severe, and as shooting upwards towards the right ear and side of the head. A large portion of the posterior