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ON HEMIGLOSSITIS.

BY

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ON HEMIGLOSSITIS. By Dyce Duckworth, M.D., F.R.C.P., *Assistant-Physician to St. Bartholomew's Hospital; Examiner in Medicine in the University of Durham; formerly Examiner in Practice of Physic in the University of Edinburgh.*

I propose in this communication to record two examples of this very rare affection, and to offer some observations upon the subject.

Acute idiopathic inflammation of the substance of the tongue is but seldom witnessed. I do not remember to have seen more than five instances during my hospital experience. All these cases recovered. I wish I had retained notes of them, for amongst them I might perhaps have found that more than the two cases I now publish were examples of the affection properly termed hemiglossitis.

My attention was first directed to this subject by a paper published by my friend Dr. Noël Gueneau de Mussy, physician to the Hôtel Dieu in Paris, in the *Archives Génerales de Médecine* for April 1879. The particulars of the first case are as follow:—

G. N., æt. 53, a housekeeper, a well-made man, admitted into St. Bartholomew's Hospital under Dr. Andrew's care on the 14th November 1881.[1] In good health till the 10th inst., when he had rigors and sore throat. He swallowed readily till the 12th, when this act became almost impossible.

The tongue was greatly swollen, but could be kept within the mouth. Swelling almost entirely confined to the left side. No history of any injury, of syphilis, or of having taken mercury or any corrosive substance. Teeth bad and dirty, all molars gone. The surface of the tongue was moist, clean but slimy, bluish-red in colour, and œdematous. Loose tissue below tongue and by the side much swollen and puffed out through the chinks in the teeth, also by the frenum. Great enlargement

[1] Notes by Dr. David King, house physician.

of the glands at the left angle of the jaw. No deafness. No discharge from ears or nares. The several organs were natural in the chest and abdomen. Urine, loaded with lithates, acid, sp. gr. 1.030, and free from albumen. Bowels regularly relieved. Temperature, 100·4°.

November 15th.—Right side of tongue more swelled, and less on the left side. Dense creamy fur all over. No circumscribed lump, but much resistance on the left side. Temperature—morning, 98·8°; evening, 99·5°.

On the *16th* swallowing improved. Tongue smaller. Some herpes at both angles of the mouth. Temperature—morning, 99°; evening, 99·4°.

17th.—Temperature, 99·4° in the evening.

19th.—Tongue appeared normal.

20th.—Temperature fell to 96·4°.

22nd.—Tongue much directed to left side, but could be slightly protruded to the right.

23rd.—Discharged well.

The treatment consisted of the free use of ice to suck, milk diet, and beef-tea. The medicine was—Potassæ chloratis, gr. xv. Decoct. Cinchonæ flavæ ℥j 6tis horis.

The second case was that of—

W. E. P., æt. 20, a stationer's warehouseman. Came under my care at St. Bartholomew's Hospital on the 21st of July 1882. He was a sandy-haired, sallow-faced, slightly blear-eyed, but fairly well-nourished young man; muscles flabby. He stated that he had been attending in the Casualty Department for nearly three weeks, suffering from a sore throat.

On the *17th* of July he drank a good deal of spirits and beer, and was slightly inebriated.

On the *19th* the left side of his tongue was swollen and painful; his mastication was difficult, and his voice thick.

On the *21st* I found a hard swelling on the left side of his tongue, strictly limited to it. The edges were indented, and the mucous reflection below was much swollen and œdematous. Complaint was made of pain in the left ear and side of the throat. He slobbered a good deal, he stated, during sleep. The

tongue was thickly furred, and the breath was offensive. The teeth were natural. No enlarged lymphatic glands were found. No herpes. The various thoracic and abdominal organs seemed natural. The urine was acid, of sp. gr. 1.027, and void of albumen.

On the *22nd* inst., my colleague, Dr. Gee, kindly admitted him under his care in Luke Ward. The same evening his temperature was 100·2°. No increase in the size of the tongue, which could be protruded.[1] Ordered—Pil. Calomelanos, c. jalapâ, gr. x. vespere. Pot. chloratis, gr. x.; aq. destillat. ℥j ter die. Milk diet, with fish and light pudding.

On the *23rd* he was better. The swelling was reduced, only occupying the middle of the left half, like a firm nodule. Morning temperature, 99·5°, and the same in the evening.

24th.—In same condition; the morning temperature, 99°; evening, 100°.

25th.—Tongue still markedly hard, especially on under surface. Morning temperature, 98·8°; evening, 99·°4.

26th.—Improving. Placed on full diet, with meat. Morning temperature, 99°. Ordered sulphate of magnesia and sulphuric acid mixture.

28th.—Discharged well.

In these two cases the disorder was distinctly one-sided, the left half of the tongue being affected.

Few writers have made mention of hemiglossitis. Dr. Copland met with four cases of inflammation of the tongue in which the affection was limited to one side, or chiefly so.[2] The cases followed by abscess were unilateral. Niemeyer remarked that glossitis was very rarely thus limited.[3]

Graves recorded a well-marked case, in which the left half of the tongue only was involved. It occurred in a medical student who had severe febrile symptoms for a week, ushered in with violent rigors, great pain in the neck and occiput, somewhat relieved on the second day by violent epistaxis.[4]

[1] From notes by Dr. Oswald Browne, house physician.

[2] *Dictionary of Medicine*, vol. iii. p. 1077.

[3] *Text-Book of Prac. Med.*

[4] *Clin. Lect.* (Neligan's edit.), p. 590.

M. Noël Gueneau de Mussy's cases were both examples in which the ailment was strictly limited to the left half of the tongue.

It is noteworthy that most cases of glossitis which are not referable to local irritants, or to mercurial influence, are attributed to exposure to cold,[1] or to the vague conditions included under the term "occult atmospheric causes."[2] The disorder has been observed to prevail at times epidemically.

M. Gueneau de Mussy's two cases occurred in February, one after immersion for a whole day in water up to the arm-pits. One of those here recorded occurred in November. A case of severe general acute glossitis, reported by Staff-Surgeon Vaughan, R.N., was under care in Haslar Hospital in January,[3] and Mr. Holthouse reported a case which was in Westminster Hospital under his care in December.[3] A case of Dr. Neligan's, reported by Graves, was caused apparently by prolonged exposure to cold and wet in draining a river, the man having worked up to his waist in water for some days previously.[4]

I believe the disorder to be rightly classed amongst catarrhal inflammations. It has alliance with both erysipelatous and herpetic affections.

The local inflammation must be regarded as certainly reflex, and not the result of direct exposure, and this is a character of catarrhal inflammations in general. There is probably much the same morbid process as occurs in cases of angina due to catarrhal tonsillitis, and this affection is not uncommonly one-sided, or falls more severely upon one side.

Persons of the arthritic diathesis seem to be more than others prone to suffer from catarrhal manifestations of this character, and a herpetic tendency is often associated as part of the process. This connection is recognised in the present teaching of the Parisian school. The one-sided limitation and herpetic

[1] W. Fairlie Clarke, art. "Dis. of Tongue," Quain's *Dict. of Med.*, p. 1642, 1882.

[2] Holmes Coote, art. "Dis. of the Tongue," Holmes' *Syst. of Surgery*, vol. iii. p. 900, 1862.

[3] *Lancet*, vol. i. p. 844, 1869.

[4] *Op. cit.*, p. 591.

association at once suggest a marked implication of certain nerve-tracts to explain the phenomena.

As M. Gueneau de Mussy points out, the nerves of the tongue are more distinct and independent than any of its other tissues.

In further support of the nervous origin of hemiglossitis are the facts of the sudden onset, implication of the entire thickness of the affected moiety (evidence against local cause of irritation, which, if present, involves at first but a limited superficial portion), and the pain which has been observed to precede and accompany the phlegmonous process. The pain has been present on the same side of the head, in the neck, occiput, throat, ear, and affected side of the tongue, and is obviously neuralgic in character. The salivation is probably a nervous symptom, due to irritation[1] reaching the submaxillary gland.

It is conceivable that the disorder begins in the lingual branch of the fifth nerve and its associated connection with the chorda tympani branch from the seventh nerve. It was proved by M. Vulpian that irritation of the peripheral end of the lingual nerve caused swelling and congestion of the tongue, but if the chorda tympani branch was previously divided before its junction with the lingual, no such effect ensued.

Again, division of the lingual nerve on one side is proved to cause dilatation of vessels in the corresponding half of the tongue; a similar effect follows division of the hypoglossal, and if both nerves be divided, the effect is still more marked.[2]

Further, irritation of the cervical sympathetic is found to induce vascularity of the tongue in contrast to the contraction of vessels of the side of the face and ear.

Gueneau de Mussy favours the view that the lingual nerve is particularly implicated, because of the accompanying phenomena which indicate sensory disturbance in other branches of the fifth nerve. The salivation might be produced by direct irritation of

[1] The parotid gland may perhaps be stimulated. Its secreting activity is derived from the auriculo-temporal branch of the fifth, in which nerve are also fibres from the facial passing through the lesser superficial petrosal nerve and the otic ganglion. Apparent increase of salivation may be due to mechanical impediment to deglutition at the height of the congestive stage.

[2] Foster, *Text-Book of Physiology*, 2nd ed., p. 156.

the lingual and chorda tympani. The former is the efferent nerve for the irritative impulse, and the latter the efferent branch, the centre of the reflex action lying in the brain.

I am of opinion that the evidence points to involvement of the fifth and chorda tympani branches, or of the glosso-pharyngeal, rather than to that of the hypoglossal nerve, but the evidence is not clear which would limit the morbid process solely to any one branch.

The nervous physiology of the tongue is very complex and difficult. I have availed myself of assistance in unravelling the matter from my friend Professor McKendrick of Glasgow, and a consideration of the following statement, which he has kindly drawn up for me, will show that congestive conditions of one side of the tongue may be set up by influences acting through various channels.

1. In the lingual nerve there are both vaso-constrictor and vaso-dilator fibres. If the nerve be divided, after the junction of the chorda tympani, and irritation be applied, dilatation of vessels will ensue, proving existence of vaso-dilators. Such fibres come from the *chorda;* but if the lingual be divided before junction with chorda, and irritated, contraction ensues, showing that there are vaso-constrictor filaments in the lingual itself.

2. There are also vaso-dilators in the glosso-pharyngeal nerve. This is proved by the congestion of the vessels of the posterior third of the tongue, which follows upon irritation of this nerve.

3. Vaso-constrictor filaments exist in the hypoglossal nerve. This is proved by the dilatation of the vessels which follows division of it.

Thus it appears that dilatation of vessels may be induced by (*a*) irritation of chorda tympani branch, (*b*) of the lingual after junction with the chorda, and (*c*) of the glosso-pharyngeal nerve.

Contraction of the vessels may be induced by irritation of fibres in the hypoglossal nerve. In this case paralysis of vaso-dilator filaments would leave vessels in a state of normal tonus, at all events, not dilated.[1]

[1] *Vide* Beaunis, *Nouveaux Éléments de Physiologie Humaine*, Paris 1876, p. 928.

Thus the conditions on which hemiglossitis may depend, so far as nervous mechanism is involved, are more complex than is at first sight apparent. We may conceive that irritation reaches, in a reflex manner, after the fashion of ordinary catarrh, either the lingual nerve with the chorda tympani branch, or the glosso-pharyngeal nerve, implicating especially their vaso-motor (vaso-inhibitory or vaso-dilator) fibres, leading to congestion of the parts supplied by each. If the catarrhal stroke falls perchance on both nerves, the attack may conceivably be intensified; and it is further worthy of consideration that, as Dr. Lauder Brunton reminds me, the irritation may sometimes fall primarily on the chorda tympani branch by the channel of the ear of the affected side.

I believe that this form of glossitis is a catarrhal neurosis, much akin to the herpetic inflammatory attacks which affect the throat and other parts.

Exposure to cold is the exciting cause. There is alliance with, but not production of, erysipelatous inflammation, and Mr. Hutchinson's teaching in regard to this process may, I think, command acceptance. He considers erysipelatous inflammation as specialised, but not specific, not keeping always to one type, often induced by exposure to cold, the exposure, however, being *direct*, while in catarrhal inflammations the exposure is *indirect* (and this must be the case in respect of the tongue), and the nutritional change reflex.[1] In several of the reported cases herpes has been present on some part of the face. At certain stages of the affection the swollen part of the tongue much recalls the condition of erythema nodosum—a hard nodule being felt in the substance of one-half of the tongue.

The implication of the left side in all the cases hitherto recorded is certainly remarkable.[2]

An interesting connection between erysipelas and herpes is

[1] "On certain Diseases allied to Erysipelas," *Med. Times and Gazette*, Jan. 6, 1883.

[2] *Vide* article "Langue" in *Dictionnaire Encyclopédique de Sciences Médicales*, par M. A. Dechambre, where some cases of left hemiglossitis are referred to, and this predilection is noted; as also the observation that neuralgia of the tongue is chiefly met with on the left side.

shown by the following case, in which a well-known member of the profession, of gouty inheritance, at the age of six years, broke his nose. The accident was followed by erysipelas, and since that time there has been a frequent tendency to herpes, chiefly attacking the nose. Erysipelas has much tendency to recur, but the later attacks tend to be less severe than the primary ones.

A well-marked case of herpetic glossitis is recorded by Dr. Stephen Mackenzie in a young man aged twenty.[1] There were imperfect vesicles on the tongue. The left tonsil was much swollen, and herpes appeared on the lips. The tongue seemed large all over its extent. Herpes came out later in the mouth, over the right malar bone, and the lobule of the right ear. Cervical cellulitis proceeding to suppuration followed. The temperature rose to 103°.

Herpetic tonsillitis, which is commonly catarrhal in its nature, is found to be mostly one-sided.

The frequent precedence of faucial angina is noteworthy in most of these cases, and the glossitis appears to be a later manifestation of the catarrhal febrile process.

The treatment resolves itself into the use of ice, which should be frequently sucked. A collutorium of borax and chlorate of potass, with camphor water, is useful,[2] and the potass salt should be given, with full doses of tincture of yellow bark, every four or six hours at first. A smart purgative is usually advisable. The diet should be composed of essence of beef, eggs and milk beaten up, and brandy *pro re natâ*. With these measures, and especially if but half the tongue be involved, it is probable that neither leeches nor scarifications will be called for. I should condemn the use of neither depletory measure; and, if there was much submaxillary pain, should counsel the application of three or four leeches in that region, followed by warm poultices. Quinine and general tonic measures will be called for during convalescence, as after other catarrhal attacks.

[1] *Practitioner*, 1881, p. 272.

[2] Gueneau de Mussy recommends that small plugs of lint, steeped in such a wash as is mentioned above, should be placed between the cheek and the dental arches.