I will again remind the reader that these dates have reference to the first development of the eruption only. The difference in the two tables shows the power possessed by mercury to delay the appearance of secondary symptoms.

Mucous patches are exceedingly chronic and persistent, and are very prone to reappear; they are, indeed, the most frequent evidence of the renewed activity of the syphilitic poison.

TREATMENT.—In addition to the general treatment by mercury which mucous patches require, in consequence of the indication they afford of the existence of syphilitic intoxication, certain local applications are advisable. In the case of condylomata, Ricord's favorite treatment, which consists in washing them twice a day with Labarraque's solution of chlorinated soda, then sprinkling them with calomel, and separating the opposed surfaces by the interposition of lint, is generally very successful, but it is sometimes necessary to destroy them with nitrate of silver, nitric acid, or the acid nitrate of mercury.

Mr. Victor de Méric speaks highly of an ointment employed by several physicians of the German Hospital, London, consisting of two drachms (8.00) of calomel, the same quantity of sulphate or oxide of zinc (it matters not which), and one ounce (30.00) of lard. After a few applications, the excrescences become dry and horny, fall off, and leave a raw surface which soon heals. When there is much inflammation present, the application of poultices should precede this treatment.[1]

Mucous patches in the mouth should be touched with nitrate of silver, or one of the stronger caustics, and other applications may be employed, which will be mentioned in a subsequent chapter. This local treatment should by no means be neglected, since without it these lesions will often persist in spite of the use of remedies directed to the cause of the disease.

In the section upon the treatment of the syphilides, general directions for those of the vulva and anus will be found.

In a recent communication, Butlin[2] recommends a solution of chromic acid (10 grains to the ounce of water) for the more superficial ulcerative syphilitic affections of the tongue and mouth. The parts are to be painted, by means of a camel's-hair pencil, three or four times a day. In some cases, a stronger solution may be required. The application usually causes little, if any, pain. I have found it beneficial.

[1] Lettsomian Lectures, p. 42.
[2] On the use of chromic acid in certain affections of the tongue, see Practitioner (London), March, 1883.

CHAPTER XVI.

AFFECTIONS OF THE ORGANS OF DIGESTION.

THE MOUTH.

ERYTHEMA.—Erythema of the buccal cavity is usually confined to the neighborhood of the fauces. It may readily be confounded with the effects of an ordinary cold, from which it often can be distinguished only by the history of the case. The presence of narrow, dusky-red bands of inflammation along the border of the velum ending abruptly at the base of the uvula is considered by some observers to be characteristic of syphilitic erythema. Associated with this condition, as well as with other lesions, there is often a general œdema, especially of the velum and uvula. The latter organ may become much swollen, but no portion of it should be removed, since under treatment it soon resumes its normal proportions. The uvula also may be completely or partially eroded by ulceration. In the latter case, even when its attachment to the soft palate is very slender, the uvula need not be excised, since during the process of repair adhesions form between the eroded surfaces. In this way the natural conformation of the parts may be restored to a remarkable degree.

MUCOUS PATCHES.—The most common syphilitic lesions of the mouth are mucous patches. They are most frequently found upon the tonsils, the uvula, the velum palati and its pillars, the sides of the tongue and the mucous surfaces of the lips, especially the lower. At the angles of the mouth they are often continuous with a pustular eruption upon the integument. The inner surface of the cheek near the last molar tooth is another favorite seat. The dorsum of the tongue and the gums are less frequently affected.

PAPULES AND VESICLES.—Papules are often seen in the mouth coincidently with a general papular eruption. Owing to the constant maceration of the mucous membrane of the mouth, the formation of vesicles is rare if not impossible.

The name "*plaques des fumeurs*" has been given to certain patches most frequently seen on the mucous lining of the cheeks near the angles of the mouth. Fournier[1] considers their location absolutely diagnostic, and, in view of their situation and color, he has called them "*plaques nacrées commissuraires.*" They occur most frequently in the mouths of inveterate smokers, and are due to accumulation of

[1] Des glossites tertiaires, Paris, 1877, p. 54.

the epithelium, which becomes opaline, as though the spots had been touched with collodion, or with nitrate of silver; the patches are sometimes fissured and may become eroded, although the epithelium is usually very adherent. They are generally quite obstinate and persist long after the apparent extinction of the specific virus.

The Tongue.

The tongue is the seat of many interesting and important lesions of syphilis, whose resemblance to each other and to certain non-specific affections may be somewhat confusing. The rarity of other secondary affections of the tongue has led to the inclusion of many of them under the term "mucous patch." A single case of *roseola* is referred to by Jullien[1] as having been seen by Hardy in a patient who had at the same time a general erythematous eruption. Zeissl describes *mucous papules* of the tongue, and says of mucous membranes in general that syphilis does not develop *pustules* in their structure.

Secondary lesions of the tongue are, as a rule, the source of but slight pain at their inception, and even in process of ulceration they may give rise to remarkably little inconvenience, unless subjected to irritation. In extreme cases there may be some difficulty in mastication and moderate increase in the secretion of saliva. The tendency to assume the circular form has been observed in some of these lesions of the tongue. They generally yield readily to treatment and leave no trace of their existence, but frequent recurrences, especially in smokers, are seen. The comparatively greater frequency of these lesions in men may be referred to the use of tobacco and alcohol, irritating causes to which women are thought to be less exposed.

A condition of so-called "*psoriasis of the tongue*" has been described by several writers, particularly Bazin,[2] Debove,[3] and Mauriac,[4] the syphilitic origin of which is doubtful. It occurs on the dorsum of the tongue in patches, which may be recognized by their silvery white color, their leathery consistence, and the epithelial exfoliation attending them. Fournier, Trélat, Fairlie Clarke, and others regard them as frequent antecedents of epithelioma. Clarke thinks that they assume a malignant character when they invade the papillæ and the submucous tissues. A similar affection, originally described by Samuel Plumbe,[5] under the name "*ichthyosis*," occurs very rarely in the course of syphilis. In 1875, Weir[6] reported ten cases of ichthyosis in addition to fifty-eight previously recorded by other authorities. The proportion of syphilitic subjects in whom this lesion has been observed is extremely small. The idea that

[1] Mal. vénériennes, Paris, 1879, p. 737.
[2] Leçons sur les affections arthritiques et dartreuses, 1868.
[3] Le psoriases buccal, 1873.
[4] Du psoriasis de la langue. etc., 1875.
[5] Diseases of the Skin, London, 1837, p. 514.
[6] Ichthyosis of the Tongue and Vulva, N. York M. J., Mar., 1875.

ichthyosis, psoriasis and the condition called *plaques des fumeurs* are identical lesions, has been advocated by Hugonneau,[1] who believes that they are due to different causes, not necessarily specific, and that they may develop into cancer. Their resistance in many cases to anti-syphilitic treatment, and their frequent occurrence in those who never present any evidence of syphilitic infection, create a doubt whether these lesions should be considered truly specific, although syphilis may furnish a predisposition to their development.

The term "gummata" was applied to all tertiary syphilides of the tongue until Fournier[2] classified them as "scleroses" and "gummata." In either case hyperplasia is the morbid process, but in scleroses the newly-formed cells persist and become organized in a definite manner, while in gummata they are eliminated by a degenerative process.

Sclerosis.—Sclerosis of the tongue is most frequent about the fifth year of syphilis. It is usually developed near the median line and always on the upper surface of the tongue, and may be *superficial* or *deep*.

Superficial sclerosis involves the mucous membrane only, and produces a lamellated induration analogous to the "parchment" induration of the chancre. It may be circumscribed or diffuse, and ulcerates only as a result of injury by the teeth, tobacco, or similar irritants.

Parenchymatous or *deep* sclerosis may be considered an aggravated form of the superficial lesion, and invades the muscular as well as the mucous tissue. The tongue may be greatly increased in size but after long persistence of the lesion the newly-formed fibrous tissue retracts, and, as in cirrhosis of other organs, atrophy results. At first the hypertrophied tongue receives the imprint of the teeth at its margin, the body of the organ being lobulated in a manner almost pathognomonic. The lobules are separated by furrows which cannot be effaced by stretching, in this respect offering a contrast with the rugæ which occur on the tongue in dyspepsia and other depraved conditions of the system. The induration is deep and cartilaginous, and the mucous membrane becomes changed in color and perfectly smooth. Ulceration may result from causes similar to those which produce it in the milder form of sclerosis. When parenchymatous sclerosis involves the whole tongue, which fortunately it seldom does, the tumefaction may be enormous.

Gummata.—Like sclerosis, gummata, which are later lesions, may be designated as *superficial* or *parenchymatous*, since they may be found in the mucous or the muscular tissue of the tongue. The

[1] Sur la glossite interstitielle syphilitique, Paris, 1876.
[2] Des glossites tertiaires, Paris, 1877.

superficial or *mucous* gumma begins as a small nodule, which soon softens and ulcerates, leaving an excavation with perpendicular margins and an infiltrated base, which is often covered by tenacious false membrane of a yellowish-white color.

Parenchymatous gummata are developed in the muscular tissue of the tongue.[1] They begin as small tumors, which are sometimes difficult of detection on account of their depth and of the surrounding induration. The process of degeneration extends from the middle of the tumors until the thinned mucous membrane over them on the upper surface of the tongue becomes ruptured, exposing a deep cavity with overhanging and sloughy walls, surrounded by an areola of induration. In view of the great size of the cavity, one would expect excessive deformity, but cicatrization often takes place with relatively slight permanent damage. In rare cases two or more gummatous tumors coalesce, and lead to enormous enlargement of the tongue and proportionate destruction of its tissue. The ulcers may be attacked by phagedæna, when the condition becomes still more aggravated. Without treatment these ulcers are remarkably chronic. One has been reported which persisted, with comparatively little change, for twenty years. According to Clarke[2] gummatous tumors occasionally undergo calcific degeneration.

The importance and oftentimes the difficulty of differentiating syphilitic tumors of the tongue from others of non-specific origin, especially cancerous, are very great. Boyer, Clarke, Lagneau, and many other authorities have given great diagnostic value to their situation at the base and near the median line of the tongue. The experience of Fournier, however, has led him to conclusions quite the reverse. Their insidious formation, their chronic course, and their freedom generally from spontaneous pain are characteristic features of gummatous tumors. The observation of Anger,[3] that lancinating pain shooting towards the ear is diagnostic of cancer of the tongue, has been repeatedly confirmed. Gummatous tumors may appear at a period much earlier than is usual with cancerous. In addition to these facts, and to the individual and family antecedents of a patient, the ulcerating surfaces of the tumors present somewhat constant features, which may assist in the diagnosis.

Gummatous ulcers are usually multiple, bilateral, and are always upon the upper surface of the tongue; cancerous ulcers are usually single, and may occupy its under surface. The ulcerative process of gummata destroys the tumor; carcinomata present an ulcerating tumor, the induration of which extends with the eroding process. The floor of a gummatous ulcer is sometimes sloughy and is slightly vascular; that of a cancerous ulcer bleeds readily, and, at an advanced stage, secretes an ichorous pus. Zeissl[4] gives diagnostic importance to the

[1] Bouisson, Gaz. méd. de Par., 1846, p. 563.
[2] Diseases of the Tongue, London, 1873, p. 147.
[3] Du cancer de la langue, Paris, 1872, p. 78. See Hugonneau, op. cit., p. 42, and Fournier, op. cit., p. 66.
[4] Lehrbuch der Syphilis, 1875, p. 210.

fact that "sebum-like plugs" may be pressed from the mucous membrane in epithelioma of the tongue.

Interference with the functions of the tongue is much less in gummata than in cancer. Ganglionic enlargement is rare in syphilitic lesions of the tongue, with the exception of the chancre, while in cancer it always occurs.

Confirmatory evidence may be furnished by microscopic examination of the tumor, and by the effect of anti-syphilitic treatment, which, in cancer, is sometimes evidently harmful.

The diagnosis between syphilis and tuberculosis of the tongue is sometimes difficult, especially in those cases where the two diseases coexist, and in rare instances where tubercular deposit takes place in the tongue prior to the development of pulmonary symptoms.

So many instances of the development of cancer on the side of a gummatous ulcer have been recorded that a relation between the two affections cannot be doubted, although the accident is not peculiar to syphilitic lesions, a similar transformation being observed in a simple ulcer, as a result of neglect or exposure to continual irritation.

Sublingual Gland.

In 1874 Fournier[1] reported a case of "tertiary degeneration" of the sublingual gland, in a man aged 30, which was developed eleven years after primary infection. The right sublingual fossa was occupied by an oval tumor, quite hard and painless, which merely gave slight trouble in swallowing and in articulation of certain words, the patient speaking "as though he had a foreign body in his mouth."

Fournier was uncertain whether the tumor was a gummous infiltration of the gland, or a form of hyperplasia analogous to that of syphilitic sarcocele. His belief in its syphilitic origin seems to have been confirmed by its rapid disappearance under treatment with the iodide of potash, and by the subsequent appearance of other lesions unquestionably syphilitic.

Necrosis of the Maxillary Bones.

This affection is most frequently met with in the hard palate and in the alveolar processes of the superior maxillary bone. In the former case, a swelling first appears upon the roof of the mouth, usually near the median line; softening takes place; the abscess opens, and the necrosed bone is exposed. After evolution of the sequestrum, an opening is left communicating between the buccal and nasal cavities, which imparts to the voice a nasal sound and interferes seriously with the distinctness of speech and with deglutition. When the progress of the disease has been arrested by internal treatment, and the ulceration has healed, the question not unfrequently arises whether an attempt should be made to close these openings by a plastic operation.

[1] Ann. de derm. et syph., Par., t. vii., p. 81.

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I have never felt disposed to make the trial, believing as I do, that the wearing of a plate will better and more surely accomplish the desired end.

Necrosis of the alveolar processes almost invariably takes place in the neighborhood of the upper central incisors; indeed, I cannot recollect a case in which the lower jaw was affected. The bony support of a number of the teeth is often involved, and the teeth themselves, of course, become loosened and detached. An opening not infrequently is formed into the nasal cavities, affecting speech in the manner above mentioned.

In the treatment of these cases the mixed method affords the best results, but, after the arrest of the disease, time is required for the sequestra to become sufficiently detached for removal. Fortunately the present advanced state of dental surgery can, in most cases, remedy the damage done.

Gummy Tumor of the Soft Palate.

In its insidiousness of approach, and in the irreparable injury it is likely to inflict, but few syphilitic lesions equal this.

Early symptoms are insignificant or entirely wanting. Possibly the patient notices a slight uneasy or tickling sensation in the fauces, and experiences some difficulty in deglutition, which he naturally attributes to an ordinary cold; he may even find when attempting to swallow liquids that they regurgitate through the nostrils, but this he regards as accidental. Suddenly, however, and without further warning, he is nearly deprived of the power of speech and deglutition. His voice is transformed to an almost unintelligible nasal whisper, and, upon attempting to eat, solids, and especially liquids, are returned through the nose.

If we are so fortunate as to observe this affection in its earliest stage, we find that it has two modes of commencing.

1st. A deposit of gummy material may take place in a circumscribed mass, within the substance of the soft palate, and between its buccal and nasal surfaces. This mode of origin is the one usually described by authors. The deposit then appears as a flattened tumor, of the size of a bean or almond, encroaching upon the cavity of the mouth. It is at first hard to the touch, but subsequently, when secondary degeneration has taken place, soft and fluctuating.

2d. In other cases the infiltration is diffuse. No tumor exists, but the velum is generally thickened, its mucous membrane reddened, and its mobility impaired, as is evident when the patient attempts to articulate or to swallow.

Rupture of the abscess or ulceration of the infiltrated tissues may involve both mucous surfaces or only one; in the latter case it is usually the buccal; a cavity with sharply cut and ulcerated edges is then visible in the soft palate, while possibly the voice and the power of swallowing remain unimpaired. The destructive process, however,

proceeds with great rapidity, and complete perforation soon follows, even when not at first produced.

The perforation may be limited in extent, but frequently a large portion or the whole of the velum is destroyed, together with the uvula and the pillars of the fauces, and thus an immense door of communication is opened between the mouth and nose. It is thus easy to account for the indistinct and nasal voice, or "duck's voice," as the French call it, of such patients, and also for the reflux of liquids and even solids, and yet the absence of pain which characterized the onset of the disease is still a remarkable feature, since deglutition, although so difficult, is attended with a merely trifling sensation of discomfort. In addition, there is often some dulness of hearing, due, doubtless, to the œdema of the tissues composing the walls of the pharynx and surrounding the orifices of the Eustachian tubes.

In time the subsidence of the infiltration is followed by amelioration of these symptoms. What remains of the velum recovers in a measure its pliability and renews its function. Practice also assists in teaching the patient how to avoid regurgitation of solids and even fluids. Some improvement also takes place in the voice, and this may be greatly increased by wearing a proper plate, or by the ingenious artificial palate of India-rubber, the invention of Dr. Stearns, but complete restoration of the normal voice cannot be expected. The impairment of hearing is only temporary.

It remains to speak of a remarkable sequel of this affection, viz., the change which usually takes place in the fauces, as a consequence of the process of repair. Directly after the mischief has occurred, the remains of the soft palate are dependent, and the opening communicating between the mouth and nares is very large. One would naturally suppose that this condition would continue, or would even be aggravated at a subsequent period, after cicatrization had taken place. Strange to say, such is not the course of events. The dependent remains of the palate become elevated, the ulcerated edges contract adhesion with the ulcerated walls of the pharynx; and the opening, which at first was simply immense, gradually contracts, until finally complete atresia is the result, or, more frequently, a diminutive channel of communication remains between the buccal and nasal cavities, less in diameter than the normal opening.[1] Witness many old syphilitic cases in our hospitals. Attempts to remedy this condition by operation have been made by Hoppe, Pitha, Coulson, Dumreicher, and Paul, but with very indifferent success.

Cases not unfrequently occur in which the surgeon may hesitate to express an opinion as to the cause of ulceration and perforation of the soft palate. Two causes only are likely to produce this result:

[1] See an article by Dr. H. J. Paul (of Breslau) on "Adhesions of the Velum Palati to the Posterior Wall of the Pharynx, following Ulcerations." Translated by Verneuil.—*Arch. Gén. de Méd*, 1865.