of severe illnesses during early life. He thinks they are analogous to the furrows on the nails which so often follow a serious disease.

II. DISEASES OF THE SALIVARY GLANDS.

1. **Hypersecretion** (*Ptyalism*).—The normal amount of saliva varies from two to three pints in the twenty-four hours. The secretion is increased during the taking of food and in the physiological processes of dentition. A great increase, to which the term *ptyalism* is applied, is met with under many circumstances. It occurs occasionally in mental and nervous affections and in rabies. Occasionally it is seen in the acute fevers, particularly in small-pox. It has been met with during gestation, usually early, though it may persist throughout the entire course. It has been known to occur at each menstrual period; and, lastly, it is a common effect of certain drugs. Mercury, gold, copper, the iodine compounds, and (among vegetable remedies) jaborandi, muscarin, and tobacco excite the salivary secretion. Of these we most frequently see the effect of mercury in producing ptyalism. The salivation may be present without any inflammation of the mouth.

2. **Xerostomia** (*Arrest of the Salivary and Buccal Secretions; Dry Mouth*).—In this condition, first described by Jonathan Hutchinson, the secretions of the mouth and salivary glands are suppressed. The tongue is red, sometimes cracked, and quite dry; the mucous membrane of the cheeks and of the palate is smooth, shining, and dry; and mastication, deglutition, and articulation are very difficult. The condition is not common. A majority of the cases are in women, and in several instances have been associated with nervous phenomena. The general health, as a rule, is unimpaired. Hadden suggests that it is due to involvement of some centre which controls the secretion of the salivary and buccal glands. A well-marked case came under my observation in a man aged thirty-two, who was sent to me by Donald Baynes on account of a peculiar growth along the gums. This proved to be the remnants of food which, owing to the absence of any salivary or buccal secretions, collected along the gums, became hardened, and adhered to them. The condition lasted for three weeks, and was cured by the galvanic current.*

3. **Inflammation of the Salivary Glands.**

(*a*) *Specific Parotitis.* (See MUMPS.)

(*b*) *Symptomatic parotitis* or *parotid bubo* occurs:

(1) In the course of the infectious fevers—typhus, typhoid, pneumonia, pyæmia, etc. In ordinary practice it occurs oftenest, perhaps, in typhoid fever. It is the result either of septic infection through the blood, or the inflammation, in many cases, passes up the salivary duct and so reaches the gland. The process is usually very intense and leads rapidly to suppuration. It is, as a rule, an unfavorable indication in the course of a fever.

(2) In connection with injury or disease of the abdomen or pelvis, a condition to which Stephen Paget has called special attention. Of 101 cases of this kind, "10 followed injury or disease of the urinary tract, 18 were due to injury or disease of the alimentary canal, and 23 were due to injury or disease of the abdominal wall, the peritonæum, or the pelvic cellular tissue. The remaining 50 were due to injury, disease, or temporary derangement of the genital organs." By temporary derangement is meant slight injuries or natural processes—a slight blow on the testis, the introduction of a pessary, menstruation, or pregnancy. He states that this form of parotitis is not, as a rule, associated with signs of septicæmia or pyæmia. It may occur in connection with gastric ulcer. Of the 101 cases 37 died, the majority of them not from the parotitis, but from the primary lesion with which it was associated. After an operation it occurs usually within the first week, often on the seventh day. There may be pyrexia, but many cases are afebrile. One gland is usually attacked, but both may be involved. In 78 cases in which the termination was noted 45 suppurated and 33 resolved without suppuration. The etiology of this form of parotitis is obscure. Many of the cases are undoubtedly septic.

(3) In association with facial paralysis, as in a case of fatal peripheral neuritis described by Gowers.

In the treatment of parotid bubo the application of half a dozen leeches will sometimes reduce the inflammation and promote resolution. When suppuration seems inevitable hot fomentations should be applied. A free incision should be made *early*.

* Canada Medical and Surgical Journal, vol. v, p. 439, 1877.

III. DISEASES OF THE PHARYNX.

(1) **Circulatory Disturbances.**—(*a*) *Hyperæmia* is a common condition in acute and chronic affections of the throat, and is frequently seen as a result of the irritation of tobacco smoke. Venous stasis is seen in valvular disease of the heart, and in mechanical obstruction of the superior vena cava by tumor or aneurism. In aortic insufficiency the capillary pulse may sometimes be seen and the intense throbbing of the internal carotid may be mistaken for aneurism.

(*b*) *Hæmorrhage* is found in association with bleeding from other mucous surfaces, or it is due to local causes in the pharynx itself. In the latter case it may be mistaken for hæmorrhage from the lungs or stomach. The bleeding may come from granulations or vegetations in the naso-pharynx. Sometimes the patient finds the pillow stained in the morning with bloody secretion. The condition is rarely serious, and only

requires suitable local treatment of the pharynx. Occasionally a hæmorrhage takes place into the mucosa, producing a pharyngeal hæmatoma. I have thrice seen a condition of the uvula resembling hæmorrhagic infarction. One was in a patient with acute rheumatism, to whom large doses of salicylic acid had been given; the other two were instances of peliosis rheumatica, in both of which partial sloughing of the uvula took place.

(*c*) *Œdema.*—An infiltrated œdematous condition of the uvula and adjacent parts is not very uncommon in conditions of debility, in profound anæmia, and in Bright's disease. The uvula is sometimes from this cause enormously enlarged, and may lead to difficulty in swallowing or in breathing.

(2) **Acute Pharyngitis** (*Sore Throat; Angina Simplex*).—The entire pharyngeal structures, often with the tonsils, are involved. The condition may follow cold or exposure. In other instances it is associated with constitutional states, such as rheumatism or gout, or with digestive disorders. The patient complains of uneasiness and soreness in swallowing, of a feeling of tickling and dryness in the throat, together with a constant desire to hawk and cough. Frequently the inflammation extends into the larynx and produces hoarseness. Not uncommonly it is only part of a general naso-pharyngeal catarrh. The process may pass into the Eustachian tubes and cause slight deafness. There is stiffness of the neck, the lymph glands of which may be enlarged and painful. The constitutional symptoms are rarely severe. The disease sets in with a chilly feeling and slight fever, and the pulse is increased in frequency. Occasionally the febrile symptoms are more severe, particularly if the tonsils are specially involved. The examination of the throat shows general congestion of the mucous membrane, which is dry and glistening, and in places covered with sticky secretion. The uvula may be much swollen.

Acute pharyngitis lasts only a few days and requires mild measures. If the tonsils are involved and the fever is high, aconite or sodium salicylate may be given. Guaiacum also is beneficial; but in a majority of the cases a calomel purge or a saline aperient and inhalations with steam meet the indications.

(3) **Chronic Pharyngitis.**—This may follow repeated acute attacks. It is very common in persons who smoke or drink to excess, and in those who use the voice very much, such as clergymen, hucksters, and others. It is frequently met with in chronic nasal catarrh. The naso-pharynx and the posterior wall are the parts most frequently affected. The mucous membrane is relaxed, the venules are dilated, and roundish bodies, from two to four millimetres in diameter, reddish in color, project to a variable distance beyond the mucous membrane. These represent the proliferations of lymph tissue about the mucous glands. They may be very abundant, forming elongated rows in the lateral walls of the pharynx. With this there may be a dry glistening state of the

pharyngeal mucosa, sometimes known as *pharyngitis sicca.* The pillars of the fauces, and the uvula are often much relaxed. The secretion forms at the back of the pharynx and the patient may feel it drop down from the vault, or it is tenacious and adherent, and is only removed by repeated efforts at hawking.

In the *treatment*, special attention must be paid to the general health. If possible, the cause should be ascertained. The condition is almost constant in smokers, and cannot be cured without stopping the use of tobacco. The use of food either too hot or too much spiced should be forbidden. When it depends upon excessive exercise of the voice, rest should be enjoined. In many of these cases change of air and tonics help very much. In the local treatment of the throat gargles, washes, and pastilles of various sorts give temporary relief, but when the hypertrophic condition is marked the spots should be thoroughly destroyed by the galvanocautery. In many instances this affords great and permanent relief, but in others the condition persists, and as it is not unbearable, the patient gives up all hope of permanent relief.

(4) **Ulceration of the Pharynx.**—(*a*) Follicular. The ulcers are usually small, superficial, and generally associated with chronic catarrh.

(*b*) Syphilitic ulcers are usually painless, and most frequently situated on the posterior wall of the pharynx. They occur in the secondary stage as small, shallow excavations with the mucous patches. In the tertiary stage the ulcers are due to erosion of gummata, and in healing they leave whitish cicatrices.

(*c*) Tuberculous ulceration is not very uncommon in advanced cases of phthisis, and, if extensive, is one of the most distressing features of the later stages of the disease. The ulcers are irregular, with ill-defined edges and grayish-yellow bases. The posterior wall of the pharynx may have an eroded, worm-eaten appearance. These ulcers are, as a rule, intensely painful.

(*d*) Ulcers occur in connection with pseudo-membranous inflammation, particularly the diphtheritic. In cancer and in lupus ulcers are also present.

(*e*) Ulcers are met with in certain of the fevers, particularly in typhoid.

In many instances the diagnosis of the nature of pharyngeal ulcers is very difficult. The tuberculous and cancerous varieties are readily recognized, but it happens not infrequently that a doubt arises as to the syphilitic character of an ulcer. In many instances the local conditions may be uncertain. Then other evidences of syphilis should be sought for, and the patient should be placed on mercury and iodide of potassium, under which remedies syphilitic ulcers usually heal with great rapidity.

(5) **Acute Infectious Phlegmon of the Pharynx.**—Under this term Senator has described cases in which, along with difficulty in swallowing, soreness of the throat, and sometimes hoarseness, the neck enlarges, the

pharyngeal mucosa becomes swollen and injected, the fever is high, the constitutional symptoms are severe, and the inflammation passes on rapidly to suppuration. The symptoms are very intense. The swelling of the pharyngeal tissues early reaches such a grade as to impede respiration. Very similar symptoms may be produced by the lodgment of foreign bodies in the pharynx.

(6) **Retro-pharyngeal Abscess.**—This may occur as a sequel to one of the fevers, but more commonly results from caries of the cervical vertebræ. It is accompanied with pain in swallowing, sometimes with cough, dyspnœa, and alterations in the character of the voice.

The diagnosis is readily made, as the projecting tumor can be seen, and felt with the finger on the posterior wall of the pharynx.

(7) **Angina Ludovici** (*Ludwig's Angina; Cellulitis of the Neck*).—In medical practice this is seen as a secondary inflammation in the specific fevers, particularly diphtheria and scarlet fever. It may, however, occur idiopathically or result from trauma. It is probably always a streptococcus infection which spreads rapidly from the glands. The swelling at first is most marked in the submaxillary region of one side. The symptoms are, as a rule, intense, and, unless early and thorough surgical measures are employed, there is great risk of systemic infection.

IV. DISEASES OF THE TONSILS.

Apart from the affection of these glands already described in connection with diphtheria, scarlet fever, and syphilis, an acute and a chronic tonsillitis may be recognized.

ACUTE TONSILLITIS.

(1) **Follicular or Lacunar Tonsillitis.**—For practical purposes, under this name may be described the various forms which have been called catarrhal, erythematous, ulcero-membranous, and herpetic.

Etiology.—The disease is met with most frequently in young persons, but in children under ten it is less common than the chronic form. It is rare in infants. Sex has no special influence. Exposure to wet and cold, and bad hygienic surroundings appear to have a direct etiological connection with the disease. In so many instances defective drainage has been found associated with outbreaks of follicular tonsillitis that sewer-gas is regarded as a common exciting cause. One attack renders a patient more liable to subsequent infection. Special stress is laid by some writers upon the coexistence of tonsillitis with rheumatism. Cheadle describes it as one of the phases of rheumatism in childhood with which articular attacks may alternate. I cannot say that, in my experience, the connection

between the two affections has been very striking, except in one point, viz., that an attack of acute rheumatism is not infrequently preceded by inflammation of the tonsils. The existence of pains in the limbs is no evidence of the connection of the affection with rheumatism. A disease so common and wide-spread as acute tonsillitis necessarily attacks many persons in whose families rheumatism prevails or who may themselves have had acute attacks.

Mackenzie gives a table showing that in four successive years more cases occurred in September than in any other month; in October nearly as many; with July, August, and November next. In this country it seems more prevalent in the spring. So many cases develop within a short time that the disease may be almost epidemic. It spreads through a family in such a way that it must be regarded as contagious.

An old notion prevails that there is a definite relation between the tonsils and the testes and ovaries. F. J. Shepherd has called attention to the circumstance that acute tonsillitis is a very common affection in newly married persons. That view is probably correct which regards tonsillitis as a local disease with severe constitutional manifestations, although the fever is often high in proportion to the local symptoms. The commonest organism found in tonsillitis is a streptococcus. Staphylococci also occur. In some cases organisms closely resembling the *bacillus diphtheriæ* of Loeffler have been found, but they do not seem to possess the same malignancy.

Morbid Anatomy.—The lacunæ of the tonsils become filled with exudation products, which form cheesy-looking masses, projecting from the orifices of the crypts. Not infrequently the exudations of contiguous lacunæ coalesce. The intervening mucosa is usually swollen, deep-red in color, and may present herpetic vesicles or, in some instances, even membranous exudation, in which case it may be difficult to distinguish the condition from diphtheria. The creamy contents of the crypt are made up of micrococci and epithelial *débris*.

Symptoms.—Chilly feelings, or even a definite chill, and aching pains in the back and limbs may precede the onset. The fever rises rapidly, and in the case of a young child may reach 105° on the evening of the first day. The patient complains of soreness of the throat and difficulty in swallowing. On examination, the tonsils are seen to be swollen and the crypts present the characteristic creamy exudate. The tongue is furred, the breath is heavy and foul, and the urine is highly colored and loaded with urates. In children the respirations are usually very hurried, and the pulse is greatly increased in rapidity. Swallowing is painful, and the voice often becomes nasal. Slight swelling of the cervical glands is present. In severe cases the symptoms increase and the tonsils become still more swollen. The inflammation gradually subsides, and, as a rule, within a week the fever departs and the local symptoms greatly improve. The tonsils, however, remain somewhat swollen. The prostration and