

appears again immediately after the tooth has broken through. This bronchitis seems to be induced by external causes. The large quantity of saliva secreted in stomatitis catarrhalis soaks through the clothes, covering the chest, and produces a diminution of the temperature of the breast, as a result of which swelling and increased secretion of the bronchial mucous membrane ensue. If the chest is prevented from becoming wet, for example, by inserting a piece of oil-silk between the garments, the child will pass through the whole process of dentition without once being affected with bronchitis. So many striking and oft-recurring examples of this dentition-bronchitis have occurred to me, that I do not hesitate to attribute a part of the bronchial catarrhs to dentitio difficilis.

**Treatment.**—The treatment consists in protecting the chest, best accomplished by employing large-sized slaving-bibs lined with thin gutta-percha cloth or oil-silk; the cough then almost always disappears spontaneously in a very short time.

(6.) Finally, there is a *blennorrhagic affection of the conjunctiva palpebrarum*, which occurs at the eruption of the upper cuspid and incisor teeth. Here both eyelids, particularly the upper, suddenly swell up, and become so infiltrated that it is only with the utmost difficulty, and scarcely ever without bleeding from the squeezed eyelid, that a sight can be obtained of the globe. The discharge is not so yellow and purulently thick as in ophthalmia blennorrhœa neonatorum, but more muculent, shreddy, resembling more the discharge from the nose after a catarrh of the nasal mucous membrane has subsided. I have never been able to ascertain whether it possesses any properties of infecting the other eye of the same or of another person. The parts around the lids are generally eroded. On examining the mouth of a child laboring under this form of inflammation of the eye, a painful redness and swelling of the corresponding upper jaw, and one or two tubercles answering to the first molar or incisor-tooth, will be found; its popular denomination, "eye-tooth," is therefore not without sufficient reason.

After all, this inflammation of the eye has nothing wonderful about it, when we bear in mind that the floor of the Highmorrian cavity is often barely of the thickness of paper, and consequently a propagation of the congestion or inflammation upon the mucous membrane of this cavity may very readily take place. But the mucous membrane of the antrum Highmorri stands in direct communication with the conjunctiva through the nasal passages and lachrymal sac, and we merely have here a propagated inflammation of the mucous membrane. The prognosis of this seemingly very dangerous evil is favorable. Formerly, in accordance with the precepts of the most

eminent ophthalmologists, I used to torture the poor children with cauterizations of nitrate of silver, and was delighted with my splendid success. But, for several years past, I have treated at least a dozen cases with nothing but dry warmth, discarding the cauterizations altogether, and have accomplished still more rapid and painless cures. I apply a piece of cotton-cloth to the eye, smeared with simple cerate or ung. zinci, and over that a bag loosely filled with warm bran. I cause the cerate rag to be removed every two hours, the eye to be sponged with a pointed piece of soft sponge dipped in warm water, and then reapply the warm bran bag as before. After one, or at the most two days, the œdema has subsided so much that the patients are again able to open the eyes tolerably wide; then they will no longer tolerate the bran bags, and, after several days more, there is nothing more to be seen about the affected eye than a slight redness and irritability of the lids. If the mouth is now examined, the stomatitis will be found improved or wholly gone, and a previously unperceived head of a tooth cut through. During and after the subsidence of the œdema of the lids, mild astringent eye-washes, zinci sulph., or cupri sulph., gr. j, to water  $\frac{3}{4}$  j, may be dropped into the eye with advantage.

These are the principal and most frequent complications of dentition; their actual dependence upon it has long ago been acknowledged by all thoughtful physicians. Of late, however, a few, and some of them widely-known Pædiatricars, have denied this connection *in toto*, and either did not observe the frequent concomitance of the just described diseases with dentition, or declared them to be merely accidental.

#### B.—PAROTIS.

(1.) INFLAMMATION OF THE PAROTID GLAND (*Parotitis*).—There are three kinds of parotitis: (a) idiopathic, (b) secondary, and (c) metastatic parotitis.

(a.) *Idiopathic parotitis* occurs only in an epidemic form, and, on account of its general spreading, and the almost comical appearance which it gives to the patients, has received a number of, in part, scurrilous names, such as mumps, clown's disease, Ziegenpeter, etc. It has many analogies to the acute exanthema, attacks a person but once in his life, occurs most frequently in the youthful age, and has a tolerably well-marked cyclical course. Children under one year of age are hardly ever affected with it. It prevails most frequently in the spring of the year, sometimes also in the autumn; and on the damp coasts of Holland, England, and France, it is said to be endemic.

**Symptoms.**—Usually, a few prodromes precede the mumps. For one or several days the children feel tired, are ill-humored, feverish, lose their appetite, and voluntarily betake themselves to bed; indeed, nervous children also manifest cerebral symptoms, headache, delirium, convulsions; ravenous children throw up their last appetiteless-swallowed meal. After one, at the most two or three days, they begin to feel pain under one ear, which becomes markedly aggravated on opening the mouth, mastication, or external pressure. A swelling is at the same time discovered in the parotid region; first, the depression between the lower jaw and mastoid process becomes filled out, and in its place a tumor is found, which pushes the lobe of the ear outwardly, and extends beyond the boundaries of the gland. The subcutaneous cellular tissue of the corresponding cheek up to the lower eyelid, and of the neck, becomes infiltrated with serum, so that the movements of the lower jaw and all the mimical movements of the facial muscles upon the affected side cannot be performed. The induration is situated at the place where the gland itself lies, is most marked there, and decreases peripherally. The external swelling is tolerably soft and doughy; the pressure of the finger leaves a pit. The integument covering the tumor is slightly inflamed. Frequently only one parotid swells up; when both are affected, they are not usually attacked simultaneously, but one is generally a few days after the other; nor is it necessary that both should attain to an equal size. At the acme of the disease the patients are totally unable to open their mouths, and speak but very indistinctly; the salivary secretion is seldom diminished, often somewhat augmented, occasionally profuse ptyalism also occurs, but, on account of the absence of ulceration of the mucous membrane of the mouth, it does not diffuse the disgusting fetor of mercurial salivation. As very rare complications, angina tonsillaris, and pharyngitis, may be mentioned. Suffocative attacks very seldom occur here, because the swelling extends outwardly and not inwardly. In most cases the affection of the general system is of but short duration, and slight. So long as the swelling is extensive, hard, and painful, it will, in most instances, be attended by fever; but, by the third or fifth day, the local trouble only will be present. The metastatic swelling of the testis, in adults, frequently that of the same side, already observed by Hippocrates, on the whole, occurs extremely infrequently: for instance, in the epidemic which prevailed in Munich, in 1857, where certainly several hundred men were affected, it was seen but once, so far as I am aware; it is never met with in children.

Nor have I ever yet seen the other metastasæ, to the cerebral menin-

ges, to the serous sacs, to the bronchial and intestinal mucous membranes; still, I do not venture to deny them altogether, for it is well known that in some epidemics great variations of the same disease may take place at different times. If our followers should witness an epidemic of parotitis, to which the description of our contemporaries is not exactly applicable, it is to be hoped that they will at least have so much consideration as not to regard our present delineation as purely inventive.

**Course and Termination.**—The course of an epidemic idiopathic parotitis is almost unexceptionally favorable. After the affection has been growing worse for from two to five days, the fever, and with it the swelling, begins to subside, and by the tenth or the fourteenth day all the general and local symptoms have disappeared completely. Complete resolution of the swelling almost always takes place; in some scrofulous children this is somewhat longer in being accomplished: the parotid gland and the lymphatics surrounding it are for some time hypertrophied and indurated. Suppurative degeneration of the gland does not seem to have been so rare in former epidemics as at present. The abscess may burst either directly outward, or into the external meatus auditorius, when otorrhœa and hardness of hearing will remain for a long time, and, in cases where the tympanum has been perforated, life-long deafness will be the result. When the chronic indurated gland comes to press upon the facial nerve, or if the nerve becomes involved in the suppurative process, temporary or permanent motoric facial paralysis will ensue. The prognosis, according to what has been said, is extremely favorable. At the beginning of an epidemic, the physician has an opportunity to see many cases of mumps, but, after several weeks, the public become so thoroughly convinced of the utter harmlessness of the evil, that most parents seek no medical advice at all.

**Pathological Anatomy.**—The pathological anatomy of this disease, on account of its being so rarely fatal, is somewhat meagre. I have never yet had an opportunity to make a *post-mortem* examination on a case of parotitis epidemica. *Bamberger* reports as follows in relation thereto: The whole gland appears enlarged and reddened, its tissues are swollen and flaccid, for primarily a fibrinous exudation of various grades is deposited in the interstitial substance that connects the acini of the gland with each other, and in the cellular tissue surrounding the gland. In severer forms, the inflammation attacks also the glandular structure itself; this is then found reddened and injected, and the entire gland appears to have become hypertrophied into a uniform, carnified, tough mass. The exudation may now either be absorbed again, when the gland will return to its former normal size:

and consistence, or the exudation deposited in the cellular tissue becomes solidified and organized, and leads either to a permanent increase in size, or to an absorption of the gland, when, as a result of compression, the proper glandular structure gradually atrophies and becomes obliterated.

**Therapeutics.**—The treatment of parotitis is that of adenitis in general. As long as general febrile symptoms are present, rest, strict diet, and acidulous drinks, are indicated. The swelling itself is most conveniently treated with inunctions of oil. Cold does not in the least accelerate the resolution of the swelling. Cataplasms and bran-bags are inconvenient and annoying, cause congestion of the head, and are but very unwillingly tolerated, especially by small children. If the parotitis is attended by very severe pain, and extensive, tense swelling, a few leeches will be found useful. Great restlessness is soothed by a solution of morphine (gr.  $\frac{1}{4}$  to water  $\mathfrak{z}$  iij), a teaspoonful of which may be given every hour till its effects become apparent. Subsequent indurations must be treated by inunctions of mercurial ointment. The use of cod-liver oil for several months may prove of great benefit, as most children affected with this disease are scrofulous.

(b.) *Secondary parotitis* is a very rare disease, and arises from protracted affections of the deeper structures of the mouth. The principal causes of secondary parotitis are mercurial salivation, diphtheria, or a neglected stomacace. It never attains the size, extent, and hardness of the epidemic parotitis, the face is not disfigured to such a degree, and the lobe of the ear is never pushed so far upward. The symptoms are limited to a slight swelling, and to pain upon pressure from without, and on mastication. The lymphatic glands lying around and upon the parotid, and which, in affections of the mouth, swell up earlier and oftener than the parotid gland, render the diagnosis materially difficult. The best diagnostic cardinal points will always be the position of the lobe of the ear and the course of the disease. Thus the tumefied parotid undergoes resolution sooner and more regularly than the cervical lymphatics, which often become indurated, or degenerate into suppuration. In rarer instances, it may also terminate in suppuration, whereby severe general phenomena, a tardy increase in the size of the gland, and, finally, fluctuation and pointing, will take place. After a profuse and exhausting discharge, the process terminates in complete atrophy of the suppurating gland. As secondary parotitis is usually confined to one side, and as the mouth is thereby very severely affected, nothing definite can therefore be stated regarding the character of the salivary secretion of the diseased gland.

The *treatment* is principally to be directed to the disease of the

mouth, for which kali chloricum must again be mentioned as the sovereign remedy. The remainder of the treatment of the affection of the mouth will be found already described in the corresponding chapter.

(c.) *Metastatic parotitis* occurs in the course of typhus or scarlet fever, of variola, of measles, and generally in the first few days, at the climax of the disease, in which case death almost invariably follows, or with the ushering in of convalescence, and then a far more favorable prognosis may be given. The etiological connection of parotitis with these exanthema is very uncertain. Among other causes, especially for typhus fever, a mechanical occlusion of the ductus Stenonianus, as a result of the dryness of the mouth, must, at any rate, hold good. In the cadaver, the parotid and its contiguous parts are found swollen, and the gland itself dotted with a number of small abscesses, the contents of which are either yellow thick pus, or brown sero-sanguinolent ichor. In grave putrid fevers, a general gangrenous sloughing rapidly ensues, by which the entire gland and its adjacent textures degenerate into an ichorous, brownish-green, fetid, decomposed mass.

The symptoms vary in accordance with the degree of the general affection. If the typhus fever or the acute exanthema has reached an intense degree, the patients will be totally unaware of the existence of the complication; if, on the other hand, it comes on during convalescence, they will present the same subjective phenomena as in the idiopathic, epidemic form. In general, it may be stated that metastatic parotitis runs a slower course, and much more frequently degenerates into suppuration, than the secondary, and still more than the idiopathic. Here the transition into suppuration takes place very often. The objective signs, size, extent, and hardness of the tumor, are of the same character as in the epidemic parotitis. Although, in the other forms, the question, whether, in reality, the glandular parenchyma, and not the connective tissue surrounding the entire gland, and existing between the acini, is affected, must still remain undecided, nevertheless, in this metastatic parotitis, a parenchymatous disease may be assumed with certainty, by reason of the frequent and numerous abscesses found.

The *treatment*, in the gravity of the complication, plays a subordinate part. Warm bran-bags, if the patients will tolerate them, seem to have a favorable influence upon the resolution of the swelling, and mitigate the pain. Incisions can only be made advantageously when distinct fluctuation is felt. If no pus is evacuated by a deep incision, consequently no abscess having been opened, no amelioration whatever will ensue; on the contrary, still greater œdema and troubles result from this traumatic parotitis. If the process has made its appearance

during a convalescence, it will be protracted uncommonly long, and life will have to be sustained by a tonic and stimulating treatment, with wine, eggs, infus. carnis, meat, quinia, etc.

(2.) HYPERTROPHY OF THE PAROTID GLAND.—There is (a) a benign and (b) a malignant hypertrophy of the parotid gland.

(a.) The benign form may originate slowly and spontaneously, but is oftener the result of the above-described inflammatory conditions. Occasionally benign, fibroid, adipose, or cystic tumors, also develop themselves in the gland. The integument over the benign tumors is always displaceable. Simple hypertrophies are always unilateral, the pain on pressing the gland is very slight; the lower jaw is therefore always sufficiently movable, even in tolerably large swellings. It is differentiated from serofulous induration of the cervical glands by the lobe of the ear being pushed off; the glands are more movable, and generally found in large numbers.

**Treatment.**—Simple hypertrophies may be made to diminish in size, or to disappear altogether, by an external application of iodine, once or twice a week, continued for some time; benign lipoma, and other tumors in the parenchyma of the gland, of course, do not disappear under the use of iodine; they must be removed by the knife, whenever they are sufficiently superficial, and it is possible to enucleate them without too great vascular and nervous injury.

(b.) Malignant hypertrophy of the parotid consists in the exuberation of a medullary or fibroid carcinoma in the parenchyma of the gland. It, however, never occurs primarily and isolated in the parotid; in most instances, it appears with a simultaneous carcinomatous deposit in other organs, and, as carcinoma in general, is extraordinarily rare in children. Where the carcinoma attains to a considerable growth inwardly, pressure upon the pharynx and larynx, and upon the large vessels and nerves of the neck, may ensue. The tumor also grows anteriorly, occasionally over the ascending ramus of the lower jaw, the contour of which then becomes indefinable. It is almost wholly immovable, and, according to the nature of the heteromorphous growth, hard (in fibrous carcinoma), or soft, even fluctuating (in medullary carcinoma).

The integument in the first kind is immovable, having become identified with the hard tumor. Tuberculous infiltration scarcely ever occurs in the parotid.

The treatment is as for carcinoma in general, merely life-prolonging. I am unable to say whether by extirpation of the carcinomatous parotid, one of the most dangerous and difficult operations in surgery, a child has ever been saved.

C.—PHARYNX AND OESOPHAGUS.

(1.) ANGINA TONSILLARIS. *Cynanche* (literally the "dog's collar," from *κίων*, the dog, and *ἀγγειν*, to strangle).—The tonsils are aggregated mucous follicles, which in the normal condition ought to project barely above the arches of the palate, between which they lie. On the surface facing the isthmus faucium ten to twenty excretory ducts of mucous crypts are found, which give to the tonsils a perforated appearance, similar to that of the shell of an almond. Now, these ten or twenty crypts of each tonsil are subject to inflammation and suppuration, in which, like the furuncles of the cutis, the contents of one or several follicles induce suppuration of their surrounding textures, and finally are discharged by an opening that forms in the abscess. In this process, the whole parenchyma of the tonsil swells up, and is much disposed to pass over into a state of chronic induration; the latter condition may also originate spontaneously without having been preceded by suppuration of the crypts, and it then will be bilateral. A hollow, depressed excavation remains behind after each suppurative process, so that when the malady has recurred often the tonsils appear torn and ragged, but are thereby greatly reduced in size. The oftener angina tonsillaris has occurred, all the more probable is it that all the follicles have been destroyed, and all further opportunities for future inflammations have thereby been abolished; a rare example of a radical cure by Nature herself.

**Symptoms.**—The disease begins with difficult deglutition, pain, heat, and dryness of the throat. The affected tonsil becomes uniformly enlarged, and may be felt externally beneath the lower jaw as a small tumor. If both swell up simultaneously, as happens very often, they will touch each other; and all the symptoms become greatly aggravated, till finally even suffocation may ensue. Here the voice always becomes snuffling; the pain radiates toward the ear; as a result of the upward pressure of the posterior pillar, the passage leading to the pharyngeal opening of the Eustachian tube may become mechanically closed, and in this manner tinnitus aurium and hardness of hearing may be produced. The pain is greater on swallowing fluids than solids, such as bread and meat, for these, by their solidity, bore their way through, while fluids can only be forced through by the uniform pressure of the whole mouth against the swollen tonsils.

In examining the mouth, some precautions are to be exercised; the patients should be placed opposite a bright window, and at first simply be ordered to open the mouth, by which the entire process is often readily seen, especially if, at the same time, they put out the tongue and take a deep inspiration. If it is not possible in this manner to obtain