

## CHAPTER VI.

### ASSOCIATIVE LESIONS OF FIRST DENTITION.

THE calculations of Dr. Arbuthnot that, at the period of dentition, one child in every ten has its life destroyed through the associative and influenced lesions of the age, may, perhaps, not be strictly in accordance with statistics at large; but the mortality is so alarmingly great that, to the general practitioner, no subject offers in its study more important and vital interests. Professor Camper is authority for the statement that out of 5989 infants admitted into foundling-hospitals, only 884 were found alive at the end of the fifth year.

In the first place, it is to be remarked that the process of dentition, while a physiological one, is yet, like that of utero-gestation, one of continuous irritation. Of the meaning of this word irritation, every surgeon and every physician has in his mind quite enough reminiscences. Irritation, then, is the matter of consideration in all of these associative lesions; if happily, in such cases, we could exactly appreciate and exactly control such irritations, we should of course abort, or resolve, the results.

It is not, however, by any means to be esteemed that all infantile diseases are influenced by, or indeed even remotely associated with, dentition: mistakes of such nature are quite too frequently made, and infants are tortured, and in many cases have the existing disease aggravated, by the lancing and cutting which follow. It is very true that irritation from this cause has not always an associated external local manifestation; but such manifestation is much more frequently found present than absent,—at any rate, it is always to have its full share in the making up of a diagnosis. It will of course be taken for granted that dental irritation is influenced to a most marked extent, all other things being equal, by the slowness or rapidity of the evolution of the teeth. Thus, such equality existing, we would not anticipate from the eruption of a single tooth the trouble of five or six, and such a difference in evolution is so common that it may be said of some children that they cut their teeth in mass, while with others it is a process of the greatest regularity and harmony. Again, the physical condition and age of the child are matters not without significance. A delicate infant suffers more, as a general thing, than a robust one; while premature dentitions are attended with more danger than late ones. In taking into consideration the influences of this process, we are not to forget either the varying degrees of susceptibility manifested in different individuals, as thus we are led to appreciate the fact that judgment is

not to be founded alone on the extent or degree of local manifestation. Some children are preternaturally susceptible to stimuli, and these are not at all necessarily of the weak and feeble class; others, on the contrary, are so obtuse, even from earliest age, as to be very little influenced by any ordinary or common cause of irritation.

To the experienced physician, the appreciation of associated or abstract dental irritation should not be a matter of difficulty. He sees, and he does, what is to be done,—what only can be done; if the treatment fail, the fault resides not in the practice. In the first place, to understand dental irritation, one must be familiar with dental evolution; this, of course, is the understanding of the physiology of the subject. We know the varying periods of eruption, and we are thus at once led very directly in our researches. If we find a source of offence, as manifested by a tumid, congested gum, we have only to pass a lancet down to the confined tooth, and, having done this, we are to expect and hope for relief from any trouble which has been engendered by the just liberated organ. If we look into the mouth, and see no manifestations of offence, it is generally the case that dentition has nothing to do with a trouble which may have influenced the search,—not always, however, for it has been inferred that dentition may be a source of reflected trouble, while itself presenting no local signs. Still, such cases are very rare, and when existing, depend on great rapidity in evolution; either as a single tooth is concerned, or the simultaneous development of many. Several teeth, rapidly advancing at the same time, could very well be appreciated as a source of constitutional offence, not only as diverting in such direction an excess of the vital force, but also in local irritations induced in neighboring structures, and which might not at all be evident by any external signs. In these latter cases the physician can do nothing but increase, by indicated means, the ability of the system to endure the irritation; such means being more frequently found in tonics than in sedatives. In the weak, strict attention is to be given to diet, to exercise, and to cleanliness. The character of the clothing is also of much consequence. If the milk of the mother be not properly nutritious, other means are to be taken to nourish the child.

In cases where there seems simply an excess of irritability, such susceptibility is to be lowered by the withdrawal of everything capable of fostering it; this will pertain to the lodgment of the child, to its food, drink, clothing, exercise, etc., matters which should at once strike an observant practitioner.

Disturbance provoked in the alimentary canal, and fever induced through the process of teething, when existing conjointly with acute disease, of whatever character, necessarily aggravate such disease, and increase by just that much the attending discomfort or danger; hence the recognized increased mortality in the exanthemata occurring at this period.

The diseases, if they may be so called, directly associated with and dependent on abnormal dentition, and having, therefore, necessarily their cure more or less intimately associated with the correction of the primary lesions, are,—

1. Localized Stomatitis.
2. Irritative Fever.
3. Diarrhœa.
4. Spasms.
5. Eruptions upon Skin, especially of Scalp and Face.

1. **Localized Stomatitis.**—The first indication in this condition, dependent on advancing tooth eruption, consists, most likely, in a sense of titillation or itching,—as, before any local sign is visible, the child is found disposed to rub the parts with anything coming into its hands, seeming most comfortable when biting upon hard substances. Slavering is also associated with this stage. After a time, tumefaction of the gums is observed, and this inflammatory action circumscribes or extends itself on the same principle as the vaccine areola,—that is, as influenced by constitutional or local circumstances. If several teeth be attempting eruption at the same time, and these situated at opposite sides of the cavity, then the probability is that the inflammation will be a diffused one. If, on the contrary, the irritation be confined to a single tooth, and there be in the habits of the child no particular inflammatory tendency, then it may reasonably be anticipated that the area of congestion will be very circumscribed. The shape and extent of face in the erupting tooth do not seem to have as much to do with the amount of irritation as one would naturally infer to be the case. The author has certainly seen quite as much trouble from an erupting incisor as in the case of a four-cusped molar. Bad and degenerating inflammations are always associated with constitutional conditions. Thus, in scrofulous children it is sometimes the case that a semi-gangrenous ulceration is the result of cutting a tooth which it is quite troublesome enough to manage; while in children of a mercurio-syphilitic cachexia such a condition will be even aggravated, the gums and continuity of mucous membrane looking as if it was impossible to keep the parts from breaking down into general ulceration. When tumefaction of the gum is dependent on tooth eruption, and the child is of healthy condition, a certain evidence is found in the glistening character of the swelling: the part immediately over the tooth or teeth looking stretched and feverish. This tense look is nearly always present, and may, under all circumstances, be esteemed an indication demanding the use of the lancet.\* In unhealthy conditions this glistening is not commonly present, its absence being dependent on the flaccid relaxed condition of the gum-tissue. Here, as implied, the congestion is of more diffused character; the part and associate parts are turgid and soft-looking. You esteem, in looking into the mouth, that scarification would be of service, but that it is demanded for a sense of general relief, rather than for a strictly acute local condition. Lancing, in the first of these cases, if properly performed, yields

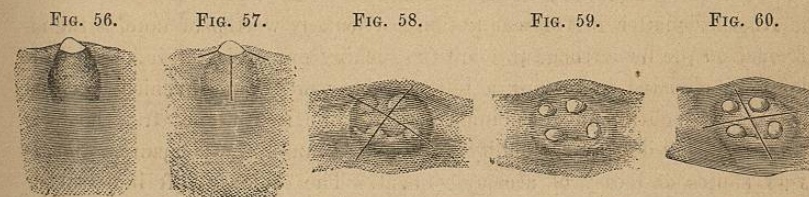
\* Application of the tincture of belladonna to a gum thus congested is a source of much relief. A full saturation of the bromide of potassium is also an agent of more or less comfort. The first is to be used with care, the last is harmless.

an almost instantaneously good result; in the second, such relief is gradual, and most likely inconsiderable. In the first, it is all-sufficient to the cure; in the second, the constitutional indications are soon felt to be of much more consequence than any local requirements.

To lance the gums of a child, the surgeon seats himself directly in front of the nurse, the height of the knees of the two parties corresponding. Let the nurse now take the child on her lap, supporting its whole body, excepting the shoulders and head, which are to rest upon the knees of the operator. In this position the nurse controls perfectly the legs and arms of the infant, while the surgeon has complete command of its head, and can examine and operate upon its mouth at his convenience. The face of the child should look toward the window, or, if night be the time of operation, artificial light is to be employed.

A tooth is to be lanced in consideration of its shape. Thus, if it be any of the anterior four teeth, either of the upper or lower jaw, a single incision made sufficiently deep to feel the lancet strike upon the enamel is all that is required. This incision is to be made on the line of the cutting edge of the teeth. With the posterior teeth, the cuspidati being included among these, the crucial form of incision is demanded: such form will alone relieve the advancing cusp or cusps, and afford the result desired.

The accompanying diagrams, after Dr. J. W. White, admirably and fully illustrate the subject. Fig. 56 shows the single cusp of an eye-tooth making its way through the gum: Fig. 57 exhibits the proper manner of freeing such a tooth: Fig. 58 shows a gum made turgid by an advancing molar: Fig. 59 exhibits the first expression in eruption of this tooth: Fig. 60 illustrates a form of crucial incision required for the liberation of



the circumferential and central portions of the organ. Observation of the diagrams affords illustration that gum-tissue may require lancing quite as much after as before a partial appearance of an advancing tooth.

Concerning hemorrhage, it is not a common experience that any special danger is to be apprehended; a practitioner certainly seldom hesitates to lance the gums of a child on this score, and seldom meets with a case that gives any particular trouble. With ordinary patients, the loss of a little blood is rather to be desired than otherwise; while if a hemorrhagic diathesis exist, the local application of tannic acid or of bayberry-powder will generally be found all-sufficient for control of the bleeding. A little cobweb,

as found in the cellar, wet with borax-water, and then dipped in bayberry-powder, will in ninety cases out of the hundred control the hemorrhage when laid over the incision,—the application to be secured by passing over it, if necessary, one layer of a delicate roller. Pressure made by a finger and continued for some little time is a reliable means.

A constitutional medicament, of good effect in these cases, is found in the *Erigeron Canadense*,—one drop of the tincture to be given in a little water, each minute, until the bleeding ceases, or until twenty or thirty are taken. Opium and lead act very happily in combination. The dose of each must of course be small. A very good formula is as follows:

R.—Pulveris opii, gr. ʒ;   
Plumbi acetatis, gr. j;   
Aquæ rosæ, ℥ij.

Sig. Tablespoonful to be taken each half hour, p. r. n.

Another plan is to stuff the cut with a pledget of cotton which has been saturated with phenate of soda. Still another consists in taking a stitch in the parts, drawing the lips of the wound tightly together.

Touching a bleeding gum with Monsel's solutions, or with nitrate of silver, is dangerous practice. The only alarming cases of hemorrhage ever seen by the author have been the results of these applications. It is true that such effects may rest rather with the operator than with the agents; but it is seldom that one seems to succeed in using these means with sufficient cleverness and localization. They are certainly much more apt to do a great deal of harm than any reliable good; secondary hemorrhages are common to them, and, when ensuing, are always of a character much more difficult to manage than the primary trouble.

Another matter in this connection particularly worthy of note, is the influence on the hemorrhage through the sucking propensity of infants. This is to be obviated by passing a roll of rubber or other convenient material across the mouth, and so confining it that, while it shall not fret the little patient, it will destroy the ability to make a vacuum. This manipulation is very simple and easy of accomplishment. The ordinary soft india-rubber ring may be cut in the middle; tie a piece of string or tape to each end, pass the rubber across the mouth, and fix the tapes on the back of the neck; an hour or two will be found quite sufficient to retain the apparatus in the mouth.

Cases of localized stomatitis, having association with the strumous, scorbutic, or syphilitic cachexia, require a treatment external to the cause exciting it; the child must be built up. Such an inflammation, passing quickly into an adynamic type, demands for its cure stimulation rather than depression. To express the requirements more explicitly, a local treatment is to be quieting, and perhaps refrigerating, while tonics, combined with the mineral acids, are demanded constitutionally.

A child eight years of age, of marked scrofulous condition, tissues relaxed, abdomen pendent, was presented at one of the author's clinics, suffering with trouble in the oral cavity. Making an examination, the mucous membrane of the palate aspect of the superior jaw was found angry and uncomfortable-looking, no tension at any point, but the whole membrane turgid, and yet flaccid-looking. In searching for the cause of trouble, the age of the patient directed a first attention to the position of the first bicuspid teeth, the lateral incisors being erupted and in position. Exploration with the lancet—the deciduous molars had been removed long before—revealed these teeth on either side, with the second bicuspids of the right side nearly ready to erupt. The ordinary crucial incisions were then made. In the case of a healthy child, this treatment would have been all-sufficient; with such a child as this, however, not so. Relief to some extent is certainly to be obtained from the incision; but the congestion will continue, and, not unlikely, will grow worse, the parts seeming to lack the energy necessary to self restoration. In this particular case, here noted merely as a type, the mouth was ordered to be washed three times each day with dilute brandy and aromatic sulphuric acid. Internally lemonade was given every two hours, five drops of brandy being added to each wineglassful. Aromatic sulphuric acid acts very happily in these and similar cases, or nitro-muriatic acid may be administered in from two- to five-drop doses, three or four times a day. Iron, combined with an acid, as in the *Ferri Chloridi Tinctura*, is a most admirable medicine, given in from five- to eight-drop doses, three times a day. It is found also not infrequently necessary in these cases to bring the acid, in a more concentrated form, directly to bear upon some obstinate point of ulceration; this is done very readily by means of a pine stick or brush. Dip the tip into the acid used, and employ concentrated or dilute according to the requirements of a case. The acid nitrate of mercury so applied is found sometimes to act very happily. Deliquesced chloride of zinc may also be used. The zinc, followed by a brush of the officinal tincture of iodine, will sometimes induce granulation as if by magic; or tincture of iodine combined with creasote can be employed with good hope of success.

In syphilitic stomatitis, a specific treatment is to be conjoined with the supporting. A combination that may be directed with very satisfactory effect is as follows:

R.—Hydrargyri chloridi corrosivi, gr. j;   
Potassii iodidi, ℥j;   
Syrupi ferri pyrophosphatis, ℥iv. M.

Sig. From a quarter to half a teaspoonful, according to age, three times a day.

It not infrequently happens, however, that a treatment which may have preceded ours has been too free in the exhibition of mercurials; here this medicine is no longer to be used, but, conjoined with the supporting treatment, we are to employ the chlorate of potash:

R.—Potassii chloratis, ℥ss;  
Aque, ℥viiij. M.

S. Teaspoonful, internally, four or six times a day, and the mouth to be washed with the same, ad libitum.

An admirable local application in the syphilitic sore mouth and throat is made by adding to a six-ounce infusion of white oak bark two drachms of aromatic sulphuric acid and six grains of nitrate of silver.

In all adynamic conditions of childhood, it is assumed a common experience that no better treatment is to be found than lies in the observance of general hygienic laws. Food is to be nourishing, and not given to repletion. Fresh air and exercise are necessities. The child should sleep by itself, or, what, as it is concerned, is even better, it may sleep with some young person of more robust and healthy condition. The daily use of a salt-sheet bath, the water being tepid or cold, according to the ability of the patient to bear, is an invaluable adjunct to restoration. Throw the wet sheet quickly about the person of the child, and rub until a fine glowing reaction sets in. In the use of this means, however, close attention is to be given to daily result. If reaction be not secured, but, on the contrary, the child grow cold, and the cutaneous capillaries contract unduly, then such bath is to be discontinued; or if cold water has been used, it is to be modified, even perhaps to absolute warmth. A good plan to adopt with this bath, is to commence with milk-warm water and advance by gradations to cold.

All the functions of a child of scrofulous or syphilitic condition are to be carefully watched. If the bowels be habitually costive, as is frequently the case, olive oil of good quality may be administered q. s. This oil not only obviates such a condition, but acts as a most desirable article of nutrition. If given alone, a teaspoonful or dessertspoonful, each day, administered at any convenient period, will generally be found sufficient,—and, indeed, in many cases, too laxative. If the child be of an age to take the oil mixed with other food, much attention to the quantity employed will not be found of special consequence. A mineral water of great service in costiveness is prepared as follows: Take of magnesia sulphas one and one-half ounces; of aromatic sulphuric acid two drachms; of sulphate of iron sixteen grains; of water seven ounces. This is used by putting a teaspoonful during the day into the water drunk by the child. In cases where the kidneys fail to eliminate with sufficient rapidity, small doses of sweet spirits of nitre are to be exhibited. Buchu, where there is undue irritability of the urinary apparatus, is found to apply very happily. A prescription affording good results is as follows:

Take of buchu one ounce; add one and one-half pints of hot water, and simmer down to one pint; when cold, strain, and give in teaspoonful doses, four or six times a day, as may seem indicated.

Attention is to be directed to the state of the skin. This tissue should feel soft, not relaxed; moist, and reasonably oily; it is to be kept clean, but

not washed too frequently with soap. Whisky or brandy, where stimulation seems indicated, may be added to the water with which a child is bathed; but a healthy skin is to be made rather from within outwardly than from without inwardly,—that is to say, a skin which does not properly perform its offices, indicates, as a general thing, some derangement ulterior to itself, so that the local attention implied is never to be esteemed but as adjunct treatment.

**Angina.**—Angina simplex, simple inflammation of the fauces, is not infrequently dependent on irritations existing or having origin in the oral cavity. Here the trouble is one of continuity of structure, and its relief is found, of course, in cure of the exciting cause. Angina simplex is generally first made evident in difficulty of swallowing. Examination reveals the throat red and congested, the degree being influenced by the condition of the patient. Sometimes this congestion is so great as to make the act of deglutition an impossibility; even fluids taken into the throat are ejected through the nostrils. The uvula occasionally is enlarged to an extent, as the result of effusion into its cellular structure, which seriously endangers the respiration of the patient, compelling, indeed, in many cases, the amputation of the organ. In some instances degenerating aphthous patches (angina aphthosa) appear upon various parts of the mucous membrane; these denote that the inflammation is adynamic in its type, and are always a matter of concern, just, indeed, as a phagedenic chancre is a cause for more alarm than a simple sore, implying a degenerative tendency and absence of vital force. An aphthous ulcer is a patch of varying signification. It is the form of ulceration and exudation so frequently seen in weakly, broken-down women. Angina simplex, when dependent on any oral trouble, may be expected to retire on removal of the immediate cause. This, however, is not always the case, as is witnessed in the adynamic types, or in children of very full or sanguine temperament. In these cases, a treatment is to be pursued as implied in the indications. If the continuance of such inflammation depend on a surcharged condition of the vessels, general or local depletion is demanded. Three or four Swedish leeches, or twice as many American, may be put upon the upper part of the throat; the number to be graduated to the strength of the patient and the urgency of the case. A treatment preliminary to this, and one which in his own practice is always employed by the writer when the case is not especially urgent, consists in reducing the volume of blood by the administration either of diaphoretics or of the saline cathartics. Epsom salts, a teaspoonful in a wineglass of water, will carry much fluid from the blood of a young child; or the spirits of Mindererus—covering the patient warmly until diaphoresis is produced—given in teaspoonful doses, every ten minutes, is found sometimes very quickly to break up such inflammations. As a gargle, to be used half a dozen times a day, useful in every kind and condition of sore throat met with, phénol sodique is to be recommended in the proportion of a tablespoonful to an ordinary goblet of water.

Hot pediluvia are not to be neglected; the feet and legs of the little patient, kept in hot water for the space of a quarter of an hour, will, in very many cases, be all-sufficient for a cure. A less speedy but frequently successful way of treating angina, consists in diverting, as it were, the seat of irritation; for example, administering nitre, that it may be directed to the kidneys, or tartar emetic, that it may be thrown upon the skin.

R.—Spiritus ammoniæ aromatici,  
Spiritus ætheris nitrosi, āā ℥ss. M.

S. Give from five drops to a teaspoonful, according to age, every three or four hours.

The ammonia in the above prescription drives the congesting blood forward, while the nitre directs it toward the kidneys.

An emetic will not infrequently break up a sthenic sore throat. In the case of children, syrup of ipecacuanha answers a good purpose. This may be given in doses varying from a half to a full teaspoonful, according to age, every ten or fifteen minutes, until the desired result of emesis be obtained.

If, conjoined with the local inflammation, we have sympathizing by the system at large, as manifested in fever, febrifuges are to be employed. The following combination is found happily adapted to such indications:

R.—Liquoris potassii citratis, ℥ij;  
Spiritus ætheris nitrosi, ℥ss;  
Pulveris antimonii et potassii tartratis,  
Morphiæ acetatis, āā gr. j. M.

Of this mixture the dose for an adult is a dessertspoonful every two hours; to an infant one year of age, from five to eight drops may be given, being diminished or increased according to effect. Overdoses produce sick stomach.

*Diet.*—This should be light, as in all sthenic inflammations. The child is to be limited to the breast; or if age or circumstances do not permit this, gum-water, or other light and unstimulating food is to be employed,—that is to say, is to be employed while the grade of the inflammation is running upward. Ice-cream is an admirable food, particularly when eaten slowly and continuously. By continuously, however, is not meant that great quantities are to be taken, but that a reasonable portion be made to last as long as possible. Eaten in this way, the article is refrigerant, not only to the inflamed part over which it necessarily passes, but to the system at large, lowering the heat of the whole body, and thus quieting the disturbed circulation.

*Alcohol.*—Of all means known to the author for refrigeration in general febrile conditions, none equal the use of alcohol rubbed over the body, particularly over spine and stomach. The means is specific.

**CHRONIC ANGINA.**—Inflammation of the throat, running into a chronic condition, in children, may perhaps always be accepted as depending on some constitutional predisposition. In these cases the glandular bodies seem to be markedly the seat of trouble. Granulations are commonly prominent over

the mucous membrane, this tissue being covered with a mucoid or muco-purulent secretion. Ulcers are very common, and not infrequently are of such degenerative tendency as to threaten the continuity of parts. A disagreeable association, connected nearly always with a neglected angina, is chronic enlargement of the tonsil glands; the patient is constantly kept coughing and hawking. Operation is compelled in these cases, as every slight cold so swells up the bodies as to render respiration almost as difficult as in asthma. The author has just now under treatment a little girl, in whom, from this cause, these glands are so enlarged that respiration during sleep is accomplished only by an effort that it is absolutely painful to listen to. Of course the case is curable by excision or by the cauterant; but to this neither parent nor child can be brought to submit.

The sense of tickling and rawness in the throat, in chronic angina, is another source of discomfort. This is induced, not infrequently, through the dryness of the membrane, and again, as the result of the irritating nature of the secretions, or it may be dependent on ulceration. From whatever cause arising, nothing is found better adapted to its temporary relief than gum arabic or the jujube troches held in the mouth and allowed slowly to dissolve. A gargle compounded as follows may be used ad libitum:

R.—Tincturæ iodinii compositæ, gtt. xl;  
Acidi carbolici fluidi, gtt. vj;  
Glycerinæ, ℥j;  
Aquæ, ℥vij. M.

Brushing the part with the tincture of belladonna, or with a saturated solution of the bromide of potassium, is sometimes found to abort severity in these cases speedily. Difficulty in hearing is another frequent association of chronic angina,—the explanation being found in the inflammatory thickening of the Eustachian tube. Pain in the act of swallowing is the result of a lymph exudate in the submucous cellular tissue. This it is which gives the irregular thickening so observable about the posterior wall of the pharynx.

Chronic angina, if not dependent on any specific constitutional condition, is most rationally treated by stimulation, local or general, or both, as seems to be indicated. The ordinary domestic remedy of a red-pepper gargle, if judiciously used, not infrequently produces a speedy cure. Unhappily, however, domestic medication is apt to be carried to excess, and thus add to, in place of subverting, a disease.

If a true uncomplicating chronic angina be present in a child,—and it will not do to deny that such cases exist,—let the patient first be treated with a lotion compounded as follows:

R.—Tincturæ capsici compositæ, ℥ss;  
Aquæ, ℥vij. M.

If a few applications of this gargle effect no change, let nitrate of silver be added, in proportion of one-half a grain to the ounce. If even this result not