

hood, have been known, at times, to suffer from it simultaneously. (Vol. ii. p. 391.)

6. That this disease is almost always ushered in by some cerebral affection, as great drowsiness or wakefulness; the first is by far the most common.

7. That other portions of mucous membranes are liable to the same kind of eruption, without the condition of stomach or bowels being instrumental in its production; for we have seen it most plentiful within the labia pudendi, as well as on the internal face of the prepuce.

These facts have made us lately question the sympathetic origin of aphthæ: yet we admit they are not altogether conclusive in our own mind; but we thought it proper to suggest the possibility of its being an idiopathic disease of the mucous membrane.

This affection is not confined to early infancy; it shows itself in the more advanced periods of childhood, and from that to any period of human life. It is sure to attend the last stages of almost every long-protracted disease, especially those which may have wasting discharges, such as phthisis pulmonalis, dysentery, or diarrhœa; and when it does appear, it is almost sure to be a fatal harbinger.

This disease is not essentially accompanied with fever; if it accompany any chance affection which is attended by fever, we do not find it to heighten the existing one.

Weakly children, and especially those born before their full period, are more obnoxious to this complaint than the robust and those who have tarried to their full time in the uterus: the children of weakly women, and particularly those who make bad nurses from scarcity of milk, or from its not being of a sufficiently nutritious quality, are more disposed to this affection than the children of hale women, who have plenty of nourishment of good quality. The children fed much upon farinaceous substances are especially exposed to the attack of this disease, particularly when their food is sweetened with brown sugar or molasses.

In the work of M. Jourdain "On the Surgical Diseases of the Mouth" is a chapter on aphthæ, so unlike all that precedes it, as connected with modern pathology, that the reader finds himself inclining to think the book owes the presence of the chapter to the translator rather than to the author.

The term aphthæ, says this work, is used alike by ancients and moderns, but in quite a different acceptation. The former define aphthæ as superficial malignant ulcers, attended with heat, occurring especially in infants, and not confined to the mucous membrane of the mouth. It is at the present day universally applied to those whitish pustules which appear on the mucous membrane of the mouth, and sometimes of the adjoining parts. Inattention to this difference has led many to apply to the latter disease a treatment based upon the definition of the ancients, whereas the two are palpably different.

Aphthæ have been regarded as ulcers; but ulceration implies solution of continuity, whereas in true aphthæ there is no erosion or decrease of sub-

stance, but, on the contrary, an increase; desquamation of the apthous crust leaves no trace of cicatrization. Theorists speak of white, red, and black aphthæ, according to the nature of the generating humor; but during a long practice we have never seen them of any other color than white, whitish, or, especially when of an unfavorable character, ash-colored.

They commence by small white spots, usually on the uvula, thence spreading, sometimes over the veil of the palate, sometimes over the tongue, gums, and inside of the lips and cheek. Often they spread still farther into the pharynx and œsophagus. Of their extension beyond this we cannot, of course, have the evidence of sight; but we have other and unequivocal symptoms, which prevent us from regarding as an absurdity the idea of their presence in the œsophagus, stomach, and smaller intestines; as, for instance, in the difficulty of breathing and deglutition; also in the appearance of the discharges from the stomach and bowels, so frequent in apthous disease.

The description of aphthæ is easier than their etiology. We maintain that they depend in all cases upon the same cause, differing, indeed, in degree of intensity, but never in its nature. We therefore differ from those who assign one cause in adults and another in infants. Nor can we agree with the many who make them to arise from excess of serum or of acid in the milk or nourishment given to the infant. The depleting, purging, and starving treatment based upon this hypothesis is most pernicious; moreover, experience tells us that this very acidity or astringency of aliment will frequently cure apthous eruptions, or prevent them from coming to maturity; and a serous flux, determining to the mouth, has caused the complete disappearance of existing aphthæ.

What, then, is the true origin of this disease? We believe it to be found in the existence of a slow and imperfect *crisis*, and to arise from a sulphurous humor generated in the larger vessels, and determining to such parts as are, by position or structure, most impressible. Observe for a moment the circumstances and character of aphthæ. In all fevers in the young and in the vigorous, their appearance is ever preceded by a crisis more or less distinct, and, according to the violence of the primary disease, marked by more or less severe symptoms. In one case nature struggles successfully with the acrimonious morbid principle, a favorable crisis occurs, and an apthous eruption brings great relief to the patient; in another case this morbid principle is too abundant, obstinate, or malignant,—no crisis occurs,—no aphthæ,—nature succumbs, and the patient dies. Again, we have aphthæ through the critical transfer of morbid action from some more or less vital and important organ. In some cases the change proves salutary; in others there is a reaction, the aphthæ disappear, and if the *vis vitæ* be not destroyed, it is often greatly endangered.

Aphthæ rarely occur in a perfect and favorable crisis, but, rather, as we have before said, in those which are slow and imperfect, such as are met with in a great number of diseases. Thus we find some apthous eruptions of not

only days', but weeks' and months' continuance. When, for instance, necessary evacuations have been neglected in the onset of disease, and a cachectic plethora has supervened, the cure is slow and incomplete without the occurrence of aphthæ. Diuretics and gentle enemas aid the recovery; blood-letting and purgatives retard it: the aphthæ disappear after fulfilling their sanative purpose, and the patient feels perfectly relieved. Experience, however, shows that the danger is not quite over: some lurking matter may take fresh increase, give rise to new aphthæ, in default of other means of escape from the system, and greatly endanger life; this may happen twice, or thrice, or oftener.

The causes or antecedent symptoms of aphthæ may be mild, and recovery take place without any or with very simple treatment; or they may be severe and lamentable, ending in suffocation, delirium, or obstinate diarrhoea. This difference we find explained by the varying state of the humors: at one time being crude, and by consequence irritating, at another time matured or concocted, by which process of concoction the more hurtful principles are expelled, a process aided in some inexplicable manner by the continued circulation of the animal spirits. Thus it happens that the aphthæ of seventh-day crises are usually more unfavorable than those which follow crises of a later date, when the morbid matter has had time to undergo a thorough concoction.

Although aphthæ are most generally preceded by febrile miasmata, they are not necessarily so. Cases are seen, both among adults and infants, in which they have been neither preceded nor attended by fever. In infants we may properly suspect impurity of the mother's blood.

Certain evacuants have been found more hurtful than beneficial in the treatment of aphthæ. This comes from the forgetfulness of the excellent advice of Hippocrates, who tells us to have regard, in the choice of depleting agents, to the channels of evacuation which nature points out in any given case. Now, the vessels concerned in the critical discharge of an aphthous eruption are the lymphatic rather than the venous or arterial. Therefore to the changes of the lymphatic fluid, rather than to those of the blood, is our attention to be mainly directed in the management of this disease. We have frequent evidence of serous or lymphatic engorgement at the outset of aphthous eruptions: in the fever, stupor, and restlessness during sleep,—indicating a fulness of the head and an acrimony of the humors.

Aphthæ are more common in certain countries than in others, which explains the almost total silence of some writers respecting them. This depends upon difference in climate and mode of living. In warm countries their course is rapid, from the increased perspiratory action of the skin. But in colder latitudes, where the food is coarser, the habit of body denser, and the humors thicker, their progress is slower, because the secretions of the system generally are more liable to obstruction. In these countries, especially, all discharges which tend to arrest perspiration, such as hemorrhoidal, intestinal, or uterine,

whether occurring spontaneously or artificially provoked, are very unfavorable in the treatment of aphthæ. On the contrary, a copious cutaneous or urinary secretion forms often a favorable crisis. This agrees with the doctrine that aphthæ are essentially serous, and most readily cured by a free discharge of serum or lymph. The cause of endemics we leave others to explain; each country bears in its womb the seeds of its own diseases, and also the means for their cure. External agencies may cause aphthæ, not, as the ancients supposed, by their direct action on the mouth, but indirectly, through the mass of the circulating fluids.

The diagnosis of aphthæ is easy; not so the correct interpretation of their premonitory symptoms. Painful deglutition, dryness of the mouth, a thick, husky voice, heat of the stomach, with rumbling noises, disturbed, unrefreshing sleep,—these often precede aphthous eruptions. Urinary symptoms are not to be relied upon, though often useful in prognosis after the appearance of the eruption. In the different forms of fever, the obstinacy of the disease is often a precursory symptom; when, notwithstanding the intestinal, urinary, and other evacuations, there still exist great depression and embarrassment of the vital functions, the appearance of aphthæ will often in a single night bring calm and relief to the patient, as experience has abundantly testified. The physician should follow nature's hint, and seek to aid in the cure of the disease through the same channels. The above symptoms, be it understood, are by no means necessarily followed by aphthous eruptions.

We should be careful in our prognosis: where the system is not weakened, the pre-existing morbid matter well concocted, or the extent of the eruption limited to the palate, we may anticipate a favorable issue. But if the patient be in a reduced and weakened condition, the morbid matter crude, or the aphthæ covering the entire membrane of the mouth and pharynx, the disease is much more to be feared. Again, suppression or derangement of the menstrual flux is unfavorable, from its tendency to draw the eruption from the place where alone it can properly mature. Profuse alvine or hemorrhoidal discharges are also hurtful; also any catarrhal attack falling upon the throat, causing the sudden disappearance of the aphthæ. Aphthæ occurring in diseases at the onset of which there was insufficient evacuation, are grave and dangerous. The disease may occur in persons of either sex, and be of tedious duration; but when the appetite returns, not only is the food highly relished, but it gives, by its new nourishment, relief and salutary benefit.

The term aphthæ, says Professor Wood, in his "Practice of Medicine," vol. i. page 501, was employed by the ancients to signify various inflammatory affections of the mucous membrane of the mouth. Willan proposed to restrict it to a peculiar vesicular eruption upon the membrane, but committed the error of confounding with this affection the thrush of early infancy. The two complaints are quite distinct, and should not be similarly designated. Aphthæ, in compliance with very general custom, is extended to all those small ulcers, with whitish surface, which so frequently appear in the mouth,

whatever may be their origin. The most frequent source of aphthæ is probably the vesicular eruption occasionally present in erythema. The vesicle is small, oval, or roundish, white or pearl-colored, and consists of a transparent serous fluid under the elevated epithelium. In a few days the epithelium breaks, the serum escapes, and a small ulcer forms, more or less painful, with a whitish bottom, and usually a red circle of inflammation around it. The vesicles are sometimes distinct and scattered, sometimes numerous and confluent. The distinct variety, though painful, is a light affection, continuing in general only a few days or a week, and is usually confined to the mouth. It produces little or no constitutional disorder, though it may be associated with fever and gastric irritation as an effect. It attacks equally children and adults, but is said to be very common in early infancy. In adults it is frequently occasioned by the irritation of decayed teeth. The confluent variety is much more severe and obstinate. This frequently extends into the fauces of the pharynx, and is said to reach even the intestinal canal, though it may be doubted whether the affection of the stomach and bowels is identical with that of the mouth.

The French fail in distinguishing, with Professor Wood, the difference between the pultaceous inflammation of thrush, or muguet, and the aphthæ, calling muguet the "aphthes des enfans." They recognize also that there are variations in the expressions of the condition, making a distinction between the *muguet bénin ou discret*, and the confluent, *muguet malin ou confluent*.

In Clymer's Aitken's "Science and Practice of Medicine," the subject is thus alluded to: Follicular inflammation of the mouth, follicular stomatitis, apthous stomatitis, or aphthæ of the mouth, is a disease which usually commences as a simple stomatitis; but very soon small, round, transparent, grayish or white vesicles appear, and at the base of each is an elevated marginal ring, which is pale and firm. Fluid soon escapes from the ruptured vesicle; an ulcer forms, which spreads, bounded by a red circle and an elevated border. In some forms of the affection microscopical parasitic plants appear.

TREATMENT.—If we are content to view aphthæ simply as a fungous sore, originating from and maintained by the presence of a parasite,—the *oidium albicans*,—we would find a most admirable application in carbolic acid; admitting that the parasite had an external relation only. If, however, these spores come from within and are exudational, such local treatment would be of very temporary service.

Viewing the fungus simply as an accidental parasite external in its relations, attention is demanded primarily to the necessity for cleanliness, and the avoidance of all localities and circumstances favoring the development of fungi. Carbolic acid, acid nitrate of mercury, sulphuric acid, nitrate of silver, or chloride of zinc, will be found destructive to the parasite, and, of necessity, if the circumstances are changed, equal to the production of a permanent improvement in the appearance of the part; that is to say, the

application is equal to the removal of the envelope or cover of the disease, but, except by a happy accident, will not beneficially affect the underlying condition, or the disease proper.

In the treatment of aphthæ, the practitioner finds himself compelled, at the very outstart, to consider constitutional associations. Occurring in connection with acute diseases, it is generally the case that the local expression is found to disappear with the condition exciting it. Thus, in febrile attacks attended with stomatitis, remedies are directed to causes inducing such attacks; as the functions become harmonized, the expressions of the irregularity disappear.

Aphthæ, whatever its form, appearing in connection with the dyscrasic diseases, gives to the practitioner the greatest anxiety and trouble. In anticipation of what is to be done, he is not to forget that a task before him is the removal, or, at least, the amelioration, of the constitutional disease. If this should be syphilitic, tubercular, or cancerous, the magnitude of the task is evident: hence it is that patients are allowed so frequently and so unnecessarily to find themselves subjected to a series of disappointments.

Acute aphthæ, as manifested in *cancrum oris*, *gangræna oris*, and follicular inflammation, demands not infrequently the most attentive local treatment. This treatment has, however, nothing particularly special in it, and, without doubt, must be appreciated from the general expressions of the subject. Alterative and bracing applications are such as would naturally commend themselves. Sulphate of copper, in proportions varying from five to thirty grains to the ounce of water, is an excellent stimulant. Iron and quinine in combination are used to great advantage,—twenty-five grains of the latter to one drachm of the muriated tincture. A powder made by combining equal parts of red bark, chalk, and tannic acid is frequently found very serviceable. Solutions of alum, and the tinctures of capsicum and myrrh, are useful in their places; also borax, oxalate of cerium, powdered chlorate of potash, sulphate of iron, etc. Hydrochloric acid, applied by means of a feather or small brush, causes less pain than might be supposed, and is thought by many to be the very best local application that may be employed.

Where the parts seem angry and irritable, or phagedenic, combined with these alteratives, the more soothing means are to be employed: starch, gum, and slippery-elm water being found in such directions very serviceable. Tincture of hamamelis, much diluted, is a good preparation. Another is the phenate of soda. It is to be understood that while the principles which govern the treatment of the aphthæ are common to the species, the applications must vary to meet varying local indications. The ordinary white sores, for example, need little more in the way of such direct treatment than the continued application to them of some of the agents mentioned; which one is best, or, indeed, what would be best, we could not well say, unless considering a particular case. The local treatment is not, however, in any of these cases urgent, and it is the general experience that a practitioner

finds himself trying first one thing and then another; indeed, it is unfortunately too common that one is soon brought to the conviction that any local application is unreliable,—not that a sore cannot be made to disappear, but that to-day, to-morrow, or next week, another comes to take its place. Canker sores seem periodic in some persons; they come without perceptible cause other than what seems a persistent constitutional condition, defy all treatment, and finally disappear of their own accord.

Of the special conditions, thrush demands that the bowels be kept free from costiveness,—oil, the saline cathartics, or aloes being employed as indicated. Where fever attends the local manifestation, it is well to prescribe neutral mixture made by fully saturating lemon-juice with the carbonate of potassa; or, if more agreeable to the patient, ordinary lemonade may be drunk. In diarrhoea, which is so frequent an attendant on thrush, some such combination as the following may be used:

R.—Hydrargyri cum creta,
Pulveris opii,
Pulveris ipecacuanhæ, āā gr. j;
Magnesiæ carbonatis, gr. xij. M.
Ft. chart. No. xii.

Of these powders, the infant may take one, mixed in molasses or other vehicle, every two hours, until the discharge is checked, or until the twelve are taken. In diarrhoea with green discharges it may be sufficient to use the magnesia alone; or lime-water, which is more convenient of exhibition, may suffice for the correction of the acidity: this latter can be rendered palatable by adding to it some of the aromatic waters. A combination, for a knowledge of which the author is indebted to his friend Professor Penrose, and which it would seem could scarcely be replaced by a better, is as follows:

R.—Bismuthi subnitratæ,
Myristicæ pulveris, āā ℥ij;
Cretæ preparatæ, ℥ij;
Syrupi zingiberis, ℥iiss. M.*

Dose, from twenty-five drops to a teaspoonful, according to age, repeated every two hours.

In cases associated with much intestinal disturbance, it will in most instances be found satisfactory practice to combine laudanum or paregoric with olive- or castor-oil, administering in such doses as accord with the age of the patient. A child one year of age may take three drops of laudanum or twenty of paregoric, combined with a teaspoonful of the oil; for an adult a dose would be twenty-five or thirty drops of laudanum to a tablespoonful

* The author is assured that his readers will recognize the obligation he places them under in directing attention to this palatable combination. As a medicine for the ordinary watery diarrhoea of summer, both in the infant and adult, it is seldom found to disappoint in affording speedily the desired cure.

of the oil. It is also found useful to drink freely of the demulcent waters, marshmallow and gum arabic being among the best of these. In debility,—and this is by far the most frequent of the conditions,—combinations of iron and bark, conjoined with the most nutritious articles of diet, will be found indicated: ferrated elixir of cinchona is a pleasant and very reliable preparation, and is freely taken by children. The dose for an adult is one teaspoonful, repeated three or four times a day; to an infant a year old, ten drops may be given.

Concerning the diet, if the patient be beyond the age of infancy, it will be found that the richest food is most advantageously received; juicy beef, oysters, malt liquor, wine, etc., being freely allowed. In the infant, the character of the milk of the mother is to be examined: in many cases it will be found needful to furnish a different nurse, or, otherwise, wean the child. Many cases of persistent thrush in the infant have quickly disappeared after a change of nurses.

Gangræna oris, the most degenerative and destructive of the apthæ, requires persistent vigor in the treatment, both as regards systemic and local conditions. Sulphate of quinia and the muriated tincture of iron are, in the first direction, most to be relied on. This condition occurs most frequently between the periods of first and second dentition, and is, without doubt, more common to the miasmatic than to other regions, excepting always the location of ill-kept and ill-ventilated charities. Gangræna oris may have a local excitant, but it is never without a constitutional predisposition. It may commence as a simple sore, gradually degenerating, or, as in carbuncle, destruction may reside in the primary impression. A common form of sloughing stomatitis is its appearance as a whitish or ash-colored eschar situated upon the gums, lips, or cheeks. This eschar quickly falls out, being followed by degeneration of the associate parts; the breath becomes offensive, the saliva flows as in ptyalism, while, to add to the discomfort, the ulcer pours out an acrid, corrosive fluid, which not only excoriates the mouth, but seems to provoke the extension of the mortification. If not checked, the ulceration extends to the bone, quickly involving it in the general destruction, and bringing on the condition of necrosis,—necrosis infantilis, as the disease is, unfortunately, so frequently compelled to be named.

The treatment of gangræna oris is precisely that of a carbuncle. The practice is to endeavor to circumscribe the action by sloughing out the affected part with the aid of caustic; tonic stimulation of the general system associates. Where possible, all functional disturbances are controlled, and for the relief of the local sore such soothing means are used as seem indicated. The very best caustic for these and similar cases is found in the London paste; *i.e.*, equal parts of caustic soda and quick-lime made into a thick dough at time of application by mixing with water or alcohol.

CHAPTER XXXIV.

WOUNDS OF THE MOUTH AND ASSOCIATE PARTS.

WOUNDS of the mouth and associate parts have, of course, the signification of wounds in general. Thus, some are of an incised character, being slits or incisions made, accidentally or purposely, by sharp-edged instruments. Some are lacerated, contused, or torn, being made by dull and blunted instruments; some are punctured, a result of injury by pointed but not sharp instruments; some are penetrating, as when the offending agent passes through the lip or cheek into the vestibule. A wound may be of a compound, or complicated, nature, as, for example, in the case of blows or falls, where, while the lip or cheek is cut or contused, lesions relate at the same time with the teeth or jaw; gunshot injuries, lacerating or simply puncturing the soft parts, comminuting the hard; bites of rabid animals, introducing a virus; syphilitic inoculations, etc., illustrate complicated wounds. Complications may also be considered as embracing hemorrhage and shock as primary associations; inflammation, with its varied phenomena, erysipelas, pyæmia, tetanus, etc., as secondary associations.

Every wound presents a first indication. If an individual receive a hurt which covers the injured part with earth or other foreign substance, such substance is to be washed or taken away as a primary step. If hemorrhage be the feature, arteries are to be ligated, or other necessary means taken to control the bleeding. If shock be present, this is the most immediate feature, and is first to be combated. If a rabid, or poisonous, animal has inflicted the wound, the destruction of the virus is a first indication.

Foreign Particles.—To remove foreign matter, no better means is to be employed than simple sponge and water. Holding a basin beneath the injured part, squeeze water upon it from the sponge; if the particles be not washed away with the agent closely applied, let it be lifted, and the water allowed to fall from a distance. It is not, as a rule, at all necessary to rub a sponge directly over the surface of a wound. Bodies which are not to be washed away, no matter what their character,—splinters, shot, balls, particles of powder, spiculæ of bone, etc.,—are to be removed with forceps, scoop, or other convenient means, the rule being to allow nothing to remain that may interfere with the process of repair.

Hemorrhage.—A first matter to consider in hemorrhage is its character. Is it arterial, venous, or capillary? An arterial hemorrhage is known by its scarlet color, and by issuing from the wound in jets. Hemorrhage from a

vein is dark, and has a gradual and regular flow. Capillary hemorrhage is an oozing. Arterial hemorrhage may require that the bleeding vessel be ligated. To do this, it is only necessary to sponge away the blood until the part is to be plainly seen; it is then to be taken hold of by the forceps, or caught by the tenaculum, and a strand of waxed silk thrown around it. In tying this silk, one must be careful that he does not break his strand at either side of the knot; also that the tightening shall be sufficient to cut the middle and inner coats of the vessel. To prevent tearing the artery from its bed by the breaking of the ligature, the rule of holding the thumbs upon the strands close to either side is to be observed. After ligating a vessel, one end of the thread is to be cut off and the other brought from between the edges of the wound; this allows of easy future removal of the knot.

Torsion of a bleeding artery is a favorite mode of treatment with many surgeons. The end of the vessel is to be caught by the forceps and twisted. The author of the mode suggests that torsion be continued until the end is twisted off.

Acupressure is another and a very common method of treatment. A steel or gold needle is passed beneath the vessel in such manner as to tightly compress it against neighboring parts.

Pressure by pad and bandage, when a hemorrhage about the face will not yield to simpler means, is a very satisfactory way of treatment, and one very reliable. All the vessels of the face region rest upon a bony floor, and all of them, at certain points, are sufficiently superficial for the purpose of compression,—the facial, at the notch in the inferior maxilla, in front of its angle; the temporal, just in front of the ear above the zygomatic process; the supraorbital, at the notch in the orbit; the infraorbital, at the foramen below the border. (See *Surgical Anatomy*.)

A bandage of common application for any of these vessels is the crossed, or knotted, circular. A glance at the drawing (Fig. 377) will afford understanding of the manner of its employment.

It is, however very seldom that any of these operations are necessary for the arrestation of hemorrhage about the face or mouth. Cold water thrown over the bleeding part from a sponge causes generally such contraction, both of vessels and tissues, as to control it quickly enough. If water alone do not answer the purpose, let alum be added, as much as the water will dissolve. If even this should not suffice, a syringe may be used, throwing a jet from a distance directly upon the bleeding part; this last will seldom disappoint. Monsel's salts, so warmly lauded for their styptic qualities, have exhibited to the writer more ill results than he has ever met with from any dozen other

FIG. 377.—CROSSED, OR
KNOTTED, BANDAGE.

