April 14th, 7.30 A.M. There was great dyspnoea. The pulse could scarcely be felt. He had slight perspiration on the forehead. He complained of most intense pain in the left side. Temperature 100.2 deg. Fahr. At 7.45 A.M., he took half an ounce of brandy. The pulse-beat soon became more distinct, but could not be counted. He still complained of an agonising pain in the chest. At 8.15 A.M., he breathed more easily, and could now lie on his right side. There was much perspiration on the forehead. The pain was still severe, but less so than half an hour ago. One-sixth of a grain of hydrochlorate of morphia was injected subcutaneously. The pulse could scarcely be felt. He took three teaspoonfuls of brandy. At 9.15, he had slept since the morphia-injection. His face was covered with perspiration. The man's breathing became irregular and spasmodic, and at about a quarter to ten o'clock he died.

NECROPSY.—On introducing a knife to cut through the right costal cartilages, fluid was poured out similar to that drawn off by the aspirator; and, on removing the sternum with the costal cartilages attached, the right pleura was found to contain six pints of fluid, and the lung was forced back against the spinal column. The sternum was firmly adherent to the anterior mediastinal tissue. This tissue was hard, and the cut surface was bathed with a clear watery fluid. In some parts, the tissue had the appearance of dense fatty tissue, and in others it was mottled and of a brownish-red colour. To this the pericardium also was closely adherent; the outline, however, being quite distinct. The tissue was about an inch and a half in thickness, and extended above the pericardium to near the top of the sternum. A similar condition was found in the posterior mediastinum; the tissue here, however, was about an inch in thickness, and matted together the pericardium, oesophagus, and aorta to the spinal column. The microscopic appearance of the growth corresponds very closely with that described by Dr. Allbutt. It was not unlike that of young connective tissue, as my friend Mr. Annington, who examined the specimen very carefully, justly observed. The right pleura was opaque, thick, and the surface uneven from old inflammatory material; but there was no recent lymph. On the left side, some recent lymph was observed, and especially on the diaphragmatic surface, corresponding in position to the part where the friction-sound was heard. In other respects, it resembled the right pleura in appearance. On the surface of the pleura, especially of the right side, spots of extravasation were noticed. The pericardium was pale, thickened, and corrugated; but there was no indication of recent inflammation. The lungs themselves were healthy. A few patches, looking like atheroma, were seen on the first part of the aorta; and in this situation, and in the heart itself, there was marked *post mortem* staining. The spleen was much enlarged, weighing 17½ ounces. The mesenteric glands were large. Peyer's patches were healthy. There were marked congestion and extravasation in the mucous membrane of the small intestines.

ON THE ALLEGED DANGERS OF DENTITION, AND THE PRACTICE OF LANCING THE GUMS.

By JAMES FINLAYSON, M.D.,
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THE question as to the relation which the process of teething bears to infantile disease is of practical as well as of scientific importance. If (as one says) "there is scarcely any affection we do not meet with in one case or other of difficult dentition", it must lie at the very root of the study of the diseases of children. If, as alleged by another, "there never is, and never has been since the world began, any such disease", the other view must stand very much in the way of all true diagnosis. Nor is it merely diagnosis that is involved. Treatment must also vary; and so we find that the operation of lancing the gums is regarded by one as "an all-important remedy", and that he recommends us to "lance the gums *freely and deeply* over the greater part of their extent *daily, or even twice a day*"; while another, "convinced from experience of its futility", has "avoided making it a source of revenue". Such statements represent the two extremes, and nearly all intermediate degrees of opinion may be found to exist among ourselves at the present time. It has appeared to me, from personal observation, that exaggerated and superstitious ideas regarding the potency of dentition as a cause of disease are injurious to the study of this branch of medicine, and no less pernicious in their practical operation in the treatment of children. As, however, such opinions prevail in the profession as well as amongst the public, it was thought that an investigation of the doctrine of teething, at different times and in different countries, might throw some light on current ideas. I must, however, pass over much of the inquiry on this occasion.

While some writers seem to see in the local process of dentition an event fraught with danger to the general health and the whole economy of the child, others have regarded the irregularities and peculiarities of dentition rather as manifestations of the general condition of the infant, and have looked upon most of the disasters overtaking infants during the teething period as due to faulty management, to bad nutrition, or to some defect in their own constitution or in that of their nurses, when they were not to be regarded in the light of simple coincidences.

The relationship existing between the quality of the milk and the earliness (and presumably the facility) of dentition, was referred to by Aristotle in two separate passages, and it is probable that it was never altogether lost sight of by subsequent writers. The phenomena of dentition, however, are so striking, and the importance of the teeth for the future life of the infant so obvious, that we need not wonder that great weight was attached to the local process. But, important as this process without doubt was, some physicians began to see that it was but one of a multitude of changes occurring simultaneously in the history of the child, and that many morbid phenomena popularly ascribed to teething could with greater propriety be referred to the other systems more directly concerned. Billard refers the attacks of diarrhoea, so common in children during the teething period, to the development of the intestinal follicles and of the other parts of the digestive system occurring at this epoch. He likewise points out that important changes take place in the brain of the child during the first year of its existence; and he maintains that the frequency of cerebral affections at that age ought to be attributed to these changes; this period, however, is the same as that of the appearance of the first few teeth, and, as the changes in the mouth are much more obvious than those in the brain, they have received the credit of producing the convulsive and other cerebral disorders of infancy. Armstrong also seems to have had some doubts about referring the convulsions of children during the period of dentition to this cause, alleging that convulsions occurred before and after the usual periods of cutting the teeth, and that these fits were of the same character as those which happened during the process. But from what age may symptoms fairly be referred to dentition? The earlier authors seem to have contented themselves with regarding the date at which the teeth usually appear, as the date also of the symptoms referable to this cause; in this view, the seventh month may be named. Soranus suggests that means of mollifying the gums may be commenced about the fifth month, so as to anticipate the dangers of the seventh. But physicians could not forget that symptoms almost precisely the same as those usually attributed to teething were frequently observed before the time for the appearance of the teeth had arrived, and that these symptoms, at whatever age, frequently appeared and subsided without any fresh tooth coming to the surface. To account for such cases, the theory was started that one set of symptoms might be due to the deeper processes of teething—"to the opening of the jaw by the tooth", as Sydenham called it—and another set to the piercing of the gums. This double set of dangers for every one of the twenty milk-teeth affords sufficient scope for the physician to set down any illness he may please during this period as coincident with and dependent on the process of dentition. Accordingly, we find that one writer is convinced of the error of waiting till the sixth month before attributing infantile diseases to teething; another authority begins to suspect teething as the cause of illness after the child has reached his fourth month; a third somewhat arbitrarily assigns the date of birth as the beginning of the troubles of dentition, while Hunter states somewhat vaguely that dentition "is a disease of early age, and, indeed, almost begins with life". It is rather surprising that no writer (so far as I have noticed) has sought to connect distinctly congenital disorders, such as club-foot, with the development of the foetal teeth. It is evident that to date teething from birth, as Marshall Hall does, is very arbitrary; and the congenital club-foot may surely with as much reason be referred to the irritation of teething as the similar deformity which results from the so-called "dental paralysis" affecting young children.

With an available range of time, extending almost from the beginning of life up to the completion of dentition, it is evident that it must depend very much on the preconceptions of the physician, as to which, if any, of the numerous ailments of infancy he is entitled to refer to teething. Some, indeed, have sought to substitute for this process other causes nearly equally universal, and they have not found it difficult to refer to them a multitude of diseases usually attributed to dentition. Dr. T. Ballard finds, in the various forms of fruitless sucking, a potent cause of infantile derangement, and it takes the place of dentition so efficiently, that he can make no room for this process in the nosology. Dr. Norton, at the Obstetrical Society, likewise contended that teething ought to be expunged from our list of disorders, and he regarded the evils usually ascribed to dentition as "due to the universal but unphysiological prac-

tice of feeding infants on starch food". These two ideas have at least the merit of basing their pathology of infantile disease on some departure from the normal process of nutrition, and if some departure be thus implied, some hope of averting the dangers may confidently be entertained. But there is reason to fear that it is precisely from its fatalistic tendency that the doctrine of teething as a cause of disease is so popular on all hands. If a child die "from its teeth", as is said, it is regarded as having succumbed in the course of a necessary process, for which neither parents nor nurse can be in any way blamed; and, if the doctor have scarified the gums, or ordered whatever is popular at the time, he can join in the self-satisfied lament as if over an inevitable catastrophe.

But, even among those who do not readily wish to acknowledge every illness during the teething period as due to this process, two sets of symptoms deserve special consideration—those which, from their local nature, seem directly related to the teeth, and those which either occur or subside about the time of the appearance of a given tooth. There is a general agreement regarding the possibility of obviously local inflammations being due to dentition; but it is seldom that these can be regarded as so serious as to give rise of themselves to any grave general constitutional disturbance.

With regard to the symptoms of an illness actually concurring with the visible protrusion of the teeth, the possibility of a mere coincidence must be carefully considered. Rilliet and Barthez speak of having seen a difficult dentition concurring so exactly with the development of meningitis, that they were at a loss to know whether the illness were due to a single or to a double cause. They likewise testify to having seen one or several teeth piercing the gum during the course of meningitis, pneumonia, enteritis, and typhoid fever, without difficulty, and equally without any favourable modification of the course of the illness. This leads us to the consideration of the other phenomenon already referred to, which is, perhaps, even more striking to the popular mind; viz., the more or less sudden subsidence of symptoms about the time of the appearance of a tooth. It must be remembered that, although the distinguished authorities just quoted refer to cases in which teething went on in the midst of grave disease, this is not an usual occurrence; the common event is the cutting of a tooth *after* an illness which may, with great propriety, be regarded as having arrested its progress; and this, of course, may lead to the erroneous notion of the illness having been due to the struggles of the tooth to reach the surface. The cases in which certain symptoms recur with the cutting of every tooth, and without any other obvious cause, constitute by far the strongest argument in favour of their depending on dentition; and, when such an occurrence is well marked and carefully observed, it is not easy to overcome the force of its persuasion. Nor, indeed, is it the object of the present paper to deny that any illness is caused by teething. Its purpose will be served if (as Wichmann says) the reader be kept from attributing too much to dentition, remembering that this is not the only source of infantile disorders during the teething period, and searching carefully for other causes before the illness is referred to a physiological process.

The introduction, or at least the spread, of the practice of lancing the gums may be ascribed to Ambrose Paré. His celebrated case was that of the son of the Duke of Nevers. This child died when eight months old, and the dissection was made and recorded by Bonetus. No cause of death was discovered, except a hardness of the gums, and, on these being laid open, the teeth were found ready to appear. From this it was argued that, if this incision had been made during life, the child might have been saved. Such a remarkable inference received, in the course of time, a still more remarkable confirmation. Called to see a child suffering from teething, and hearing of another whose death had just occurred from the same cause, M. le Monnier was anxious to observe the state of the teeth and gums in such a case. He made a large incision into the gums, but his pathological inquiries were arrested by the restoration of the child to life! But, notwithstanding the experience and authority which accumulated in its favour, incision of the gum does not seem always to have been followed either by the appearance of the tooth, or by the cessation of the symptoms to be relieved. The wound in the gum healed up, and a great question was raised as to whether the scar did not hinder the subsequent progress of the tooth. This fear was alleged to be founded on ignorance; for, it was maintained, "all parts which have been the seat of wounds or sores are always more ready to give way to pressure". This reply, however, was met by the assertion that, while new cicatrices were easily torn, old ones were not, and that real trouble had been experienced from this cause. The controversy as to the cicatrix is closely related to another question; viz., at what stage of dentition may the operation be performed with advantage? and how often should it be repeated? While some warn us not to operate too soon, saying that the operation has no room except when the tooth is far advanced and almost visible, others

equally warn us against the possibly fatal delay engendered by timidity or inexperience, contending that, if we wait till the gums are considerably elevated and pointed, "the chief danger and pain are then at an end, and nature is sufficient for the purpose". With the practice of early incision, there is naturally associated the justification of repeated lancing. John Hunter was not ashamed to confess that he had "performed the operation above ten times upon the same teeth", and Dr. Churchill tells of a case in which he "was obliged to use the lancet thirty or forty times, each tooth requiring several operations". Underwood recommends, in obstinate convulsions, the lancing of the gums for five or six days in succession. Even this was not enough for Marshall Hall. "The idea of merely dividing the gum to allow the teeth to penetrate it, is inadequate (he said) to the real importance of this all-important remedy. In order to accomplish all that this measure is capable of effecting, we should lance the gums *freely* and *deeply* over a great part of their extent *daily*, or *even twice a day*, and apply a sponge with warm water, so as to encourage the flow of blood".

The method of cutting the gum was in like manner subject to much variation, alterations probably being made when it was found that the results were not so brilliant as expected. Various instruments, including the finger-nail and the edge of a sixpence, were used; but, when the operation was regarded in a serious light, some proper cutting instrument was usually preferred. But, even when a lancet was used, a few fibres might be left undivided; this was held to account for the want of success too often observed, and was alleged as a reason for the increase, instead of the relief of the pain which sometimes followed the operation. Crucial incisions were preferred by some, not only as dividing the gum more completely, but as allowing more easily of the flaps being dissected up and snipped off with scissors. But even this might not suffice; it was alleged by M. Baumes that a piece of the alveolar process might have to be taken away, so as to remove the obstruction, and the offending tooth itself might even have to be extracted.

The very proposal of such violent measures indicates clearly enough that, in the hands of its most devoted admirers, incision of the gums was far from being so satisfactory as was usually represented; the amelioration of the symptoms which resulted was often more apparent than real, and was frequently found to be but temporary.

The tendency of opinion at present seems to assent to Dr. West's dictum, that the circumstances in which the use of the gum-lancet is really indicated are comparatively few. Rilliet and Barthez could only recall one case in which any real benefit resulted from the operation, and the best Trousseau could say of it was, that the practice was useless. Even the most sceptical, however, seem to have encountered occasional cases where convulsions ceased on the lancing of the gums; but such a result is also obtained at times from other most unlikely remedies. It may here be stated that, in his careful study of 102 cases of convulsions in children, Dr. Gee could find no reason to believe that the teeth bore any part in the causation of the fits, and in none of the cases did it seem necessary to lance the gums.

But, it may be said, although the benefit may be very doubtful, why hesitate to give any child the chance of profiting, in its peril or suffering, by such a simple operation? and it is very probable that this idea regulates the conduct of many in dealing with infantile disorders. Such a proceeding has very properly been stigmatised as "nothing better than a piece of barbarous empiricism, which causes the infant much pain, and is useless or mischievous in a dozen instances for one in which it affords relief". It may, however, be well to consider shortly whether the absence of danger from lancing is so complete as is usually represented. And here we may call in evidence the great modern upholder of the practice, Marshall Hall himself. He was much too consistent an advocate of his own views to ignore the danger of such frequent tampering with the mouth and gums of an excitable infant as he had himself recommended, and he admitted this disturbance as a real and true objection to the use of the gum-lancet. But this objection—no trivial one when fully considered—is not all. Local disasters have also happened. Passing by as doubtful any injurious influence on the ultimate growth of the teeth, suppuration and ulceration of the gums, and even gangrene, are admitted by its advocates to have been seen after this operation. Dangerous or fatal hæmorrhage from lancing the gums, although not likely to be readily recorded, has been published in several cases. Even M. Baumes admits the danger from hæmorrhage in incising the gums when much engorged, and he points out that the swallowing of the blood may conceal the extreme peril of the infant. Hamilton, although he had never seen a death from this cause, heard of one on evidence which he could not controvert. Dr. Churchill admits that bleeding from the wound has sometimes been excessive, requiring pressure, astringents, and caustics. Rilliet and Barthez have known it to require plugging. Dr. B. W. Richardson speaks of having "had two or three very painful lessons of this description", and he mentions one

death occurring to a country practitioner, and another accident with nearly fatal syncope in his own dispensary practice. Dr. Young (Edinburgh) narrated, a few years ago, two deaths from this cause, which occurred in his father's practice. Fatal hæmorrhages have also been reported by Taynton, Anderson, Whitworth, Des Forges, and Nicol, and in only one of these cases was there supposed to be any special hæmorrhagic tendency.

Further scrutiny of these cases shows, as we might expect, that nearly all these deaths were reported under somewhat exceptional circumstances; so that many more disasters have, doubtless, occurred and have been allowed to slip into oblivion. Without laying undue stress on these perils and calamities, occurring as they do amongst an enormous number of operations, they may well be seriously considered *when the generalisation of the treatment is contended for on the ground of its absolutely innocuous character.*

The chief danger, however, of the wholesale use of the gum-lancet lies in its embodying in practice a theoretical view of the ailment, and so tending to close the mind against further inquiry into the diagnosis, etiology, and treatment of infantile disorders.

A CASE OF CICATRIX OF THE PYLORIC END OF THE STOMACH CAUSING DEATH.

By M. A. WOOD, F.R.C.S., Ledbury.

A. B., aged 63, female, of a delicate constitution, was attacked, in September 1873, with sickness and pain in the epigastrium. This continued for two or three weeks, as a daily occurrence, during which time she persevered in her household duties without seeking medical advice.

When I saw her in October, she was suffering from a spasmodic pain, accompanied with a sinking sensation in the epigastrium, which was generally most severe in the morning, and was usually relieved by vomiting a thick, glairy, insipid fluid. Food of a mild character generally lessened the pain, though it produced a sense of weight and flatulence, which latter symptom was often extreme. The tongue presented a sodden appearance, and was covered with a fur of viscid mucus. The bowels were confined, and there was marked chilliness of the whole frame, but chiefly of the lower extremities. The sickness occurred two or three times a day, but seemed unconnected with taking food, and the ejecta consisted mainly of mucus. Various drugs were tried, such as alkalies, ipecacuanha, blisters, etc., with only partial relief, until she took what I have long found most valuable in cases of follicular or catarrhal dyspepsia (of which I considered this to be an example), viz., ten grains of compound kino powder three times a day. This soon gave marked relief, and at the end of November she had entirely lost her sickness, the pain was only occasional, and her general health improved very much. After remaining in this condition for two or three weeks, she was attacked with a return of the symptoms, and she at once resumed the compound kino powder, with the same beneficial effect at first. After a time, however, the symptoms underwent a change, and it lost its influence. The pain now became more constant, and was fixed in the hypochondriac region. It was also greatly increased by taking food, and, however mild the food was, it was generally rejected. She now became extremely emaciated, and assumed much of the aspect of malignant disease.

She was put on a diet of milk and lime-water, and commenced to take the following pill three times a day: Nitrate of silver, a quarter of a grain; extract of belladonna, one-sixth of a grain; muriate of morphia, one-twelfth of a grain; and bread-crumbs. Great relief resulted from this treatment, and in the course of a few weeks the sickness and pain entirely left her, and she was able to take ordinary mild diet. At the end of March 1874, she left home for change of air, and for the first three weeks improved greatly in strength, when she was again seized with sickness, accompanied with distension of the stomach and obstinate constipation, and in a week's time she sank exhausted.

On making a *post mortem* examination, in pursuance of her own expressed wish, the stomach was found enormously distended, and the intestines much contracted. On opening the former, there appeared several large patches of thickened mucous membrane, rising above the level of the rest, and presenting a velvety character; two of these lay close to the margin of the pyloric opening, and between them was a cicatrix about the size of a shilling, composed of white fibrous tissue, and quite devoid of mucous membrane, which had so contracted this

orifice as to render the passage of even a goose-quill difficult. There was no disease elsewhere.

REMARKS.—I have been induced to report this case, as I think the *post mortem* appearances accurately and interestingly explain the course of the symptoms during life. First, there were the symptoms of catarrh of the stomach in October, evidenced by the thickened mucous membrane and hypertrophy of the gastric follicles. Then came the symptoms of ulceration about January, evidenced by the cicatrix. Lastly, the symptoms of obstruction, explained by the contracted pyloric orifice. Unfortunately, the ulcer had formed in so critical a place in the stomach, that only a small amount of contraction was required to occlude the natural orifice.

CLINICAL MEMORANDA.

SEVERE NERVOUS SYMPTOMS FROM ASCARIDES.

A WIDOW lady, aged 34, had been suffering some months from nervous symptoms of a very distressing character. She was frequently affected for a variable period with complete hemiplegia, and sometimes she saw what appeared to be thousands of glittering bits of broken glass before her eyes. The right orbicularis palpebrarum was constantly thrown into such rapid and violent spasm, that she was quite unable to keep the eye open. On further inquiry, it was found that she was very much teased by an abundance of ascarides and by distressing pruritis. In other respects, she seemed to be tolerably well. She was ordered four grains of calomel at night, and an enema of turpentine in gruel in the morning. A large mass of ascarides was brought away; and this was followed by speedy relief of all her symptoms. These, however, returned after a few months, but were again removed by the same treatment.

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OBSTETRIC MEMORANDA.

SCARLATINA DURING THE PUERPERAL STATE.

MR. STEWART reports a case in the JOURNAL of September 5th which is of great interest to obstetricians. I intended reporting a similar case occurring in my practice, so will give a note of it while the subject is on the *tapis*. On August 8th, a child of a parish patient died of malignant scarlet fever. On the 9th, another child, and then another, had symptoms of being affected with the same disease. On the 10th, it was developed in both, each having a copious rash, sore-throat, etc. On the 11th, the mother was confined, at or about her full time, of a fine girl, having beside her in the bed (for there was only one small sleeping-room in the cottage) the sick child. I asserted that she would almost certainly die; but she put my wisdom to the blush by recovering without a bad symptom. Her scarlatina (a mild attack) ran its ordinary course, and she is now tending her infant and nursing her little bed-fellow, whose case has been and is a somewhat serious one. In this case, I was helpless to do anything for the patient, except as to advice and getting a little extra nourishment. Being some miles from my house, equally far from hospital, in an isolated situation, in a tiny cottage, the nearest neighbours afraid to come near to help, and for three or four days after the confinement the body of the child who had died in the house, everything almost had to be left to Mother Nature—and I think the way she did her work teaches us a lesson. I cannot, however, exactly follow Mr. Stewart in his theory respecting the cause of immunity in such cases. If his reasoning be correct, it necessarily follows that there must be septic absorption (the second factor) in every or nearly every case where (say) scarlet fever poison is absorbed *after* a confinement, as it is well known that in such case a fatal issue almost always results; and then we should have to go further and say that, after nearly all confinements, there was septic absorption, only requiring another factor, zymotic germs, to develop results fatal, or at least very serious, when *plus* such second poison, but innocuous alone. I rather think the reason is this. The fever-poison, having been absorbed previously, has already spent its virulence on those parts where it has located itself, and has not (if I may so express it) the power of metastasis. Again, the poison already in the system protects from a second absorption of the same or analogous poison-germs. This latter theory seems to approach very near a certainty. I do not know that this subject has been much discussed in the profession, but it seems well worth the notice of obstetricians.

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