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SCARLATINA.

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DURING the spring and summer, I have observed several short articles in the medical journals which deserve notice; especially one in the *Medical and Surgical Reporter*, written by Dr. William L. Martin, under the caption of Purgatives in Scarlet Fever. The sweeping condemnation of this class of medicines, advocated in that paper, appears to me entirely inconsistent with a sound and rational theory of the disease, whether deduced from a close study of its symptoms, or the pathological condition revealed by post-mortem examination. The disease is inflammatory; in severe cases, eminently so.

In epidemics of scarlatina maligna, and also in malignant sporadic cases, unless the symptoms are promptly and successfully controlled by antiphlogistic and sedative means, the disease hastens rapidly to a fatal termination. In milder cases, whether of sporadic, or of epidemic character, it differs not in kind, but only in degree; and, therefore, whatever medication is resorted to, it should be of the character above indicated. The instances are not rare, that these mild cases, when treated upon the temporizing plan, suddenly change their character, and assume a malignant form; and if they do not terminate fatally at once, are quite sure to be followed by those secondary forms of the disease which are so much dreaded by every physician who has had experience in their treatment. And here I wish to say a word in reference to the vexed question of secondary attacks. Scarlatina simplex, which, on its invasion, does not extend beyond the true dermoid tissue, if it continues unabated four or five days will extend to the pituitary and epithelial membranes lining the nares, fauces and auditory passages, one or all of them. When it does so, it is no longer the simple eruptive fever as it first appeared; but, added to that, is inflammation of those membranes and the subjacent parts, which hastens rapidly to ulceration or the formation of abscess. Now, when these symptoms occur in conjunction with the rash, I do not believe the patient is liable to a secondary attack; but the rash appearing alone does not protect against a subsequent attack of what was formerly called throat distemper; neither does this latter work an immunity against the rash.

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"The disease first appeared in New England in 1735. Its first appearance was in Kingston, New Hampshire, from which place it continued to spread, east and west, for three years, and was, undoubtedly, the most malignant and fatal epidemic that ever visited the country. It obtained the name of canker rash."

It prevailed in England and on the Continent at the same time, and was the epidemic described by Dr. Huxham under the head of Malignant Ulcerated Sore Throat.

Its periodic visitations have been continued both in Europe and in this country until now—sometimes assuming a very malignant and fatal character, and at others, a form so mild as scarcely to require medical treatment. Such and so ample have been the opportunities offered for its study, both in regard to its nature and its treatment. And what does medical science teach us to-day? I fear, quite as much error as truth. In one instance we are told that "a small dose of castor-oil was administered in a mild case of the disease, and it soon became unmanageable, and ran on to a fatal termination." While induction fairly applied is a safe process of reasoning, it is hardly safe to draw inferences from one or a few facts, unless those facts are sufficiently numerous and uniform to establish a rule. Some have taken castor-oil and died; while hundreds have taken it and lived. Such reasoning may be summed up in the following formula: "post quam, ergo propter quam." Others, and they are many, tell us that bleeding is not a safe remedy, because it reduces the *vis vitæ*; all of which is required to resist the wasting power of the disease. This would be a valid argument, if its only effect were to depress the powers of life without exerting a controlling influence over the disease. But if the loss of five or six ounces of blood from a child three or four years old arrests in a large measure the congestion and subsequent inflammation and fever, it is a gain which can be secured in no other way. It places the patient in a condition to be benefitted by other remedies.* Others object to the free and liberal use of cold water to the surface, because of its tendency to repel the eruption. This would also be a valid objection, if the following assumptions upon which the objection rests were established facts: 1st. That the eruption constitutes of itself, or contains the *causa morbi*. 2d. That it is a movable cause and, if removed from the skin, will concentrate its action upon some internal and more vital organ; and, finally, that it can only be safely removed from the system by the process of desquamation. I submit, with all candor, that not one of the above positions can be maintained. Because cold water reduces the dry, sharp heat of the skin, and fades out the deep scarlet hue, and removes the mulberry eruption, with all its painful sensations, it does not follow that a retro-

* General depletion alone is here referred to, and it should be done as soon as possible after the invasion of the disease. Local bleeding by leeches, even for local tumors, has never, in my experience, been productive of anything but evil. The bites are always slow in healing, and their constant tendency is to result in eschars. The same is true of blisters, which, while they do no good, frequently result in serious evil.

cession has at all taken place; neither that a repellant power has in the least degree been exercised by the water. With as much propriety might it be said that because cold water removes the erythema and pain from a slight burn, the injury had thereby been repelled to some internal organ. All these are steps accomplished in the direction of a cure.

And so of cathartics; it is said they weaken the patient, and tend to cause a retrocession of the eruption, and their direct effect is to irritate, inflame and ulcerate the bowels. On the contrary, a judicious use of these medicines is the proper and successful method of counteracting these evils. I do not believe that in one case in twenty the mucous membrane of the bowels is one of the organs or tissues primarily implicated in an attack of scarlatina.* "The raw, red appearance of the tongue," which has been cited as symptomatic of an irritated and inflamed condition of the bowels, is not so, but is the result of the local action of the disease upon that organ and the adjacent parts. It is in the latter stage of the disease, in the low, typhoid stage, if at all—when the mouth is filled with sordes, when the eschars have sloughed and left foul and gangrenous ulcers that yield a fœtid, ichorous and bloody discharge, that the bowels become tympanitic, and afford unmistakable evidence that they are involved in the disease. In cases extreme as this, no practice within my knowledge affords as reasonable hope for recovery as a mild, mercurial cathartic (calomel). The favorable action of this is promoted by enveloping the body from the hips to the arm-pits with several folds of domestic wetted with cold water, applied after the manner of the hydropaths. It is well to repeat this process so long as the abnormal heat continues.

A detailed description of the different forms of disease, through their different stages, is not embraced in my present design; but merely to show my views of its character or type, and, by inference, the mode of practice, and the remedies required for its cure. Its classification, by nosologists, with inflammatory diseases is, so far as I know, generally received by the profession; but no uniform mode of practice based upon this classification has been the result. This may be in part owing to an imaginary mystery which is thrown round the subject; viz.: that the disease is specific, the result of a specific cause, and, therefore, demands a treatment by specifics. This is undeniably a fallacy, and ought to be discarded. The disease is, indeed, specific; but the inference is the fallacy.

It is true, belladonna at one time obtained some reputation in this direction, both as a prophylactic and a remedy; but experience has

* Mr. Armstrong says, "You almost invariably find proofs of inflammation of the fauces, extending down the larynx, trachea and bronchi. In nine cases out of ten, the air-passages are inflamed." And the accuracy of this statement is borne out by Mr. Hamilton, in his observations on the epidemic in Edinburgh, in 1832. See *Edinburgh Medical and Surgical Journal*, vol. xxix. "The comparative frequency of inflammation of the mucous membrane of the bowels, dwelt on by Dr. Armstrong, is not admitted to the same extent by other observers."

failed to justify its claims. There are but two methods of treatment worthy of consideration; the one may be called active, the other passive. In the former, a vigorous antiphlogistic and sedative treatment is instituted to arrest the disease; or, failing to do this, to so modify and control the symptoms that it may pass with safety to a favorable termination. In the latter, the desideratum is to obtain and retain upon the surface a full eruption, until the period arrives for desquamation. The position is taken that the disease "must run its course," and, therefore, requires a sustaining treatment. Upon this subject there is room for a difference of opinion; and it can hardly be conceded that the disease must of necessity pass through all its stages; but if it were so, that treatment will most preserve the vital forces which most promptly and effectually controls the morbid actions. It is not the remedies, but the disease that prostrates. My motive in writing this paper was not so much to discuss the philosophy of the disease, as to advocate an active treatment for its cure; and the only argument now remaining must be drawn from a careful collation of facts. In order to contribute something to this end, I will give the result of my own observation and experience. In the year 1832, in the months of May, June, July and August, I treated 247 cases, most of which were of a very malignant type. My field of practice at that time embraced a part of Westbrook, Gorham and Windham, in the County of Cumberland, Me. I shall give the history of a few of those cases, premising it with a general plan of the treatment pursued.

In all cases where there was active inflammatory action, whether the eruption had or had not made its appearance, bleeding was the first prescription. The depletion was graduated by the effect it produced on the patient, and continued until the pulse became soft; and, if the eruption was out and quite florid, until it began sensibly to fade out. A moderately active cathartic, of jalap and calomel, or compound jalap powder, was next administered. I prefer the former. In all severe cases, the swellings about the throat and the anginose affection require early and particular attention. Folds of linen or domestic saturated with cold water were kept constantly applied to the neck and throat, so as effectually to keep down the temperature, and retard the swelling of these parts. In many cases, the water was slightly acidulated with vinegar; but this, while its effect upon the swellings was good, seemed rather to irritate than soothe the eruption.

And here I would observe, by way of parenthesis, that, since reading Dr. Adinell Hewson's book upon the use of clayey loam as a topical application in surgery, I believe it would better fulfil the indication in these cases than any other application. Wetted down with cold water, it would longer retain its moisture and temperature, the two qualities particularly requisite in these applications. I imagine, too, that the anodyne and sedative properties of the humus

connected with these earths, would render them much more efficient agents than the water, however it might be applied.

In variola, where it is desirable to protect the skin, especially upon the head and face, from the disfiguring effects of pustular supuration, might not the same means be used with happy effect? Perhaps nothing could more effectually prevent the congestion which is the first step in pustular formation than such an application. It would protect from the irritating effects of air and light, and secure a uniform temperature at any degree that might be desired.

But to return from this digression. Cloths, dipped in cold water and wrung sufficiently to prevent much drip, were kept constantly applied to the surface of the body and limbs, and changed so often as to secure a uniformly cool temperature. Under this treatment, quiet and rest were substituted for the febrile restlessness and burning of the skin. Constant care and watching were necessary to enforce this part of the treatment; otherwise, if neglected, the fever and eruption would return with increased intensity.

It only remains to notice the treatment pursued in the ulcerated throat which attended almost every case. A mixture of cayenne pepper, salt and vinegar, in water, was applied to every part of the throat by means of a swab. It was passed through the isthmus of the fauces back of the swollen and ulcerated tonsils so as to cause the patient to gag, by which action whatever of viscid mucus or sanious pus lodged there was thrown forward into the mouth and was wiped out. The importance of this part of the treatment is so apparent that it will not be neglected. Of the above mixture, the patient swallowed, every few hours, from a teaspoonful to a table-spoonful, according to the age, as a febrifuge and cordial.

The above statement is sufficiently full to explain the general principles, and all necessary details of my practice in 1832. With very few exceptions, no other medication was required. The three following cases, for reasons which will be given, did not receive the full benefit of the treatment.

Case 1st, May 8th.—William Brackett, 9 years old, seized with vomiting at 2 o'clock, morning. Vomiting continued half an hour, and was succeeded by pain in the head and back; great restlessness; pain in the throat, and intense fever and burning of the skin. At 8 o'clock, when I first saw him, a deep scarlet eruption had established itself over the entire surface, to the ends of the fingers, and so great was the congestion or swelling of the skin that it was difficult to entirely close the hand. The dorsum of the tongue, especially toward its base, was covered with a heavy, cream-colored coat; while the tip and edge were red and irritable. The tonsils, uvula and all the soft parts of the throat were greatly swelled, and of a deep mahogany color, showing distinct ash-colored spots, which gradually extended till they commenced to slough. The swelling of the parotids and all the glands at the angle of the jaws was equally sudden.

This was the case that, in my region of practice, ushered in the epidemic, and it was the first that came under my observation. I felt that I was exploring an unknown region, full of danger and uncertainty, and therefore must proceed with great caution. I feared to bleed, but in all other respects he was treated vigorously, according to the plan above indicated. His recovery was slow. The ulcers in the throat did not heal readily, and the swelling of the parotids and the glands about the throat remained for several weeks, but finally disappeared without suppuration. After the eruption had subsided and desquamation had, in part, taken place, the skin remained hot and dry, and the pulse hard and frequent. An ichorous discharge from the pituitary membrane excoriated the nostrils and lip. The bowels were constipated, and the secretion from the kidneys became small and of a dark brown color. Mercurial cathartics, with powders of nitrate of potassa, ipecac and camphor, and cremor tartari whey, constituted his medication. His recovery was complete.

The error of treatment in this case was the neglect of bleeding. Had this been performed at the onset, it would, with the treatment pursued, not merely have controlled, but subdued the inflammatory diathesis, and all that grave train of symptoms known as the sequelæ of the disease would have been prevented.

From the date of this case, the disease spread rapidly, and a large majority of the cases were of equal severity with this. Bleeding was now considered a matter of prime necessity in the treatment; and in no case where the attack was sudden and violent was it omitted; and in no case where it was performed was there reason to regret it. The recoveries were considered rapid, occupying from ten to seventeen days; and they were perfect, as no trace of any indisposition referable to the disease remained in the system.

The next case I shall present was fatal; and to it I shall append some remarks.

June 6th.—Joseph Emery, 4½ years old, well grown, healthy and vigorous, was seized with a fit of vomiting at 5 o'clock, morning. His symptoms were so nearly like those in the case above that it is unnecessary to detail them. The vomiting soon brought out the rash, which was general, and of the same malignant character as in Brackett's case. He was bled, had a cathartic, and cold water was applied to the surface of the body and extremities until the heat was reduced to the natural temperature, and the rash, with the puffiness of the skin, was quite removed. Cold cloths were directed to be kept constantly applied to the swellings about the neck and throat, and also to the orifice of the bleeding, which, by the way, was a necessary precaution in all cases where there was any abrasion or destruction of continuity of the skin; otherwise, a dry gangrenous action would set in, and dangerous eschars would be the result. I left him at 9 o'clock, in a very favorable condition, directing the application of the water sufficiently to keep down all increase of

heat and redness of the skin. The infusion of pepper to be given every four hours.

Eight o'clock, evening.—All directions for treatment during the day had been entirely neglected, and every symptom had returned with increased intensity. For an hour and a half, I gave my undivided attention and effort to redeem the advantage which had been lost during the day. His condition was again entirely satisfactory. The necessity of good nursing had been so thoroughly vindicated that I had no doubt of an entire observance of all my directions in the future.

7th, 9 o'clock, morning.—The report of last evening is equally applicable to this morning. No effort had been made during the night to control the disease. The eschars in the throat were sloughing, and every effort to speak or swallow was intensely painful. The membrane of the mouth was parched and dry, and the teeth covered thick with sordes. It is unnecessary to continue the daily reports, as they would only show the uninterrupted progress of the disease to a fatal termination on the 12th. It is, however, necessary, in defence of the treatment, to state the following facts. There were two other cases, older brothers of this boy, in progress in the same house, at the time of his attack. Their ages were, respectively, thirteen and eleven. Their disease was of an equally severe and malignant type. The prescriptions in all these cases, allowing for the difference in age, were precisely similar. The difference in the result was entirely attributable to the fact that these boys were nursed by a paternal aunt, who was a sensible woman, and every direction was implicitly obeyed; while the youngest was nursed by his mother, who was a timid yet very obstinate woman, and no persuasion could induce her to do a thing in opposition to the boy's will. The treatment, therefore, in his case was rendered entirely abortive; while in the others it resulted in a rapid and perfect recovery.

I will now give a case of scarlatina complicated with croup.

June 18th.—Samuel Thomas, a healthy, vigorous boy, two years and three months old. Has been slightly indisposed for the last twenty-four hours; is fretful, has slight fever; pulse 98, and rather hard; skin dry; tongue not coated, but of a mottled, brownish appearance at the base; no perceptible swelling, but increased redness of the tonsils and uvula. Scarlatina was in the house, or his case would scarcely have excited attention. He had an emulsion of castor-oil, spts. terebinth. and spts. nit., after the action of which his symptoms were improved. A faint scarlet eruption appeared upon the neck, breast and body. A cooling diaphoretic mixture was prescribed, and continued to the fifth day of the disease, when desquamation commenced to take place. The skin still continued dry and rather hot, but the redness and eruption had disappeared. On the night of the fifth, a hoarse cough came on, and in the morning his case was

unmistakably croup, or cynanche trachealis. He died the following night. Up to his attack of croup, it will be seen that he was treated entirely upon the expectant plan. It was a sad failure. Had he been bled at first and taken an active cathartic of calomel, I have no doubt the eruption would have come out freely and fully, and the result would have been different. The eruption once fully established on the skin and in the throat, and all the internal organs are relieved. It can be there successfully treated without the risk of retrocession.

The following case, though occurring four years subsequent to the epidemic, is of interest, as showing a rare form of attack. I find in my memoranda it is set down as scarlatina complicated with congestion of the brain. While I shall incidentally notice another case occurring in the same family and at the same time, it is the boy's case particularly to which I would direct attention.

1836, May 14th.—Was summoned to visit two children, the only children of E. Varney, a girl and a boy. Their ages were nine and seven years. The girl was the elder. The afternoon was pleasant, but the ground was damp and cold. They were at play in a grove, a few rods from the house. The boy suddenly fell down in a convulsion. The cries of the girl speedily brought assistance from the house; but before the boy was removed, the girl was seized with a fit of vomiting. I saw them at 5.30 o'clock, about two hours after the attack. There had been no sign of consciousness or sensibility exhibited by the boy from the time of his attack. His face was pallid, surface cold, and the pulse at the wrist only occasionally perceptible by a feeble vibration. In short, his appearance was entirely cadaverous. His friends had been actively engaged, using all the means within their power to restore warmth, sensibility and consciousness, but to no good purpose. The vomiting, in the case of the girl, had been immediately followed by a copious eruption, which unmistakably indicated scarlatina; and upon examining the throat, this opinion was abundantly confirmed. In the epidemic of 1832, many cases were ushered in with convulsions. I therefore believed the boy's attack to be of that character, and determined, if possible, to bleed. The temporal artery was cut, but only a few drops of blood seemed to exude from the skin. The head was depressed, and friction with hot flannels continued. After a few minutes, the artery of the other temple was cut. The blood dripped from this slowly, but evidently coming from the vessel. The flow increased, and now it dripped from both temples. After about five minutes, it was thrown out by a perceptible jet, and when about eight ounces had been taken, consciousness was somewhat restored. He knew his mother, and called her by name. He was now able to swallow, and occasionally a teaspoonful of the pepper mixture was given him as a stimulant and cordial. The friction was continued until a comfortable warmth was restored to the surface. A cathar-

tic of calomel was directed to be given at bed-time, or sooner if the head should become hot and painful; and, in that case, cloths to be applied wet with cold water.

15th, 9 o'clock, morning. The boy's condition is much improved. The eruption is out upon the neck and breast full, and more faintly upon the body. Pain and heat of the head, redness and swelling of the tonsils, with difficult deglutition. The eruption continued to extend for three days. All these symptoms gradually subsided, and on the seventh day desquamation took place. His recovery was complete in fifteen days. In the girl's case, there was no complication to distinguish it from an ordinary scarlatina anginosa. The swelling, eschars and sloughing retarded her recovery beyond that of the boys.

I have remarked above that during the epidemic of 1832 I treated 247 cases. Of these, 5 were fatal, or a fraction ($\frac{5}{247}$) over 2 per cent. Since that time, in several milder epidemics, and in sporadic cases, I have found the same treatment equally successful.

A striking peculiarity will be observed in the two first and last cases I have given; that is the suddenness of the attack. In very many of the cases, and those were of the most malignant character, the premonitory symptoms, such as chills, alternate flashes of heat and cold, headache, pains in the back and limbs were entirely wanting, or unobserved. No complaint was made until the patient was suddenly struck down and overwhelmed with the disease. Cases occurred where children in a schoolhouse, standing in their classes for recitation, were suddenly seized with convulsions, or syncope, or vomiting. Two such cases I witnessed before their removal.

Austin, Sept. 16, 1873.

THE AIR-BALLOON IN CHILDBIRTH.—The following are the conclusions of M. Vinoy (*France Médicale*, Aug. 9, 1873) with regard to the employment of the air-balloon in accouchements:—

1st. The balloon, introduced into the vagina, brings on uterine contractions.

2d. It will be found, either when employed alone or in conjunction with other procedures, to be a useful application in producing abortion and premature delivery.

3d. In cases of hæmorrhage of moderate severity, such as characterizes *placenta prævia*, the balloon serves as a tampon, and at the same time tends to bring on labor.

4th. It is especially applicable in those cases in which labor is delayed by a want of activity in the uterus. It restores the pains when they have ceased, and augments their intensity when they already exist, both during the stage of dilatation of the os, and during the expulsion of the fœtus.

5th. The application of the balloon is perfectly simple, and entirely exempt from any danger of accident.