

An old yet robust gentleman was seized by typhus, which assumed the inflammatory character: his wife, an extremely delicate woman, attending a great deal upon him, was in a few days infected with the fever, but in her it put on the congestive form. She was from the first completely overpowered; her face grew extremely pale, and had a dejected expression; her tongue was white, but moist; she felt her head uneasy and heavy, but her mind was not disordered; her pulse became weak and irregular; and her skin relaxed and cool. She principally complained of an extreme load and oppression about the epigastric and right hypochondriac regions, together with great loss of strength. On the bowels being freely opened with calomel and jalap, the stools appeared of the colour and consistence of tar. Finding that some relief was experienced, the purgative and alterative plan was continued for about four days, at which time ptialism occurred; and it was curious to remark how the excitement emerged with the mercurial action, and how the indications of visceral congestion receded. Yet still there was a tendency to relapse in this case, which required to be counteracted by the regular exhibition of purgatives. In this lady the liver seemed to be the principal seat of the congestion, and partly on this account, and her extreme delicacy, the cure was chiefly confided to aperients and mercury; though the warm bath was occasionally used, and a moderate portion of diffusible stimulus allowed, whenever she felt faint from the evacuations.

A spare and sedentary man was infected with typhus, shortly after his recovery from an inflammatory affection, for which he had been freely depleted. The fever stole upon him insidiously for two days, and then suddenly overwhelmed his strength. His head became heavy and confused, and his breathing slower and oppressed; the pulse was feeble and fluttering; and the skin cold on the extremities, though of the natural warmth about the trunk. The tongue was white and dry; the epigastric region somewhat distended; and the stomach very flatulent, and rather irritable. This patient being considerably debilitated when attacked with the fever,

it was determined that blood-letting should be avoided, and that purgatives with alteratives, the warm bath, and blisters, should be tried. But although the bowels were very freely moved, and mercurials largely exhibited, the patient continued to grow worse daily, and at last sunk into a low muttering delirium, and had a black parched tongue, with tremulous hands. There was never any appearance of ptialism, and he died on the seventh day of the disease. On examining the body, twenty hours after death, the vessels of the brain and of the liver were found in a state of excessive congestion, though the rest of the viscera seemed to be in a natural state. In this instance, perhaps the result would have been different, if moderate venesection had been employed in the beginning; as I have since attended some of a similar nature, which terminated successfully where moderate bleeding was used in the first instance, and followed up by the warm bath, purgatives, calomel with opium, and blisters.

In the congestive typhus, especially in the worst cases, the moderate exhibition of diffusible stimulants is sometimes really necessary; not only to support the *vis vitæ* immediately under depletion, but also to contribute, after its employment, to rouse the heart and arteries, that the natural balance of the circulation may be finally restored. Indeed early depletion itself is to be considered as a stimulus, since it diminishes or removes those congestions which oppress the vital functions, and thereby it tends to produce an uniform and general excitement. When sufficient evacuations have been made, certain degrees of venous congestion may remain partly from want of power in the heart and arteries; and the judicious administration of stimulants may then contribute to communicate that power, and thus in the end to equalize the circulation. Yet diffusible stimuli, without depletion, are rarely beneficial, nay generally dangerous, and on this account should not be administered alone in such cases as have been described, and even when they are employed with or after depletion, their exhibition requires great care. It may be laid down as a general rule, that it is safer to give them with too sparing, than with too liberal a hand, for that recent case of fever



must be desperate indeed, the cure of which is to be trusted to them singly. When the first great oppression of the most aggravated examples is overcome, they may either terminate in a complete resolution, or assume some other character. If the remedies recommended be efficient, they produce a condition widely different from the original one of congestion: in short, they establish a new condition in the system, which may at once lead to convalescence, or be followed by a simple or an inflammatory excitement of the heart and arteries. Now, if stimulants be administered too freely during or after the employment of depletion, they may excite the heart and arteries too much, and produce either a simple fever, or one complicated with inflammation; the last of which is of the most frequent occurrence, probably because the parts which had before been preternaturally distended with venous congestion, are very readily roused into inflammation by a strong arterial re-action. In many cases of congestive fever there is a danger of one or other of the above states supervening; but if slight ptialism be early produced, and purgatives continued with tolerable freedom for a few days after its appearance, they will generally be prevented, or at least rendered so moderate as to be almost always remediable. When the simple or inflammatory forms of fever supervene the congestive, they must be, respectively, treated upon principles similar to those laid down for the simple and inflammatory typhus; excepting that evacuations of all kinds must be more sparingly employed, by reason of the reduced state of the system from the previous depletion.

If venesection be inadmissible in the last stage of the inflammatory typhus, it is certain destruction when the general relaxation has occurred in the congestive. At that period, the loss only of a few ounces of blood will always prove speedily fatal. There is towards the close of most acute fevers of severity, some tendency to a change in the constitution of the fluids; and this may often be witnessed so early as the second day, in the most malignant cases of the congestive typhus. The blood becomes black and dissolved, so that when drawn it never coagulates, but continues a fluid gore in the vessel.

Any approaches to this state of the blood, such as inky petechiæ, or dark oozings from the mouth and nostrils, with a weak, quick, thready pulse, always prove that the stage of collapse is at hand; and should make the professional attendant pause before he advances a step forward in the treatment (28). Depletion is then entirely out of the question, and the judicious use of diffusible stimuli, calomel and opium, together with blisters, and free ventilation, are the only means to which he can prudently resort at such a momentous crisis. Repeated doses of opium will sometimes save life, when the universal collapse seemed all but hopeless.

Sometimes in the last stage of the highly congestive typhus, an appearance of re-action takes place, a sort of agitated struggle in the system, from the wreck previously induced in some vital organ. The greater part of the surface becomes of a warm glow, and is covered with perspiration; the pulse rises, and frequently on a slight pressure, feels full, bounding, and strong; but it is only a false semblance of fulness and strength, such as may be often observed towards the close of apoplexy; and therefore it should not deceive the practitioner, since the smallest bleeding would soon sink it entirely. Some have ingeniously contended for the use of bleeding in the last stage of congestive fevers, on the plea,

(28) The distinction laid down by Dr. Armstrong, when speaking of petechiæ under the head of simple typhus, cannot be too much enforced in this place. Like hemorrhages, they may be indicative, both of excess and defect of excitement. In the first instance, they will occur earlier—be of a more florid hue—and be accompanied by other symptoms of excitement in the system. To mistake these for the second species, which are darker, resembling spots of ink, and are preceded and attended by general collapse, would be extremely hazardous. There was a time, when all petechiæ were confounded, and supposed to be symptomatic of putridity. Dr. Rush, by setting his face against this idle theory, and the fears which it necessarily engendered, effected a very salutary revolution in the minds of his numerous readers and admirers. He has judiciously observed in his outlines of the phenomena of fever, that “what appear to some physicians to be signs of putrefaction, are nothing but the issue of a violent inflammation left in the hands of nature or accelerated by stimulating medicines.” *Medical Inquiries and Observations*, vol. iii. p. 26.



that it cannot be injurious, since there is a tendency in the case to be certainly mortal. In general the chances of recovery are then assuredly next to nothing, for if gangrene does not always exist, the visceral congestions still remain, and in combination, too, with an universal collapse. So far therefore, from the general venesection being the only mean likely to do good under such circumstances, it is of all others the most inadmissible, since it is fitted wholly to extinguish whatever feeble glimmerings of hope might remain. And who, on the faintest expectation of saving life, would rashly venture upon a step which, if it failed, must be inevitably and almost immediately fatal? It is at all times most painful to our feelings, and humiliating to our pride, to be consulted in the last stage of highly acute diseases, where the proper measures have been neglected in the first. On such occasions, it is too often contrary to the nature of things to expect that any human means should be available, and certainly all daring efforts ought to be avoided.

The milder forms of the congestive typhus, where the viscera are not so much engorged, and some degree of re-action takes place in the beginning, require a similar, though a less powerful, plan than that just delivered. In them, I have frequently used moderate venesection, at an early period, with great benefit, but in several cases have not found it necessary. Full doses of calomel, with moderate ones of jalap and antimonial powder, so that they may act freely on the bowels, with the assistance of the tepid bath and blisters, will sometimes effect the cure; but the calomel should be exhibited till the mouth become affected, and to ensure that and a warm perspiration it should always be combined with small doses of opium, when evacuations have been carried far enough. In tolerably strong subjects, it will generally be better to use one moderate bleeding before the purgatives, alteratives, blisters, and the bath:—but in old or enervated habits, the lancet should either be laid aside, or employed very cautiously, for though one small bleeding may often be advantageous at the commencement, the operation can seldom be repeated with safety, and is most certainly prejudicial at an advanced peri-

od. Neither do aged nor very infirm persons bear purgatives by any means so well as the young and vigorous, and therefore in them they should not be so long or so vigorously administered.

After evacuations by bleeding or purging, an antimonial emetic often tends to produce a favourable change in the whole circulation, and has a determinate effect on the extreme vessels, a general warmth and moisture being produced upon the skin, which before its employment had been in a very morbid and variable state. It will sometimes be requisite to administer cordials, either during or after the evacuations, in order to maintain the strength, and to equalize the circulation. Yet the precautions which have been so frequently repeated concerning them must not be forgotten here; for they ought not to be considered as an essential remedy in fever, but simply as a mean to obviate some of its consequences—to give a temporary tone to the heart and arteries, or to counteract the debilitating effects of necessary evacuations. Among the preparations in our pharmacopœias, one of the best diffusible stimulants is the carbonate of ammonia, which may frequently be prescribed with advantage in congestive fevers, when depletion has been premised; its excitement is neither excessive nor long continued, and, if given in moderate and repeated doses, it has considerable influence in determining to the surface.

It is more particularly within the first five days, that the attacks of the milder congestive typhus may be so subdued, as to ensure a favourable issue: but if that term be passed over, without the adoption of proper measures, little good, for the most part, can be done by any plan; though the bold exhibition of calomel, with small doses of opium, must then be the sheet anchor of our expectations. When the irregularities of the circulation proceed unmolested for some days, they are too frequently beyond the control of every medical agent, because they are then often connected with an irrecoverable collapse, or with actual lesion of structure. Still more effectually to inculcate these opinions, two cases may



be briefly detailed, the one remarkable for its unfavourable, and the other for its favourable termination.

A pale and delicate young woman continued to walk about for three days after she was infected with typhus, supposing that she merely laboured under a common cold. Her friends were never in the least degree alarmed, until they observed a change in her whole manner, a dull, sleepy expression of the countenance, and some confusion of mind. It was with difficulty that she could be prevailed upon to confine herself entirely to bed, which at last, however, she was compelled to do from loss of strength, about the sixth day from her first indisposition. She had frequent, though indistinct attacks of chillness, and the integuments on the forehead and abdomen were hotter than natural, while in almost every other part they felt below the healthy standard. Her pulse was quick, small, and compressible, the tongue foul, the stomach flatulent, and the respiration much oppressed. Brisk purgatives were at first tried, with a blister over the breast, and the warm bath. These measures affording no relief, calomel was largely exhibited with a view to saturate the system, but this also completely failed; and as she became delirious with a tendency to coma, some blood was drawn from the arm, a few leeches applied to the temples and a large blister upon the nape of the neck. Every thing was ineffectual, she gradually sunk into a state of insensibility, and expired on the eleventh day from the first feelings of indisposition. In this instance there was never any perfect developement of reaction, the extremities having continued cold throughout its duration. From dissection it appeared that the brain, liver, and spleen, were the organs chiefly engorged.

Another female, nearly of the same age and temperament as the former, was attacked by typhus, and complained of deep uneasiness in the head, giddiness, noise in the ears, and much oppression at the præcordia;—her pulse was weak and small, her breathing variable and anxious, her face very pale, and her skin rather cooler than natural, except on the breast and abdomen, where it was pungently hot. About eight ounces of blood were drawn from the arm, and six leeches applied

to the temples; the bowels were well evacuated by calomel, antimony, and jalap; the warm bath was used, and a blister put to the region of the stomach. This plan soon converted the fever into one of simple excitement, but the stools continuing loaded with morbid bile, mercurials were daily administered until ptyalism appeared, when the secretions were restored to a natural state; and the patient was completely convalescent on the seventh day of the disease.

In the milder, as in the severe examples of the congestive typhus, the bowels should almost always be kept in a soluble state, some days after ptyalism has been excited. If laxatives be neglected, even when there is an appearance of convalescence, a relapse is often the consequence, which, however, may almost always be overcome by procuring free motions. Nevertheless, whenever there are indications of any thing like a general collapse, be they ever so slight, evacuants of all sorts should be suspended; for they are frequently most pernicious in the last stage of fevers, and I believe that many cases are lost from practitioners persevering in the use of purgatives at such a period. At all times, during the treatment, and in all the modifications of the congestive typhus, the greatest attention should be paid to the temperature of the patient's apartment, and the drinks ought always to be given tepid: for if the temperature be low, or if large quantities of any cold beverage be given, a sudden sinking of the animal heat and of the vital power may succeed; and after this remark, it would not be necessary to add, that the cold affusions are altogether inadmissible, had not I known their indiscriminate application sometimes mortal. Even when the first shock has been overcome, still it will be necessary to regulate the temperature, not only to avoid a relapse, but also to prevent any dangerous or disagreeable effects from the mercury, which in such diseases can never be given in a cold atmosphere, without the risk of gangrene in the gums, or some equally bad or even worse sequel.

It has been suggested to me, by some experienced friends, that there are certain cases of what I have called the congestive fever, to which the depletory practice is not applicable



in the first instance; and these are, when the first attack is so exceedingly concentrated as completely to oppress the heart's action, and to sink the animal heat till the skin feel quite cold. A condition of this kind sometimes supervenes external injuries, as when a man has fallen from a height, or when a child has been most severely burnt: all good practical surgeons agree, that it is most proper to support the *vis vitæ* at first by cordials; and probably a similar plan would be best till the primary shock be over, when an extreme loss of heat has arisen from contagion or any other cause. In the Essay on the Puerperal Fever, I have pointed out a disease of that description, and towards the close of this, shall have occasion to allude to another, where the cordial treatment appears for a time to be necessary. But when there is obviously a load of venous blood about a vital organ, where the heat is not sunk too low, and where the subject of the attack has been previously sound in constitution, the evacuant treatment is in general strongly indicated; but the practitioner must never forget, that those measures also which tend to restore the temperature to a natural state are amongst the most important and efficacious, in every modification of congestive disease. Yet the nature and treatment of all congestive affections still require further investigation, and having called the attention of the faculty to them, I trust that these imperfect hints will be followed by substantial improvements. Though neither the galvanic nor electric fluids have hitherto been applied to much purpose, yet might they not be of some utility in those acute complaints where the heart is so much oppressed, and the heat so much diminished, and where one might naturally suppose that there was a deficiency of electric matter in the body? But on the other hand, as an excess of it would seem to exist in diseases of excitement, if this should be discovered to be a cause of supporting that excitement, would its partial abstraction from the body be beneficial in affections where the action of the heart and arteries is increased?

Before quitting the consideration of the congestive typhus, I must caution practitioners to be most minute in their inquiries, whenever consulted by patients, complaining of the first

obscure indications of fever; because by a hasty or superficial view they may be led to give the most erroneous opinion, and to pursue the most injudicious practice. Some infected persons are from the beginning so listless and indifferent, that they may make little or no complaint even when alarming congestions exist; and, if neglected on the first day, may die unexpectedly on the next, from an overwhelming oppression of some of the vital organs. Others, again, appear pale and languid, and yet will hardly allow themselves to be indisposed; but if two or three days should elapse without the adoption of any decisive measures, they also may become alarmingly worse, and fall victims to the irregular form of congestive typhus. These remarks, however, are not to be confined to this disease alone, since they are nearly applicable to all contagious fevers; and hence sudden or unexpected deaths occur from the influence of the contagion of the plague, and hence, too, great and dangerous congestions from that of the scarlet fever and measles, as I have endeavoured to show in a recent work. An irregular state of caloric on the surface being so inseparably concerned in the pathology of those congestive attacks which succeed contagion, it might naturally be supposed, that similar attacks would frequently arise from the influence of the weather and other causes; and indeed this is the fact, many congestive attacks proceeding from wet or exposure to a cold atmosphere, and others from the depressing passions, certain disorders of the stomach, and various other causes.

The foregoing principles and practices were chiefly deduced from an observation of typhus in a country district. It may on this account be proper to inquire, whether they be applicable to the disease as it is presented in the metropolis. Unquestionably the external signs and the internal pathology of typhus are similar in London and in the country, its simple, inflammatory, and congestive varieties having all passed