Notes

ON

THE PATHOLOGY AND TREATMENT OF CHOLERA.

BY

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WE have shown in previous communications (pp. 449 and 527) that two classes of facts stand in bold opposition to the theory that the collapse of cholera is due to a drain of liquid from the blood. We have seen that there is no such direct relation between the degree of collapse and the amount of liquid discharged from the blood as must exist if the hypothesis in question were true. We have also seen that the symptoms of collapse differ essentially from those which an excessive drain of fluid from the blood is known to produce. We have now to inquire *whether the effect of various and opposite modes of treatment upon the symptoms of collapse affords support to the theory that a drain of liquid from the blood is the essential or the chief cause of that condition.*

The Effect of Alcoholic Stimulants. The condition of a patient in collapse—cold and pulseless, and apparently exhausted—is one which naturally suggests the use of stimulants. Any one who has witnessed the speedy improvement in the pulse and other symptoms, which usually follows the administration of wine or brandy to a patient who is fainting from loss of blood or exhausted by excessive purging, might reasonably expect to obtain similar results from the same means in the collapse of cholera. Accordingly, stimulants have been given, and given freely and boldly; and the result has been a very general conviction that in the stage of collapse they are not only useless, but positively injurious. Again and again have I seen a patient grow colder, and his pulse diminish in volume and power, after a dose of brandy, and apparently as a direct result of the brandy. Dr. Gull (*Report on the Morbid Anatomy and Pathology of Cholera*, p. 185) states that, “although opium and diffusible stimuli—brandy, camphor, and ammonia—were useful at an early stage of the disease, as collapse set in, they not only failed to produce any favourable result, but often aggravated the symptoms.”

Dr. Paine, who has given an admirable description of cholera and its treatment in 1832, writes thus of stimulants (*Letters on Cholera Asphyxia as it has appeared in New York*, p. 42): “We have seen no benefit from their liberal use, and it is even doubtful whether they contribute much in any quantities. It requires the conviction of experience, however, to enable us to abstain from their use, and to resist the impulse to apply them to the dying spark.”

The very general conviction as to the worse than uselessness of alcoholic stimulants in the collapse of cholera is the more to be relied upon, inasmuch as it has been forced upon men's minds in opposition to preconceived notions and prevailing theories. The action of stimulants in the collapse of cholera being obviously very different from their influence upon patients who have been exhausted by the loss of

blood-constituents, we infer that syncope and choleraic collapse are pathological conditions essentially different; and this conclusion is confirmed in a most striking manner by the effect of other modes of treatment.

The Effect of Venesection on the Symptoms of Collapse. It is scarcely necessary to assert that no sane practitioner would think of abstracting blood from a patient who has been reduced to a state bordering on syncope by any of the common sources of exhaustion which have before been referred to (p. 527). It is obvious that the loss of blood in such cases might be attended with perilous and even fatal results. But what has been the effect of venesection in not one or two, but in a large number of cases of cholera, and in the hands of many different practitioners? Has the effect of this treatment been such as to afford support to the theory that collapse results from loss of liquid? or has it been to add to the cumulative evidence which stands opposed to that theory? We will endeavour now to answer these questions.

It is in the writings of the Indian practitioners that the largest amount of evidence is to be obtained as to the influence of blood-letting in cholera. Scot makes the following remarks on this subject (*Report on Epidemic Cholera*, p. lviii). “The abstraction of blood, unless as an antispasmodic, is a remedy so little indicated by the usual symptoms of cholera, that its employment in the cure of this fatal disease has afforded a signal triumph to the medical art. It requires no common effort of reasoning or reflection to arrive at the conclusion that, when the powers of life appear to be depressed to the lowest degree, the pulsation of the heart all but extinct, the natural heat of the body gone, and the functions of the system suspended, and incapable of being revived by the strongest stimulants, the abstraction of blood might yet prove a remedy against a train of symptoms so desperate.” “Few remedies,” he says, “on a fair trial, have been more generally and unequivocally advocated than free blood-letting; and the most that has been urged against it is, that it is not always successful.” He then quotes reports from medical officers furnishing very striking testimony as to the benefit of bleeding in cases of extreme collapse.

Annesley states (quoted by Scot, p. lx):—“In place of syncope being produced by bleeding, in the cases which I have treated, the pulse has invariably improved, and the feelings of faintness and debility disappeared.”

Bell makes the following statement (*Treatise on Cholera Asphyxia*, p. 118): “The effect of blood-letting would indeed sometimes appear almost miraculous. A patient will be brought in in a cot, unable to move a limb, and, but that he can speak and breathe, having the character, both to touch and sight, of a corpse, yet will he, by free venesection alone, be rendered, in the course of half an hour, able to walk home with his friends.”

Rogers gives the following description of the effects of venesection by a medical man who was himself the patient (*Reports on Asiatic Cholera in Regiments of the Madras Army*, by Samuel Rogers, p. 259). “There was a sensation which I am at a loss to describe, as if my heart was ceasing to beat, and a dread of suffocation; this sensation was instantly relieved by bleeding, and I recovered immediately.”

The following striking case is recorded by Sir Ranald Martin (*The Influence of Tropical Climates on European Constitutions*, 6th ed., p. 349). “On visiting my hospital in the morning, the European farrier-major was reported to be dying of cholera. I

found that during the night he had been drained of all the fluid portion of his blood. His appearance was surprisingly altered; his respiration was oppressed; the countenance sunk and livid; the circulation flagging in the extremities. I opened a vein in each arm, but it was long ere I could obtain anything but trickling of dark treacly matter. At length the blood flowed; and by degrees its darkness was exchanged for more of the hue of nature. The farrier was not of robust health; but I bled him largely, when he, whom but a moment before I thought a dying man, stood up and exclaimed, 'Sir, you have made a new man of me.' He is still alive and well."

Now, let me ask, is it possible to reconcile facts of this kind with the theory that the collapse of cholera results from a loss of the liquid constituents of the blood? If Sir E. Martin's hypothetical statement, that his patient "had been drained of all the fluid portion of his blood," were an accurate expression of facts, can we conceive it possible that he could have "made a new man" of him by abstracting largely the blood which remained in the vessels? I maintain that the numerous well authenticated instances of great and immediate and permanent relief by means of venesection in the collapse stage of cholera, are utterly and hopelessly irreconcilable with the hypothesis in question.

[To be continued.]

Illustrations OF HOSPITAL PRACTICE: METROPOLITAN AND PROVINCIAL. BIRMINGHAM GENERAL HOSPITAL.

TREPHINING FOR THE RELIEF OF EPILEPTIFORM
ATTACKS, OCCURRING AFTER INJURY
TO THE HEAD.

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[Concluded from p. 585.]

I HAVE now briefly to analyse the illustrations of the subject of this paper which I have been able to collect.

For obvious reasons, I exclude those cases in which convulsive attacks have occurred among the *primary* consequences of injury to the head, generally presenting themselves in union with other symptoms of concussion or compression, and being speedily removed by treatment, or issuing in early death. I may, however, note, in passing, the nature of the injury in certain cases of this description which I have reserved.

Of six cases, three were instances of more or less extensive compound fracture of the skull; two of simple fracture, or of fissure; one was without fracture. Trephining was performed in four of the cases, of which three were fatal with acute meningitis. So far as the injury which probably caused the convulsive attacks goes, it was as follows. In three, fragments of bone or a portion of skull depressed upon the surface of the brain, accompanied by laceration of the dura mater, and by superficial bruising of the hemispheres in two of the cases; in three, coagula of various extent, with superficial bruise of the brain in one case. One of the six cases may be particularised as being somewhat remarkable. There was depression of a portion of skull an inch in length, together with a

wound, from a kick by a horse. Little complaint was made until forty-eight hours afterwards, when a sudden attack of prolonged epileptiform convulsion occurred, and lasted for two hours, after which recovery went on rapidly and completely, all symptoms ceasing entirely.

Excluding, then, these cases of *primary* and *temporary* convulsive attacks, I have seventy-two other cases in which the paroxysms of convulsions must be regarded as a *secondary* consequence of the injury. I have included among them, from analogy, three cases of epileptiform insensibility merely, without convulsive action.

The period at which the attacks first manifested themselves presents the widest diversities. In some cases, the attacks have commenced immediately after the receipt of the injury, and can only be ranked among secondary consequences by their subsequent continuance; in others, on the contrary, several years have intervened. In some cases, the duration of liability to the paroxysms has been very brief, the liability being terminated by the intervention of remedial measures or of death; in others, the attacks have continued to recur through varying periods of time. In their mode of recurring, the fits have presented the same diversity as is observed in the true form of the malady. Sometimes they happen in a continuous series, though with very different degrees of rapidity; a single fit occurring at long intervals; or, as in the majority, the intervals being short, and the fits numerous. Sometimes, on the other hand, the fits return in a few widely separated but severe and protracted batches.

The period which has elapsed between the receipt of the injury and the outbreak of the convulsive fits has been as follows. On the same day in six; "early" in eleven; under five weeks in four; from five weeks to one year in twenty-one; from one year to four years in six; from four years to eight years in seven; unknown in seventeen. This wide diversity in the period which a given irritation occupies in producing a certain effect upon the nervous centres, of course admits of explanation in great measure by varying susceptibility of nervous constitution in different individuals. It is, however, a highly important fact, to be noted in passing, in relation to the natural history of epilepsy, and, indeed, of most other forms of nervous disease.

As may be supposed, when once established, there is a tendency in the fits to recur, the cause of irritation being permanent. Thus, *e. g.*, among the six cases in which the commencement of the fits was coincident with the receipt of the injury, they had continued in four for a term varying from ten to twenty years, occurring in two cases of the four with considerable frequency.

This fact also possesses considerable interest in connexion with the whole subject of epilepsy. In the cases now under consideration, the cause of the irritation is very obvious, and acts directly. We observe a cause of irritation which is in constant operation, producing, nevertheless, a distinctly paroxysmal disease; the paroxysms being instantaneous in their explosion, and complete in their cessation—in many cases even separated by a period of complete immunity, it may be of years' duration.

It is of interest to note, in relation to the same subject, that although in some instances the convulsive affections have been observed to be unilateral, yet that in the great majority, although the irritation affects only one hemisphere of the brain, it appears that the convulsions were general, and affected both sides of the body. This fact agrees with the law of reflex and convulsive action, which refers the production of the convulsions to the medulla ob-