

ARMSTRONG (H.K.)

OBSERVATIONS
ON
MALIGNANT CHOLERA,

DRAWN FROM

CASES OF THE DISEASE

AS IT OCCURRED AT PRESTONPANS, COCKENZIE,
PORTSETON, &c.

TREATED BY

✓
H. K. ARMSTRONG, M. R. C. S. E.
&c. late in conjunction with Mr.
Williamson, Superintendent of the
Cholera Hospital, and Member of
the Local Board of Health for
Prestonpans.

SAMUEL EDGAR, M. D. &c. late
in charge of the Cholera District,
comprehending Cockenzie, Port-
seton, and the Environs.



“Hæc igitur subito clades nova, pestilittasque

Nam penitus veniens *orientis* finibus ortus
Aera permensus multum, camposque natanteis,
Incubuit tandem populo omnes
Inde catervatim morbo mortique dabantur.”

LUCRETIVS *de Rerum Natura.*

EDINBURGH :

JOHN CARFRAE AND SON;

LONGMAN, REES, ORME, BROWN AND GREEN, LONDON; AND

R. GRIFFIN AND CO. GLASGOW.

1832.

HENRY FRANCIS GABRIEL, Esq.

CHAIRMAN OF THE LOCAL BOARD OF HEALTH FOR
TOWN AND PARISH OF ST. ANDREW

Dear Sir,

We feel much gratified that the present opportunity
enables us publicly to express our warmest of the most
kind and patriotic manner, with which you have supported
us in assisting the sanitary work of your parish
country, as a fine and a source of an annually signal
and character, had hastened the success of every
effort to depopulate the dwellings of all. It is not an
the means alone that we have great pleasure in the pro-
cess of education, since the nation's health and prosperity
rests upon the hands of your hands, during the performance
of our professional duties, require us to be ever
ready to do our duty.

Yours very truly,
H. F. G.

EDINBURGH: PRINTED BY A. BALFOUR AND CO.

TO

HENRY FRANCIS CADELL, Esq.

CHAIRMAN OF THE LOCAL BOARDS OF HEALTH FOR
TRANENT AND PRESTONPANS.



DEAR SIR,

We feel much gratified that the present opportunity enables us publicly to express our sentiments of the energetic, and patriotic manner, with which you have stepped forward to assist in alleviating the sufferings of your fellow-countrymen, at a time when a disease, of an unusually appalling character, had paralyzed the energies of many, and threatened to depopulate the dwellings of all. It is not on this account alone that we have great pleasure in the present dedication, since the uniform gentlemanly and friendly treatment experienced at your hands, during the performance of our professional duties, require of themselves our warmest acknowledgments.

We are, with much esteem,

Dear Sir,

Very faithfully yours,

THE AUTHORS.

No. 1, Hill Square, March 2, 1832.

PREFACE.

It is with some reluctance, and merely from a sense of duty to the public, in whose service we have been lately engaged, that we have resolved on committing to the press the following observations on Cholera.

Though much has, within the last three months, been written on this subject, by authors of deserved reputation and authority, there still remain many important features of the disease as it appears in Britain, which these gentlemen have either passed over in silence, or noticed in a manner so cursory, as scarcely to attract the reader's attention.

Sufficient stress, as it appears to us, has not been laid on the symptoms which in this country gene-

rally precede the state of Asphyxia. To these we have particularly directed our attention, and have divided them into two distinct periods, or stages. We have been anxious to describe them in a minute, clear, and satisfactory manner, because a successful treatment of the disease seems mainly to depend upon a perfect acquaintance with them.

The period of Asphyxia is in appearance so appalling, and in result so dubious, even under the most judicious management, that if the slightest prospect of preventing its formation can be even hoped, no labour or length of time spent in investigating the possibility, is for a moment to be deemed a sacrifice.

There is a point connected with the general history of the disease, "The question of Contagion," upon which we are unwilling to enter.—A mass of evidence, with a lengthened and tedious research, are imperiously demanded, before even an opinion can with safety be hazarded upon a subject so important, and which involves the vital interests of a country maintaining commercial intercourse with every quarter of the globe. Our time and limited scope for observation have not afforded opportunity for such accurate investigation. But, declining to offer an opinion, we confess, that though

perhaps ourselves disposed to doubt the contagious nature of Cholera, there are many facts which at present appear inexplicable on any other supposition; among which the most extraordinary certainly is that of the whole Russian court, consisting of 10,000 individuals, all of whom escaped the disease, apparently only from the strict seclusion enforced at Peterhoff and Zarcozelo.

The predisposing causes of this, like those of ordinary diseases, may be traced to a peculiarity in the mode of life, or locality, tending to debilitate the constitution, and derange its functions.—Lengthened details of these will be found in the writings of every systematic author, and upon them it would be superfluous to dwell.

Poverty of diet and habits of inebriety, singly or combined, may with justice be arranged as holding the first rank, and possessing the most extensive influence. Of these, the latter must of course be left to individual responsibility, but we may remark, that the mortality of this class of persons, (when seized) bears a most striking disproportion to the general average. We observed some attacked whilst in a state of complete intoxication, and these cases proved uniformly fatal.—The former is more immediately under the control of society

at large, and it becomes the interest of every individual forming the bulk of the better orders in that society, to use every possible means for arresting the progress of so formidable a scourge, which we conceive may, in a great measure at least, be effected, by directing their attention to the more immediate necessities of the poorer classes, by providing them with more clean and healthy abodes, and the means of obtaining a more wholesome, and nutritious diet. Placing these circumstances out of view, the mortality was by far the greatest among those who had passed the meridian of life. We observed children to battle on against their powerful enemy, and finally with success, when to all appearance it had long become a hopeless struggle.

INTRODUCTION.

THESE few remarks will not include an inquiry into the primary cause of the disease, but are intended as a key to the treatment detailed in the subsequent pages ; since we feel convinced, that theoretical views are at all times to be considered, rather as a stumbling block in the path of the student, anxious to arrive at just conclusions, than a means of assisting him towards the accomplishment of so desirable an object.

A point of great practical interest seems to rest upon a correct view regarding the nature of the discharge from the stomach and bowels ; in considering which, two very important questions suggest themselves.

Is it of a noxious character—and, in consequence, to be discharged before we can hope for the resto-

ration of health? Or, is it to be viewed as a mere consequence of perverted actions—and will not its discharge from the system increase the debility, and consequently the disease?

We have little hesitation in offering our opinion in favour of the latter supposition, since the result of practice tends to strengthen its probability, if not to establish it as a fact. We have repeatedly observed the absorption of a quantity of fluid from the bowels, (which concomitant symptoms justified us as considering of the same nature with that which had been immediately before, and for some time previously, passed off;) this is proved by all traces of its existence in the bowels being lost, and by the action of purgatives subsequently procuring solid stools.

Regarding this as a fact, the propriety of our first and second indications* will be established; the object of those which follow is sufficiently distinct, and will readily suggest itself to the reader.

* Vide page 17.

GENERAL DIVISION.

CHOLERA PYRETICA.

The disease commencing with fever, accompanied by its own peculiar symptoms.

CHOLERA APYRETICA,

Without fever, but having one or more premonitory stages.

CHOLERA ASPHYXIA;

Or the disease in which the patient sinks at once into the stage of collapse, no premonitory symptoms previously existing, or if existing, so slight as not to be observed.

THIS arrangement comprehends the disease in all its bearings, and forms a division of very considerable interest. The first mentioned, or that termed Febrile Cholera, exhibits in some instances such decided marks of excitement, as to leave a doubt whether continued fever is not about to supervene;

but more minute investigation will, in most instances, lead us to suspect the existence of the germs of a more fatal malady. These symptoms we shall mention when speaking of the different periods, or ultimate subdivisions of the disease ; but we may here simply observe, that we have seen this febrile state continue up to the moment when collapse has suddenly supervened, (as in case VI.) in this manner embracing the two first periods, the symptoms of which vary so considerably, that it will be a matter of great difficulty to give a connected view of each. We shall, however, attempt a general survey of their symptoms, as they more commonly present themselves.

First Period.

Of its approach we are often forewarned by a prickling sensation over the extremities or surface of the body ; occasionally, in place of this, there is a numbness in some particular part ; vertigo, with sense of general coldness, lasting for a short time, followed in some instances by faintness, which may recur at intervals ; acute pain of head, generally of forehead ; dark aureola round the orbits ; expression of dulness in the eyes, or if the febrile state be present, suffusion of eyes ; respiration natural, or slightly hurried ; sense of weight in the abdomen, without pain, except on pressure in the epigastric region ; a rumbling in the bowels, or sensation as if

they were filling ; they may be at this time costive, or if relaxed, the evacuations are more frequent than natural, fluid and feculent ; appetite not impaired, unless in the febrile cholera, when anorexia is present ; tongue of a peculiar white in centre, red on edges, and occasionally mottled ; pulse full, firm, sometimes slower than natural, at others slightly accelerated.

Second Period.

This consists of many of the above symptoms, but in an aggravated form. The diarrhoea now exhibits the peculiar discharge, so frequently described as resembling barley-water, whey, or thin gruel ; we have also observed a peculiar brownish fluid, with branny flocculi floating in it, to be equally pathognomonic ; vomiting of a similar matter may now supervene, but diarrhoea and vomiting do not necessarily occur simultaneously, as it is more usual for the former to precede, though sometimes the latter is first observed ; slight cramps in the muscles of extremities, usually confined to the feet and hands, accompany these symptoms ; with weight and constriction across the lower part of chest, and pain increased by pressure immediately below the sternum, with a retraction of the abdominal muscles ; respiration little affected ; voice changed in its tone ; countenance depressed, and eyes less prominent than natural. The pulse is usually from

eighty to ninety-six, and easily compressed. If relief be not immediately obtained, the fatal stage of asphyxia now rapidly approaches, marked by

Third Period, or Collapse.

Absence of pulse at the wrists ; general coldness of surface, particularly of hands and feet, which become shrivelled and blue, more particularly under the nails ; the same appearance not unfrequently is observed over the whole body, towards the fatal conclusion of this stage ; countenance hippocratic and cadaverous, made more striking by the dark aureola around the eyes, which are sunk deep in their sockets ; voice is reduced to a mere whisper, or changed to a squeaking sound ; there is entire loss of appetite, with a severe burning pain referred to the stomach, and a most ardent desire for cold water ; the discharges from the bowels, which in the commencement of this stage and termination of the last were passed with violence and in great quantity, and accompanied by severe vomiting, abate some time before the fatal crisis. The cramps are now in general very severe, and constitute the most distressing and almost only painful symptom of the disorder. There are cases however in which they are not present, or if so, are very slight ; and we have observed them in the young and robust, much more frequently than in the aged and debilitated ; though we do not profess to establish this as a ge-

neral rule. The tongue and breath are cold. Respiration is sometimes natural, though occasionally interrupted by a deep sigh; but if coma be present, the breathing becomes heavy, and frequently stertorous. The secretion of urine is entirely suppressed; a cold clammy sweat breaks out over the whole body, and, for the most part, announces a fatal termination.

Fourth Period, or that of Reaction.

The temperature of the body is now by degrees restored; the pulse becomes perceptible in the radial arteries, and gradually increases in strength; the countenance, which was before ghastly and cadaverous, assumes an appearance of reanimation; the thirst, which during the two previous stages was most intense and painful in the extreme, now gradually subsides; the functions of secretion are re-established, as indicated by a flow of urine, which had for some time been entirely suppressed; the lividity disappears, the orbits become more full, and the eyes regain their usual expression, but the dark aureola around them still remains,—a striking feature of the dreadful disease, with the last efforts of which the sufferer is, as it were, yet struggling.

During this interesting period the head ought to be carefully watched; and should the slightest appearance of stupor be observed, recourse must be had to the lancet, and the other means used to pre-

vent the state of complete coma, which is near at hand, and which, if not arrested in its earliest approach, will most certainly in the event prove fatal. Stupor may now appear for the first time, though it more frequently occurs in or immediately before the stage of collapse, congestion then taking place in the brain.

Fifth Period, or that of Fever.

Under this head few remarks are required, as it seems a consequence of the previous state of the vital and natural functions, and may with propriety be considered an effort of those functions to regain their pristine state of health. This appears the more rational, since it bears an evident proportion to the duration of the previous stages and severity of the disease. The form which it exhibits is usually that of simple congestive fever; more seldom a true typhoid character is observed, surditas, tinnitus aurium, and subsultus tendinum being not unfrequent symptoms, with drowsiness, and of course extreme debility. The pulse is accelerated, and soft; but in some instances much heat of surface with considerable thirst, a firmer pulse with pervigilium, supervene more immediately upon the period of reaction, and are followed by marks of great debility.

We have, when speaking of the period of reaction, drawn the attention of our readers to the stu-

por, which we have said, is then, in many cases for the first time observed; it becomes our duty here to draw a line of demarcation, as far as in our power, between that state and the drowsiness observed when reaction is fairly established. A recent writer (Dr. Molison) has made the following judicious remark:—"I believe that what has been regarded as the stupor of typhus, is nothing more than the refreshment of the soundest repose." But, while we admit the propriety of this remark, we cannot too strongly impress the necessity of a distinction between this state and the coma, which in so many instances occurs upon the appearance of reaction, *and before that stage is fully formed.*

INDICATIONS OF CURE.

To check the discharges from the bowels, and the vomiting;

To promote absorption, restore healthy secretion, and remove morbid accumulation;

To relieve congestion, and prevent inflammatory action.

In the third period, the primary indications will be;—

To restore the animal heat, and excite the action of the circulating system.

In the fifth stage, the indications may be arranged as those of common fever, and require no particular comment.

Treatment.

In pursuing this part of our subject, it will be necessary to pay particular attention, first, to the different periods ; and, secondly, to the indications as they apply to each of these.

For remarks on the propriety of blood-letting, and the symptoms which particularly indicate its employment, we refer to the article upon that subject ; but it will be proper to premise in this place, that it may in many instances be dispensed with, and the disease notwithstanding entirely suspended ; but, should the discharges continue unaffected by other treatment, we must not hesitate to employ this powerful agent, or most valuable time may be lost, and other symptoms supervening, its use be no longer admissible.

Upon being first called, and during the primary periods, we order the patient to bed, and place him between warm blankets ; it may also be desirable to wash the whole body with hot vinegar and water, rubbing him well with a coarse towel. The state of the bowels now demands attention ; if the discharges have been trifling, and without vomiting, one grain of opium by the mouth, followed after a short interval by a powder containing five grains of calomel with an equal quantity of rhubarb, and repeated every four or six hours, until

feculent stools are brought off, or the following bolus, will be found very efficacious :—

R. Calomelanos, gr. viii.

Pulv. jalapæ, ℥i.

Tinct. opii, m. xxv.

Confect. aromat. q. s.

This is to be given immediately, and its operation assisted, after the expiration of six or eight hours, by means of an enema, or in some cases, if the stomach is not irritable, a mild laxative by the mouth, perhaps six drachms of castor oil, or from five to ten grains of aloetic pill mass. Thirst is seldom in this stage a distressing symptom, or should drink be much desired, warm gruel may be allowed. If nausea be present, effervescing draughts with a considerable excess of alkali, will be found of service.

When the discharge has been in greater quantity, or accompanied with vomiting, more active means must be adopted to suspend it; in addition to the grain of opium, before mentioned, the most effectual will be found a suppository* of from four to six grains of opium, and should this be passed off, a second must be immediately introduced, and a large mustard sinapism laid over the abdomen, and hot bottles to the feet; fluids of every kind

* Mr. Williamson of Prestonpans has found this of great service, and places much dependence upon the suppository. He was the first to recommend it to our attention—previously we had been in the habit of using starch enemata with tinct. opii in the first, and simple starch, thrown up after each subsequent discharge of cholera matter.

are now to be strictly prohibited ; we cannot sufficiently deprecate the practice of drenching the stomach with diluents, and though we are ready to admit, that, in many diseases, nature will point out means for her own relief, yet, since we have in numerous instances observed the vomiting and purging, which were previously suspended, return upon a single draught of cold water being swallowed, (which is the fluid most anxiously called for by the sufferer,) we have no hesitation in saying that it is to be most rigorously withheld, (see case IV.) The suppository being introduced, the bolus recommended must now be given, or the pill of opium followed by calomel and rhubarb as mentioned above. The first powder is frequently rejected, and should in that case, after a brief interval, be repeated, and continued until the desired effect be produced ; or if the stomach still reject it, ten grains of calomel, with one of opium, will frequently be retained, and when the stomach has become more tranquil, the powder may be taken, or in the course of six hours, if the diarrhœa has been stopped, eight to ten grains of aloetic pill, or castor oil, with from ten to fifteen drops of tinct. opii, may be given to clear the bowels. In many instances we have found an enema of warm water, with a small quantity of olive oil, answer this purpose exceedingly well.

Purgatives composed of calomel and colocynth have been recommended, and used by some practitioners ; but as we have found watery stools pro-

duced by the drastic effects of the colocynth, we consider its use by no means unattended with danger.

When approaching more nearly the period of asphyxia, indicated by shrinking and lividity of the fingers, sunken face, hollow eye, and general coolness of surface, the tongue and breath at the same time also becoming cool, and the cramps in many instances very distressing ;*—when the pulse is feeble and the voice languid, purgatives as recommended above, are no longer admissible ; our chief reliance is now to be placed upon calomel, in large doses, combined with opium, and the cautious administration of stimuli, which latter before this period will be found highly injurious, and are not even at this time to be used in great quantity. A table-spoonful of wine, spiced with ginger or nutmeg, and given warm every half hour, or a tea-spoonful of brandy in a similar way, and without laudanum, is the dose we usually found most efficient ; having first given fifteen grains to a scruple of calomel with one grain of opium, repeating from three to five grains every hour, made into a pill with half a grain of opium, and washed down by the stimulant. These means, with the assiduous application of heat, will in general be found sufficient to prevent collapse, and the patient will pass on to the period of reaction and subsequent fever.

* These last may appear in any stage ; we have seen them the first symptom of the approaching disease, though they are undoubtedly by far the most distressing in the stage of asphyxia, fully formed.

We may remark, that sinapisms to the feet, calves of the legs, and abdomen, are of the greatest utility in this stage, or during the period of reaction. In confirmed collapse, their employment is of little service.

To restrain the vomiting, if it should prove distressing, we have sometimes given the following pills with effect :

R. Pulv. Capsici gr. iv.

Camph. gr. ij.

Opii gr. $\frac{1}{2}$ m. ft. pil. ij.

And in some cases we found strong coffee with a little brandy, as suggested to us by Professor Turner, very effectual; when it remained upon the stomach, a hot infusion of coffee was allowed as common drink.

Before proceeding farther, we have a few words to say upon stupor, which, although not necessarily attending the disease, often becomes a symptom of great consequence. It is the first sign of cerebral congestion, and will, if not arrested, certainly terminate in confirmed coma; we cannot, therefore, be too careful in watching for its appearance. The head should be immediately shaved, and cold vinegar and water applied,—at the same time a large blister to the nape of the neck, extending some distance down the spine, or a blister may be laid over the entire head. Sinapisms to the feet and other parts of the extremities are now more imperiously called for, and should not be neglected.

Having premised the foregoing observations upon

the treatment of what has been termed the primary periods, we now arrive at one more appalling, that of collapse, indicated by the absence of pulse at the wrists, and other symptoms before described. This period has occupied almost the sole attention of every writer, and without its presence some may be unwilling to allow the existence of true Malignant Cholera ; and it is with great diffidence, when we consider the extent of talent which has been expended in investigating this portion of our research, that we venture to offer an opinion upon its treatment.

The point we are desirous particularly to impress, is the necessity of bearing in mind the indications which more particularly belong to the primary stages, whilst the means for restoring the vital powers of the system are diligently employed. To accomplish these ends, from ten grains to a scruple of calomel, with one grain of opium, should be immediately administered, at the same time that dry cupping over the region of the stomach is used, or a polished steel plate previously immersed in boiling water may be held for a few moments upon the same part. This last has recently been proposed by Dr. Robertson, but prior to his suggestion, and on our arrival at Prestonpans, we had ordered one six inches square to answer the same indication. To rouse the vital actions, stimulants can now be administered with a more liberal hand, two table-spoonfuls of hop-spiced brandy may be given in water or coffee every twenty minutes or half an

hour, until reaction is in some measure produced ; boiling water poured over the feet and legs appeared (in case IV.) to have been a powerful adjuvant, and will be found more particularly serviceable if coma be present. It is necessary to rub the legs dry and surround them with warm bags of sand after the operation. Injections of beef-tea, in which sulphate of quinine is dissolved, should be thrown up to support the strength. The mustard emetic, which has been so strenuously recommended by very high authority, we conceive will, in the generality of cases, prove injurious ; in the very early stages it might be sometimes of service, but if given empirically, is certainly a dangerous medicine, and when the constitution is worn down by a long debilitating discharge, it will only tend to hasten the approach of Asphyxia. One case occurred to Mr. Williamson, of Prestonpans, where a woman, aged thirty, was suddenly seized when standing at her door in perfect health, and upon his visiting her a few minutes after, was found collapsed. Two table-spoonfuls of mustard, and a large quantity of warm water were given, as an emetic, which was with difficulty brought into operation by tickling the fauces with a feather ; a stimulating enema was thrown up, and reaction took place ; shortly after full vomiting was produced. A very protracted convalescence followed. This case is strikingly calculated to illustrate the benefit of the remedy, when collapse constitutes the first period, but we have seen several instances of decided injury

from its use in the stage of Asphyxia supervening upon a lengthened previous discharge from the bowels.

Frictions in a majority of instances we have found annoying to the patient, and of little benefit ; if however the cramps be very severe and unmitigated by ligatures applied to the extremities, decided relief is sometimes expressed from their use, when they should undoubtedly be persevered in. But as a means of rousing the vital energies, we have never deemed them of any material importance.

We have used stimulating enemata with laudanum in several instances, never with advantage, and are disposed to consider them prejudicial in the majority of cases ;* a tendency to congestion in the brain being apparently caused by them. A large quantity of plain warm water to distend and relieve the spasmodic action of the Colon, will often prove beneficial.

Of the effects of Galvanism, we are not prepared to judge, having only employed it in one instance, upon a man whose previous shattered constitution, aggravated by extreme penury and wretchedness, offered every obstacle to the success of any remedy ; the room in which he lay was damp and cold, his coverings were very scanty ; but from the

* In all periods of the disease, we give the preference to solid opium in checking the discharges, from a belief that the sudden manner in which we have seen the energies of the nervous system prostrated when the tincture had been used, was mainly attributable to its agency

effect observed on this occasion, we are inclined to hope that under more favourable circumstances much benefit may be derived from its employment, and we should certainly recommend a fair trial of its powers in the stage of confirmed collapse.

When the pulse is restored, which is in general preceded by extreme restlessness and gradual return of temperature over the surface of the body, stimulants are to be again gradually withdrawn, first, by diminishing the quantity, and afterwards lengthening the intervals between each dose, and the use of beef-tea injections holding in solution a few grains of sulphate of quinine are also advantageous in this, as well as in the preceding stage. Care should be taken during this period to preserve the heat of the extremities, and guard against the occurrence of coma, the necessity for which we have before pointed out, and the means will of course suggest themselves to every practitioner. In the fever which succeeds, it is simply necessary to support the strength by wine in small quantities; under its administration the pulse will become slower and more full; the mildest diet is of course indicated, sago and arrow-root, (to which a small quantity of wine may be added,) or rice made without milk will form the most appropriate regimen for some days. The bowels, if tranquil, should not be officiously disturbed, and if irritable, as is often the case, a powder containing two scruples of prepared carbonate of lime and half a grain of opium will readily check the discharge, or if required, may be repeated.

On Bloodletting.

This most important subject has occupied the attention of every writer upon the disease, from its first general appearance in the east, up to the present moment when its ravages are depopulating our own shores. During this period, some have advocated the indiscriminate use of this powerful remedy in all stages, under every circumstance, and without regard to individual peculiarity of constitution, age, sex, or duration of the disease; others again tell us that it is in the primary stages alone we are to look for benefit from its use; that in the more advanced, the lancet will, in place of proving beneficial, only hurry our patient to the grave. These last, however, have not, so far as we are aware, delineated the boundaries and indications of these stages, a knowledge of which might in some measure lead to a rational application of this potent auxiliary.

It is true we are told by some, that the pulse must be the index,—that if we find it full and firm, bloodletting is safe, but, on the contrary, if weak and soft, it is at all times a doubtful, and in many instances a deleterious agent. But we would ask, is this to be our only, or even our primary guide? The answer to this question is to be drawn, and the superstructure of a natural and rational mode

of practice to be built, as we conceive, from attending to the periods of the disease, (as already laid down) and the peculiarities of individual cases, which may be influenced by the habits of body, mode of life, or a variety of predisposing causes, which may materially alter the course of the disease, and will in a corresponding degree require a judicious arrangement of the indications of cure, and application of remedies. The disease improperly, or perhaps rather unfortunately termed Cholera Morbus, exhibits these varieties in a most striking degree. Many cases occur, in which the first period we have laid down is not observed, indeed is entirely absent. The same remark may with equal justice be applied to the second, or the disease may appear with the third period or stage of collapse, neither of the other stages mentioned having been formed. This would seem to have been of most frequent occurrence in the eastern world; and is most ably described by Mr. Hamilton Bell, under the title of Cholera Asphyxia, a term unhappily chosen, since it might be the cause of our overlooking most important symptoms, which, in this country at least, we are persuaded will in a great majority of cases, forewarn us of the approach of this dangerous state.

In judging of the propriety of using the lancet, the following points are particularly worthy of attention. The progress of the case from its commencement, the mode of attack, duration of its primary periods (if present), and particularly the

quantity of Cholera discharges from the bowels. If the latter have existed forty-four hours or more, the individual is in consequence much debilitated; and if we have reason from the state of the pulse, temperature of the body and general symptoms, to apprehend the immediate approach of the stage of Asphyxia, we should consider bleeding to be worse than useless, and have reason to fear that we have found it prejudicial. On the contrary the same appearances, and period of the disease, taking place suddenly, without diarrhœa, or any other debilitating discharge of marked duration or quantity, where there exists much vertigo, or pain of head, sense of oppression, and constriction across the chest, and complaint of pain in the region of the Epigastrium; and where the vital powers seem suddenly prostrated by some invisible cause, and collapse is at hand, indicated, as in other cases, by the hollow and cadaverous countenance, feeble pulse, altered voice, cold and livid surface; or even should the pulse be entirely absent, marking the presence of true collapse, a vein is to be opened, and if blood can by any means be obtained in sufficient quantity, it will prove a principal means of rousing the vital actions. If called sufficiently early, it is desirable to stop the discharge from the bowels, and if possible the vomiting, by means of an opiate. This we have found in many instances to be shortly followed by reaction, when blood may be drawn with much greater prospect of advantage; and subsequent care, with judicious management, will remove the pa-

tient beyond the boundaries of that fatal state, into which half an hour's delay would have inevitably plunged him.

Having made these remarks upon the stage of Asphyxia, and the state of immediate approximation to it, we may now turn to the two primary and milder, though not less important periods, when a pulse of a different nature presents itself, and the lancet may be more unhesitatingly appealed to, and, when necessary, with most decided advantage. In many cases the disease is readily subdued without its aid, but if its use be indicated by pain in the Epigastrium, vertigo, tinnitus aurium, headach, or constriction and tightness across the chest, and we have reason to apprehend congestion taking place in the portal system, with the flow into the bowels of that peculiar matter so characteristic of the disease;* under these circumstances the diarrhoea having existed but for a short period, or if for a longer time, having been in small quantity and at lengthened intervals, without reference to the pulse, which has been already described under the head of these particular periods, we do not a moment hesitate to bleed to relief of symptoms, or to approaching syncope, regardless alike of the quantity drawn, (which will in few instances exceed twenty ounces,)

* This may be ascertained by the rumbling or rather trickling sound in the Abdomen, and by placing the hand upon the integuments is in many instances to be distinctly felt, though the Stethoscope will be found a more certain guide in detecting its presence.

and of the nature and appearance of the blood. This, however, is in the majority of cases at present little changed, and separates an abundance of serum. We the more unhesitatingly recommend this practice, from observing that in numerous instances, not only are the purging and vomiting entirely suspended, but also farther accumulation of fluid in the intestines prevented, as inferred by the absence of the trickling sound previously noticed.

The period of reaction, one of great interest, still remains to be mentioned under this head, which, as we have already remarked, requires minute attention, and if the circumstances pointed out should indicate the propriety of bloodletting, the quantity necessary to be drawn must be regulated by the constitution and previous habits of the individual, bearing in mind the period of fever which is about to supervene. The most effectual mode of abstracting blood in this case, is by opening the jugular vein, or cupping on the nape of the neck.

CASE I.

Samuel Hopson, Cockenzie, aged 24, a strong healthy seaman,

Was seen February 12th at three P. M. Has had diarrhœa for two days, which has now increased in frequency. Discharges reported thin and feculent.

To have a grain pill of opium, and afterwards a powder with six grains of calomel and eight of rhubarb.

8. P. M. Purging of cholera matter and frequent vomiting have now supervened. Feels the rumbling and trickling sensation in his bowels, with pain in the epigastric region; tongue of a peculiar white appearance; pulse 60, full but soft.

Was bled to sixteen ounces when he fainted, after which the rumbling and trickling sensation ceased, and pulse rose. To have immediately the following powder.

R. calomelanos grs. xv.
Opii gr. i. M.

To have a suppository of five grains of opium introduced immediately.

13th, 9 A. M. Has passed one very dark stool, but has had no more vomiting or purging. Pulse of good strength.

To have two aloetic pills—sago for food, and barley-water for drink.

14th.—Several feculent stools from the pills; is sitting by the fire, convalescent.

CASE II.

Mrs. Copeland, Prestonpans, aged 50, February 2d, 4 o'clock, A. M. Has purged all yesterday; at 12 o'clock last night vomiting and cramps first came on; she felt also a sensation of coldness which lasted for some time, and was accompanied with vertigo. Complains at present of pain in the epigastrium, increased by pressure, but unaffected by a deep inspiration. The respiration is natural, and the chest expanded with ease; there is a dull pain in the occiput, and the lower extremities are severely cramped; the stools resemble a clear infusion of coffee with branny flocculi dispersed through it; the tongue is white and cool; there is much thirst and nausea; urine is scanty; surface of the body cool; pulse 80, very soft.

R. Calomel ℥j.

Opii gr. i. statim

sumendus—

Injic. statim enema amyli cum tinct. opii ℥ij.

Capiat omni hora.

Calomelanos gr. iij.

Opii gr. $\frac{1}{2}$.

Emplast. lyttæ nuchæ.

Apply heat to the body by means of bottles and hot sand bags.

10 A. M. Has perspired slightly since the visit; countenance is improved, and surface warmer; complains much of nausea and thirst, but vomits immediately upon drinking the smallest quantity: has taken two pills, which are retained; purging checked by the enema, which was soon passed off; pulse 84, soft and more full.

Habt. pulv. effervescent. subinde : et contr. pil.
calomel. c. opio.

6 P. M. Passed one gruelly stool at eleven; purging and vomiting still continue with occasional cramps; has taken only one more pill of calomel and opium, making in all, three; pulse 100, soft and moderately full. Was bled to 12 ounces, when syncope threatened, or more blood would have been drawn. Pulse, after the bleeding, fell to 92, she felt less sick and generally relieved.

Ordered a tea-spoonful of hot brandy in water every hour, and to repeat the pills every three hours. Heat of surface to be maintained by sand, &c.

Friday 3d, noon. Upon visiting her last night at nine, she was found in a quiet sleep, which lasted till two o'clock. She slept afterwards at intervals during the night. There has been no return of vomiting; a quantity of water was passed with the two last stools, which are more healthy, but without any marked appearance of feculent matter; no cramps; countenance more natural; some complaint of tightness across the lower part of the chest, and a sense of heaviness of head; tongue is white and moist, with very little thirst; pulse 88 of moderate strength.

R. Mass. pil. aloet. gr. x.
Opii gr. $\frac{1}{2}$ M. ft. pil. ij.

Statim sumendæ.

Intr. pil. calomel. et opii.

10 P. M. No operation from the pills, but one morbid stool has been passed since last visit; no return of cramps; slight occasional nausea, some thirst, and mercurial fetor of breath. Head is easier.—Quiescat.

Sunday, 4th, 8 A. M. Has passed a bad night in conse-

quence of the sudden attack of the same complaint in her son, whose case is far advanced towards a fatal termination ; but had this morning one feculent stool, and seems, upon the whole, tolerably well. Mouth very sore.

Habt. post horas tres,

Ol. ricini $\bar{\text{z}}$ iv. $\bar{\text{c}}$.

Tinct. opii m. x

6 P. M. Oil not taken—no change—feels a disposition to sleep.

Sunday morning. She is now in a very unsatisfactory state, with a return of the purging, and occasional vomiting of cholera matter ; states she did not sleep at all during the night ; features somewhat shrunk ; pulse feeble, about 90 ; no complaint of headach, surface warm.

R. sol. M. morph. g^{tt} xl.

Aq. fontis $\bar{\text{z}}$ j. M.

Pro haustu statim sumendo.

6 P. M. Has slept at intervals from the effect of the draught, still occasional purging but no vomiting.

Rep. haust. c. Sol. M. morph. gtt. xxv.

Monday, 8 A. M. Has passed an indifferent night ; purging continues, and vomiting has returned, and she appears much debilitated, countenance is anxious, pulse 88, feeble ; no complaint of pain or return of cramps, voice languid, no urine passed since yesterday.

A suppository of five grains of opium was introduced, and the following pills prescribed.

R. Pulv. opii gr. ij.

— Capsici gr. xij.

Conf. aromat. Q. S.

ft. pil. viij. sumat duas tertiâ quaque horâ.

Admovr. Emplast. Lyttæ Epigastrio.

4 P. M.—Diarrhoea has ceased; occasional vomiting when any fluid is taken. (Pills omitted.)

4 P. M.—No return of diarrhoea; two pills taken; stomach tranquil; pulse 90, of good strength.

Two tea-spoonfuls of wine in a little warm water occasionally.

9 P. M.—Has vomited once, and felt a sense of weight in the abdomen shortly before; complains of slight tenderness in the left hypochondrium on pressure; has had a return of the purging, and passed a small quantity of water at the same time; feels some rumbling in the bowels.

Repeat the suppository.

Appl. Sinapismus parti dolenti.

Tuesday 8 A. M.—Passed a good night and without purging; blister has risen well with much relief to sickness; tenderness of left hypochondrium relieved by the sinapism, complains to-day chiefly of debility, and some thirst; tongue much furred, white; pulse 100, of moderate strength. Mouth very sore.

R. acid. nitrici, ζi . Aq. fontis Oii. M. Pro potu communi,

Arrow root or sago with a little wine for diet.

Wednesday Morning.—Slept at intervals throughout the night; has had neither purging nor vomiting; surface is rather hot; thirst continues; tongue dry in the centre, moist on edges; pulse 96, of moderate strength.

Cont. ut heri.

She had a protracted illness from this time, of nearly three weeks' duration, which exhibited through its course the symptoms of common continued fever. By the use of tonics, occasional laxatives, and an anodyne at bed-time, she is now in perfect health.

CASE III.

Adam Horn, Cockenzie, aged 18 months, a stout child and previously healthy, was seized on Friday 10th February at 11 P. M., with purging and vomiting. These continued till 6 next morning, when he was first seen. He was then lying in a comatose state, with his eyes closed, and could not be roused; no pulse could be felt at the wrist; the features were collapsed, with a dark aureola round the eyes; his tongue, breath, and the whole surface of his body, felt extremely cold. Vomiting and purging had ceased about half an hour before the visit.

Habeat statim pulvis ex calomel. grs. iii. Pulv. rhei, grs. iv. Opii, gr. $\frac{1}{3}$ M. c. saccharo. Abradantur capill. et appl. empl. vesic. magnum capiti.

To have every twenty minutes two or three tea-spoonfuls of brandy in warm water. The child was ordered to be placed near the fire and well covered with blankets. Direction was given to avoid cold drinks.

10 A. M.—Coma continues with some jactitation; there is some pulse at the wrists, but small and weak. The surface of the body is warmer; vomiting and purging have not returned; the appearance of the countenance is somewhat improved.

The powder prescribed at last visit to be repeated, omitting the opium. To have one tea-spoonful of brandy every half hour.

Appl. sinapism. cruribus.

4 P. M.—Pulse much improved; coma still continues; one small discharge of cholera matter from the bowels; vomiting has not returned.

Ordered a starch injection and the brandy every hour.

7 P. M. Pulse of pretty good strength; surface quite warm; countenance in every respect improved, but coma continues.

Two tea-spoonfuls of wine were substituted for the brandy.

12 Midnight. The blister ordered in the morning has risen well; has passed one dark stool; five minutes after which, he opened his eyes and smiled. Pulse of good strength, heat of the body natural.

Omit the wine, only giving a little with sago occasionally.

12th, 9 A. M. Generally much improved, but pulse less full; still some heaviness of eyes; no stool since last visit; blister discharges well. Repeat the wine every two hours.

To have a five grain aloetic pill.

2 P. M. Pulse of good strength; dullness of eyes continues; the pil. aloet. has been given dissolved in a little wine; no stool as yet.

Intermit the wine, and apply a blister to the back of the neck.

10 P. M. One feculent stool from the pill; blister has risen, and the child is lively; pulse of good strength; appetite has returned.

From this time he continued rapidly to improve.

CASE IV.

Peter Horn, aged ten years, a stout and naturally healthy boy, was seized on Friday, February 10th, 9 A. M., with vomiting of a watery fluid; at 11, purging of the same matter supervened. He complained at this time of severe pain over the forehead and vertigo; was feverish; eyes were suffused, and abdomen painful; had anorexia and great desire for cold water, which was imprudently allowed by the

mother, and as frequently vomited ; passed a small quantity of urine before the attack came on.

Previous to this, he was in perfect health, slept well during the night, rose between seven and eight, and breakfasted as usual upon porridge, made with water and sugar, and went out to play.

Was seen first on the morning of Saturday, at 6 A. M.

Complains much of pain of head and occasional vertigo ; countenance is anxious and febrile ; there is considerable heat of surface, and a dark aureola round the eyes ; the vomiting and purging still continue, and the matter is passed from the bowels with considerable violence. Pulse 92, very soft ; tongue white. Ordered to abstain from all fluids.

Habt. opii duri, gr. j. et post semi-horam

Pulv. rhei grs. vi. calomel, grs. iv.

10 A. M.—Has taken two of the powders, the first was rejected ; both the vomiting and purging are less frequent, and the latter is in less quantity ; no other change.

Repr. pulv. rhei. et calomel.

Half-past 11.—Some farther mitigation of symptoms ; no feculent stool.

4 o'clock.—Still some purging with occasional vomiting ; feet rather cold.

Repr. pulv. rhei c. calomel.

Injr. st. enema amyli cum tinct opii gtt. x. et repr. sine opio post singulam sedem liquidam.

12 at night.—Both purging and vomiting have returned with great violence in consequence of taking cold water ; has also been out of bed and sat by the fire for a quarter of an hour ; headach is severe ; complains of excessive thirst and much restlessness ; surface is cool ; countenance more depressed, and eyes more sunk.

To have two grains of opium introduced as a suppository,

and two tea-spoonfuls of hot spiced wine every half hour, with a little brandy occasionally.

Sinapism to the stomach; heat, which had been previously ordered to be diligently applied by means of sand, &c. &c.

Sunday, 9 A. M.—We found that from the neglect of his parents, he had been allowed to rise during the night, and walk to the front-door of the house, where the water-can was standing, and having laid himself down upon the damp ground, drank a large quantity of cold water, which he continued to do at intervals during the night, but it was always immediately rejected; the wine which was given occasionally, but not with regularity, was however retained; no return of purging; pulse very feeble.

To have a little sago, and continue the wine and brandy.

2 P. M.—Vomiting less seldom since water has been withdrawn, but purging has recurred; is very much collapsed, and generally cold; hands and feet particularly so; tongue and breath cool; pulse scarcely to be felt.

Repeat the suppository, continue the wine and brandy.

6 P. M.—Suppository retained; much vomiting and prostration of strength.

Habt. statim opii, gr. ss.

Calomel, grs. iv.

Contr. alia.

10 P. M.—Vomited upon drinking some water; no return of purging.

Habt. opii, gr. $\frac{1}{4}$.

Contr. alia.

Monday, 10 A. M.—Wine and brandy, contrary to the most strict injunctions, have been discontinued since four o'clock; pulse now absent; is in complete collapse; cold

all over, with general blueness, which is particularly marked under the nails of fingers.

To have a table-spoonful of hot brandy with ginger, every twenty minutes.

4 o'clock.—No change

R. Ammoniae carb. ʒi.

Confect. aromat. ʒi½. M.

Sumat partem quartam omni hora.

Continue brandy.

Half-past 7 P. M.—We found him this evening in the same state, and complaining of extreme thirst. Dry cupping was now used over the chest and abdomen, and boiling water poured from the knee downwards over both legs and feet, this produced great pain, they were afterwards rubbed dry, and warmth applied.

Wine and brandy ordered to be continued.

Tuesday, half past 7 A. M.—Pulse still absent, but feels somewhat warmer, and was very restless during the night, makes no complaint of head.

To have a tea-spoonful of brandy with a table-spoonful of hot spiced wine every half-hour.

10 A. M.—Pulse can now be felt, though with difficulty, no vomiting or purging.

Hab. opii gr. ss.

Continue the wine alone.

3 o'clock.—Pulse still very indistinct, but surface warmer, and voice more strong.

Continue the wine ; sinapisms to feet.

9 P. M.—Pulse more distinct, tongue furred and dry, less thirst and restlessness.

Quiescat.

9 A. M. Wednesday.—Slept some through the night, and is improved this morning ; some dulness and tinnitus aurium.

Two tea-spoonfuls of wine in hot water every hour,

and an injection of beef tea with four grains of sulphate of quinine.

Thursday morning.—In the course of Wednesday passed a quantity of water, and has continued to do so occasionally. Bowels reported tranquil, but has passed one discharge of a yellowish colour; pulse 96 of moderate strength; tongue less furred, dry in the centre, moist and red on edges; face more natural, eyes more prominent, and aureola nearly gone; the voice is stronger. No blisters occasioned by the boiling water, which was poured twice over both legs, &c.

Friday.—Countenance is much improved, and eyes are now prominent; passed a good night, and makes no complaint, but says he is better; there is still a little thirst; has made water two or three times; pulse 96, of moderate strength; tongue dry in centre, moist on edges; no stool since last visit.

To continue a small quantity of wine, and have sago for food.

The case now loses all interest; our patient gradually convalesced, and in about a fortnight was perfectly recovered.

CASE V.

Catherine Cunningham, aged 45, of intemperate habits.

Monday, Feb. 6.—Has been complaining for some days past of slight diarrhoea and headach, sickness and anorexia. On Friday the purging became more severe, for which she took a dose of the sulphate of magnesia, and thought she felt relief. This morning the purging returned with greater violence, and came away in a full stream every five or ten minutes; thinks she passed altogether more than a gallon of watery or whey-like fluid. Was first seen by Mr. Williamson, who gave her one grain of solid opium,

which has checked the purging somewhat ; took shortly after a small quantity of whisky and water ; it was however, immediately rejected. Admitted into hospital at 12 noon. No vertigo, but slight pain over the forehead ; anxious countenance, with dark aureola round the eyes ; respiration natural ; no pain of abdomen, but feels a rumbling in the bowels, and has occasional purging, but less severe than in the morning ; slight cramps in both legs ; skin cool ; fingers and nails livid. Pulse 90, very weak ; tongue white ; thirst urgent.

R. camph. grs. xii.

Opii grs. $i\frac{1}{2}$.

Calomelanos grs. xviii.

M. Fiant pil. vi.

Sumat unam alterâ quâque horâ.

R. Spt. æther nitros.

Spt. ammon. ar. ana $\text{ʒ}iii$.

Ol. menth pip. $\text{ʒ}ii\frac{1}{2}$.

Spt. vini rectific. $\text{ʒ}ii$. M.

Sumat coch ii. minima.

Omni horâ ex aquâ.

Vespere.

Complains still of headach ; skin very warm ; feels much easier ; no vomiting or return of purging ; pulse 96, of good strength.

Has taken four of the pills, and three doses of the stimulating mixture.

Omitt. mistura.

Cont. pilulæ.

Thursday, 9 A. M.—Is improved in every respect ; no vomiting, and only one gruelly stool ; pulse of good strength.

Habt. opii duri gr. i.

Wednesday.—Makes no complaint ; bowels not moved.

To have arrow-root for food.

She required no more medicine except an ounce of castor oil on the Friday, her bowels not having been opened. Complains now only of a sore mouth.

Tuesday following dismissed cured.

CASE VI.

Elizabeth Pow, Portseton, aged 35, a fisherman's wife, stout and healthy.

February 11, 12 o'clock noon.—Complains of vertigo; pain of head, back, and abdomen, with chilliness. Face is flushed, and eyes suffused. Has nausea and anorexia; pulse 90, of moderate strength; tongue clean and florid. States that she was attacked first on the 9th inst. at one A. M. with pain of the head and abdomen; had a rigor previously in the afternoon. She returned from Fisherrow much exhausted about an hour ago, having been there with a heavy burden.

R. calomel grs. v.

Pulv. rhei grs. viii.

8 P. M.—Upon first entering the house her countenance was still febrile, headach and pain of bowels continued. Has purged and vomited several times since last visit; matters vomited resemble small beer mixed with mucus, and without smell; denies having taken any thing of the kind for drink, (did not mention in the morning the state of her bowels, or that she had vomited at intervals throughout the night;) the pulse was distinct, but whilst we were inquiring of her husband more minutely into the previous history of the case, her features suddenly became collapsed; the face pale; articulation imperfect, and the pulse could now scarcely be felt. A scruple of calomel, with one grain of

opium were immediately given, and a table-spoonful of brandy in hot water ordered every half-hour.

A suppository of six grains of opium.

Hot bottles to the feet.

11 P. M.—Pulse much improved, less vomiting, and only one cholera, but not very copious stool.

Appl. sinapism epigastrio. A pill, with three grains of calomel, and one of opium, and two of camphor, every two hours, until three are taken.

12th, 8 A. M.—Suppository was rejected at twelve midnight, but another was introduced, which still remains; still some vomiting; purging of cholera matter twice since last visit. Pulse 84, of good strength, countenance improved. States that she suffered from cramps in the feet and right hand three or four times during the night, which were relieved by frictions, and are now entirely abated.

A one-grain pill of opium immediately, and five grains of calomel, and eight of rhubarb every six hours.

Omit the brandy.

2 P. M.—Much the same as last visit.

Opium pill repeated.

8 P. M.—Still occasional vomiting, purging less frequent, and in small quantities. Pulse rather weaker, and surface less warm.

Two tea-spoonfuls of brandy every two hours. A sinapism to the stomach.

13th.—Through the whole of this day slight vomiting and purging recurred occasionally; no cramps since yesterday morning. The brandy had the effect of improving the pulse. Surface of the body is generally warm, but bottles of hot water require to be applied to the feet. Countenance much as before; still some headach.

Another suppository to be introduced; continue the

powders of calomel and rhubarb. The brandy as before.

14th.—Still nausea, with a frequent inclination to vomit; purging has ceased; is generally improved. Two teaspoonfuls of brandy in strong coffee seemed materially to aid in allaying the vomiting, which had ceased entirely shortly after it was given.

Omitt. medicamenta. Sago was ordered for diet, and the brandy omitted.

From this time she gradually improved. Her bowels remained constipated for three days, when they were opened by aloetic pills. We now discontinued our visits.

On the twenty-first we saw her in good health, but still rather weak, and complaining of the soreness of her mouth.

Dr. E. had seen the patient in the morning. In the evening we both visited her. Upon first entering (as mentioned in the detail of the case,) the countenance was still febrile, and pulse distinct; but before leaving she was on the verge of asphyxia, the pulse suddenly passed from under our fingers, the features became contracted, and the surface cold. So sudden was the transition from a state of febrile excitement, to one of almost perfect collapse! Had the lancet been used at the time of the first visit, we feel convinced that the disease would have been at once arrested.

CASE VII.

William Storie, a collier, aged 26, residing in Prestonpans, is of spare habit, but healthy, and not addicted to intoxication.

Monday, February 6, 9 A. M.—Is suffering much from pain of head, seated across the eyebrows, and vertigo with

tendency to syncope ; the countenance is febrile and anxious ; the eyes suffused ; surface warm. There is severe pain over the region of the stomach, aggravated on pressure. Tongue white, moist. Pulse very soft and feeble. Is sitting up in his chair, though unable to support himself from apparent weakness.

Retired to bed last night in perfect health, and rose at four this morning with the intention of going to his work, dressed himself partially, and sat down to breakfast with a good appetite, felt a distinct rumbling in the bowels and excessive sickness, which caused him to desist ; pain in the abdomen and head followed ; vomiting came on immediately after, with extreme dizziness ; all which symptoms have continued up to the present time. About six the purging supervened, and the discharges were passed off with great violence and frequency. Shortly after eight, suffered from severe cramps, extending through the muscles of both legs and thighs, but not affecting the feet. No account can be given as to the nature of the matter vomited. That passed from the bowels is described as having been at first of a yellowish colour, and subsequently white, similar to barley-water, which character it at present bears.

Was bled to syncope, which came on after fourteen ounces had been drawn.

R. calomelanos ʒi.

Pulv. opii gr. i. M.

Fiat pulvis statim sumendus.

Having been previously placed on the bed, he was now undressed, and desired to abstain from all drink ; the pulse became full and strong. The next accounts heard were, that at 12 he had insisted upon taking some beef-steak, of which he ate about two ounces, and in consequence was admitted into hospital to be kept upon low diet. From the moment the blood was drawn, he had no return of either

vomiting or purging, and all the other symptoms were relieved.

On Tuesday, an ounce of castor oil was given, which opened the bowels freely; they had not previously acted since the time he was bled.

Wednesday morning, 10 A. M.—Dismissed, cured.

CASE VIII.

John Jones, Portseton, aged 60, a seaman of temperate habits, was seen at seven P. M. on Tuesday, February 21, when he had purging and vomiting, with pain of the bowels, and a sensation, which he compared to a trickling of fluid into them. Has vertigo, headach, and a tendency to syncope. Pulse 60, and weak; features collapsed, and slight aureola round the eyes; feet and surface of the body cold.

His bowels have been costive for some time previous to the attack, which came on at 4 P. M., with a prickling sensation in the lower part of abdomen, and inferior extremities, (this sensation he described as resembling that of needles thrust into the parts,) followed by rigor, pain of head, vertigo, &c. These recurred at six, shortly after which the rumbling and pain of bowels commenced, with nausea, followed by the purging and vomiting.

To have a pill, with one grain of opium, and a suppository of six grains to be repeated, should they not be retained. Was ordered to take shortly after the following powder:

R. calomelanos, grs. vi.

Pulv. rhei. grs. viii.

A sinapism to be applied to the epigastrium, and warm bottles to the feet. To abstain from all food and drink.

8 P. M.—The suppository is retained, but pill has been rejected. Has had two gruelly, and much less copious stools, slightly tinged with feculent matter. Has vomited only once, and the pain of bowels is much diminished. Has had cramps in the toes and calves of the legs, but the surface is much warmer. Pulse 66, of better strength; thirst urgent.

Repeat the opiate pill. The application of hot bottles to the feet to be continued; to use hot turpentine frictions to the extremities.

11 P. M.—Has had no more vomiting or purging, and the cramps have only returned once. Pulse 84, of good strength.

Rep. post horas tres pulv. jam prescript. ex calomel. et Rheo.

22d, 10 A. M.—Had three somewhat feculent stools during the night, and feels generally much relieved. Countenance improved, no vomiting or cramps, and heat of the surface natural. Pulse 84, of moderate strength.

To have coffee for breakfast. Sago, with an ounce of wine, for dinner.

4 P. M.—Pulse 96, full. Face now much flushed, and eyes somewhat suffused; skin hot. Has taken more wine than was ordered.

Omit the wine; to have one aloetic pill at bed-time, to be repeated, if necessary, six hours after.

23d, 10 A. M.—Has had two dark-coloured fetid stools from pills; pulse 70, of good strength. Feels quite easy and well; was allowed to rise, with directions to live on sago for a few days, and abstain from all spiritous liquors. To take occasionally, if necessary, an aloetic pill at bed-time. Four days after this was able to return to his work.

The daughter of this man, æt. 20, was seized in a manner precisely similar, about a week before, and experienced

the same prickling sensation, but for a much longer period. This is a symptom we have frequently observed to precede the occurrence of the disease. She was seen about a quarter of an hour after the tendency to syncope had come on; and would doubtless have exhibited the same signs of cholera, had active measures not been speedily adopted. She was bled to syncope, and had a powder, with calomel and pulv. jalap. comp. Some slight additional purgatives were given, and in two days she had perfectly recovered.

CASE IX.

For the two following cases, with their dissections, we are indebted to our friend, Dr. Dunbar, physician to the cholera hospital at Musselburgh. The inspections were carefully conducted by himself, and Dr. Coste, assistant to the celebrated Baron Delpech of Montpellier.

— Donally, female, aged 32, stout and previously healthy, admitted into the Musselburgh hospital, on the 11th Feb. Had been complaining for three weeks of diarrhoea, nausea, uneasiness at epigastrium, with occasional severe twitching pains of legs. At present the features are blue, livid, and collapsed, with a dark aureola around the eyes. Surface of body, and especially the extremities, quite cold, and covered with a clammy sweat; no pulse at the wrists; breath and tongue cold. The mustard emetic, followed by copious libations of warm water and salt, procured with difficulty pretty copious vomiting. Hot coarse linen cloths were constantly applied to the surface, and the extremities assiduously rubbed with warm spirits of turpentine. Stimulating enemata, containing mustard, laudanum, and brandy, in three pounds of warm water, were injected, while well.

spiced brandy was administered to her. Under this treatment, continued for a considerable time, the blue and livid appearance of the countenance in a great measure disappeared. No purging, cramps, or vomiting, except what was produced by the emetic, since admission; and here we may observe, that in very many of the cases treated by Mr. Macall and myself, all these symptoms disappeared so soon as decided collapse came on; the patient lying listless, with a feeble husky voice, and the faculties perfectly entire. In the evening she became talkative and somewhat restless, with jactitation of the arms and head, symptoms which we have often seen to precede the stage of reaction. External heat was ordered to be continued, with a little spiced brandy every twenty minutes, along with a pill of camphor, cayenne, and cloves. Notwithstanding the most diligent pursuit of the above treatment, she sunk rapidly, and died at 3 A. M. on the 12th.

Sectio cadaveris, nine hours after death.

No fluid was found in any of the serous cavities, which were quite dry, without any signs of injection or inflammation. In one (the pericardium,) there was a considerable quantity of gas.

The colon contained a good quantity of a whitish, foamy, flocculent fluid, as also the smaller intestines; but there was no appearance of congestion or inflammation on the whole course of the intestinal canal. The bladder was much contracted, and contained no urine. The liver and pancreas were of natural consistence and appearance, also the *gall-bladder*, which, however, contained *no bile*.

The vena portae and vena cava were gorged with much black semi-coagulated blood, amongst which were found a few clots entirely decolorised. In the cellular substance surrounding the solar plexus, there was evident serous infiltration, not well defined, most abundant in the centre, and

decreasing from that point. Very little blood was found in the spleen.

Descending aorta contained very little blood, but there were a few semi-transparent clots observed in different parts of it.

Lungs quite natural, except that they were gorged with blood in their lower and posterior part, as is usual in most bodies after death.

Heart of natural consistence. *Left auricle* and *ventricle* nearly empty, but contained several of the same kind of clots as were found in the larger vessels. *Right auricle* and *ventricle* were both much distended with black semi-coagulated blood, and each contained a large fibrous clot.

Veins of neck contained much liquid blood. *Right carotid* empty.

Brain of natural appearance and consistence; its ventricles quite empty and dry; there was much congestion in the sinuses.

CASE X.

Mrs. Shiels, æt. 80. A pauper, irregular in her mode of life. Admitted on the 14th Feb. Was seized the preceding night with all the symptoms of Malignant Cholera; and, when admitted, was in collapse. *Pulse* quite feeble, and fluttering; tongue, breath, and surface of body, cold; no cramps, and no return of vomiting and purging; sinapisms were applied to different parts of the body; stimulants and stimulating enemata, were exhibited; she, however, rapidly sunk, and died at three the same day.

Sectio cadaveris.

No fluid in the pleura or peritoneum; and in the pericardium it was more scanty than natural. *Lungs* healthy;

pulmonary veins gorged with fluid black blood; hypertrophy of the heart, and enlargement of the aorta; clots of blood were found in the pulmonary artery, and fluid blood in it, and vena cava ascendens; clots, but very little liquid blood, in the right ventricle and auricle; no blood, and few clots, in the left ventricle; gall-bladder distended with bile.

A matter resembling thin gruel, was found in great abundance in the stomach and intestines. The mucous membrane of the former was quite natural, but in the intestines there was evident venous engorgement.

Liver sound, its arteries empty, and veins engorged.

Spleen natural, bladder empty and contracted.

Much liquid blood and clots in the heart; nothing particular in the ganglionic system.

Head not opened.

ERRATUM.

Page 23, line 2 from bottom, *for* hop-spiced *read* hot spiced.

I hereby certify, that the following is a true abstract from the Cholera Reports for the Parishes of Tranent and Prestonpans.

Town of Tranent, containing (per census 1831,) 1631 inhabitants. Total number of cases, 204; deaths, 64; recovered, 140.

Villages of Cockenzie and Port-Seton, in the parish of Tranent, containing 701 inhabitants. Total number of cases, 78; deaths, 15; recoveries, 63.

Town of Prestonpans, containing 2016 inhabitants. Total number of cases, 117; deaths, 21; recoveries, 96.

(Signed) H. FRA. CADELL,

Chairman of the Local Boards of Health
for Tranent and Prestonpans.

Cockenzie, 28th February, 1832.

I have the honor to acknowledge the receipt of the following is a true and correct copy of the reports for the Parish of St. James and St. Andrew.

Town of Toronto, containing (for the year 1831) 1031
Inhabitants. Total number of males, 507; females, 524;
average, 110.

Villages of Cobourg and West Hill, in the Parish of
Toronto, containing 701 Inhabitants. Total number of
males, 350; females, 351; average, 350.

Town of Westport, containing 2018 Inhabitants. Total
number of males, 1009; females, 1009; average, 1009.

(Signed) H. W. G. Carr,

Commissioner of the Land Office of H. B. N. P.
for the Province of Upper Canada.

Commissioner of the Land Office of H. B. N. P.