

CHAPTER XI.

TREATMENT OF CHOLERA.

THE character of cholera being so fatal, we are naturally led to ask how it may be escaped, or how, if a person is attacked with it, he ought to be treated. This is the true end of all our inquiries. It is for this that we study anatomy, and inquire into the manner in which the different functions are performed. It is for this that we make such very diligent observations on diseases in all climates, and compare their symptoms, and look at the effects after death. By these means the physician or the surgeon learns to cure diseases, or to guard the public from them: and by the same means those who are neither physicians or surgeons may learn to take some care of themselves.

The attacks of cholera are made so suddenly, they excite so much alarm, and so soon destroy the patient, that there is no disease of which it is more desirable that *all* persons should know the proper management. Even in towns, if the disease should unfortunately become very common, persons might be lost for want of proper medical attendance: and in lone houses and cottages in the country, a severe attack of cholera would often carry off the patient before a medical man could reach him.

As happens with respect to all diseases of which much dread is entertained, a thousand remedies have been cried up for the cholera. At least twenty books have been published within the last three months, most of which contained some new plan of treatment. The newspapers have had advertisements of many infallible remedies. Every man who has ever breathed the air of the tropics has conceived he had a right to be an oracle on this occasion,—often on little better grounds than the man who thought he *ought* to know something of navigation because he had a cousin who was mate of a ship.

During a great part of the time that cholera has prevailed at Sunderland, the daily reports of the physician, Dr. Daun, noticed cases of three kinds, 1. Dysentery; 2. Mild cholera; 3. Malignant cholera. All of these have occasionally been fatal. At Moscow, Dr. Keir says the cholera began in some instances with ordinary diarrhœa; and that if this was neglected, it went on to cholera. Several persons employed in the hospitals had nausea, vomiting, and bilious diarrhœa. At St. Petersburg, many confessed that they had concealed a diarrhœa for a day or two. It is therefore plain that all these forms of disease were but degrees of one disease,—degrees of irritation of the stomach and bowels, attended in many cases with so much irritation of muscular parts as to bring on the vomiting, or the purging, or both, together with the violent convulsions.

In some cases at Moscow, an eruption, like the nettle-rash or the measles, appeared on the

skin; and the patients in whom this appeared commonly recovered. In cases of measles and small-pox in this country, where the eruption does not readily come out, convulsions sometimes occur, which are ended by the breaking out of the eruption. These facts, put together, point to a mode of relieving the internal organs, by acting on the skin; and this is *one* of the points to be kept in view in the cholera. It would seem that much of the blood, or perhaps of the nervous energy also, which ought to be employed in the small vessels of the body, including those of the skin, is mis-directed to the muscles which form, as has been explained, one of the coats of the intestines, or to the nerves which govern their motions, and there produces irregular action and mischief. If we can draw it back again, to the small vessels of the skin, and of other parts, we shall relieve the muscles and their nerves, and the convulsions will probably cease.

But this is not *all* that we are required to do.—If we would understand how to manage a patient ill of cholera, we must consider how he is affected by it altogether. Let us remember that this is his state—that his skin is very cold—that the action of his heart is very weak—that for a time he has violent vomiting and purging—and then extreme depression—that sometimes the depression comes on before the vomiting and purging seem to have time to begin,—and that the depression may be so extreme and so rapidly brought on that the patient may die as if he were poisoned. Let us re-

member, too, that there is often no *visible* disease of the stomach or bowels after death, and that when there is any, it is of an inflammatory character—that the heart and the large blood-vessels, and the vessels of the lungs, and the liver, and the brain, are full of black blood, and that the vessels of the skin are apparently empty.

All this being in the mind, or the leading parts of it—when a friend or neighbour is undoubtedly attacked with this fierce disease—what is to be done?

Rules of treatment laid down in a book are always *general*. Good sense must still govern their application. But, *generally* speaking, the best thing that can be done in the first hurry is to get some warm and comfortable drink prepared—hot brandy and water is the best of all—to place a good blanket close to the fire, until it is quite warm—to undress the patient from head to foot, before a fire too—to let him drink his brandy and water, whilst his feet, legs, hands, and arms are briskly rubbed,—and then to roll him completely up to the chin in the hot blanket. Even his head should be warmly covered up; only leaving him room to breathe.

In all this there is nothing required (except the brandy) which is not to be found or which may not be managed in any house or cottage. Hot tea, or even hot water, if there is no brandy to be got, will be better than nothing; if the patient can keep it down. But when the cholera is expected, everybody ought to buy or beg a little brandy, and keep it as a valuable medicine.

Laudanum, again, is a dangerous thing to have in the house at all times, for children or ignorant persons may drink it by mistake. But those who live far from medical advice should have a little bottle of laudanum by them. Laudanum is opium dissolved in proof spirit. Opium is the dried and thickened juice which flows when incisions are made in the head of the white poppy, cultivated for the sake of opium in some of the countries of which we have been speaking, as India and Persia. We get opium from India and from Turkey; that which comes from the latter country is the strongest: the Turks are in the habit of taking it in large quantities to produce a kind of intoxication. Taken in a small quantity (a quarter of a grain) it produces excitement; in a larger dose (one or two grains) it allays pain, and produces sleep; and, in a still larger, it puts an end to life. In many spasmodic diseases it is given freely, without producing the bad effects which it would if given in the same quantity to a person in health. The solution of opium in spirit, or *laudanum*, is the best form of the medicine for a cholera patient, as it is in that form most likely to act on the stomach without delay. The usual dose of laudanum is from ten drops to forty. In a case of cholera thirty or forty drops should be given at first in the brandy and water. If the edge of the laudanum bottle is made wet on one side, it will be easy to drop it out, drop by drop, into an empty glass; if it runs out too fast, the dropping must be done over again, until done properly.

Common sense will inform every reader that this dose, which is meant for a grown person in a severe attack of the disease, would be more than necessary for a young person, or for a weak person, in a *less* severe attack of the disease. Without the exercise of the judgment, medicines become more destructive than diseases.

So also the repetition of the medicine—laudanum and brandy, or any other medicine, or the changing of the medicine for anything else—these are points which few could be competent to without medical knowledge. While what has been already recommended has been done, if not before, it is to be hoped that some medical man will see the patient. When the blankets are warming, and the brandy and water preparing, a messenger should be sent off in all possible haste to the medical man. Everything depends upon that. Many of those who died at St. Petersburg died in consequence of not having medical assistance soon enough.

But there are persons so situated as to have no means of getting advice for some hours; far off in the country, through bad roads, and in the night, and their medical man attending some other patient whom he cannot leave. Some rules must be laid down for them. At all events let the brandy and water be given, and the patient wrapped in his blanket, and if there is any laudanum give it him. Then there will be time to collect one's thoughts a little.

Consider, then, what are the effects to be expected from what you have done. The skin was cold, the blood had deserted it for the internal

organs; you have applied external heat for the purpose of bringing back blood and warmth. There was vomiting, or purging, or both, and sudden weakness; you have given hot brandy and water to overcome the spasm of the stomach and bowels, and laudanum to assist in so doing, and to lessen the disposition to spasm or cramp in the fingers and toes. The best rule for going on with these means would seem to be found in the continuance of the symptoms; the best guide to the giving no more would seem to be the relief gained from what was already given.

It is unlucky that what seems very simple in medicine is often very deceitful. The actions of the body we have seen are very much tied and bound and chained together; and in the disorder of many functions, a simple treatment is not always the best.

If a medical practitioner sees the patient immediately after he is attacked, he will *not* invariably do what you have now been told to do. But whatever else *he* does will be what you could not very well do, or what, if you could, could not be left to your judgment. It depends on that of which you could not be a judge. We will try to give you some explanation, however, of what he would consider, and what he would do.

In the first place, he, with the same general intention of restoring the circulation of blood in the skin, and bringing back its warmth, or even of exciting it to warm perspiration, which many look upon as a certain cure, might advise strong friction of the body with the hand;

or with hot coarse towels, or with equal parts of mustard and flour, or with embrocations containing camphor (camphor liniment): he might advise bottles of hot water, wrapped in flannel, to be applied to the soles of the feet, to the pit of the stomach, under the arms, and under the joints of the knees; or he would, perhaps, order a hot bath to be prepared immediately (although when the patient is *much reduced* this is not safe), and the patient to be placed in it, and kept there a quarter of an hour, then well rubbed and dried, and placed in the hot blankets. Some medical men prefer communicating heat in the form of vapour,—either vapour from hot water introduced under the blankets, or by burning spirits under the bed-clothes. Some apply heat by means of bags of hot sand, hot bran, hot oatmeal, or hot air. The means are very various; but the intention is the same. Whatever can be soonest employed is best.

A much more important question is to be determined by the medical man. After the practitioners in India had lost many patients, they began to *bleed* those who were attacked; and the success of this practice was considerable. Bleeding then became the common practice in every case; and it happened that in many cases it did no kind of good; and that in others it seemed to do positive harm. The advantage looked for from bleeding is the relief of the organs oppressed with black blood, in the hope that the heart will then be able to resume its action, and send blood once more into the small

vessels of the skin. The disadvantage of bleeding, on the other hand, arises from its possibly hastening that state of extreme depression of strength which so often goes on to death. This may serve to the unprofessional reader as an example of the difficulties of medicine, and of the necessity there is that those who practise it should possess a good understanding, strengthened and carefully exercised by a good education. In a strong person, or in one who is plethoric (or full of blood), and in the very beginning of the attack, it is exceedingly probable that bleeding would be of most essential service. In a feeble person, or when the disorder has been present some hours, it will seldom be admissible, or even safe; and often very dangerous. The medical man can only be guided by the circumstances present in each particular case.

The extreme debility which so soon ensues upon the symptoms of cholera must never be forgotten: slight circumstances may entirely destroy the patient's life: every violent impression must be guarded against. The chance of good effects following bloodletting is greatest the earlier it is performed. And the same may be said of large doses of opium, or large doses of calomel, or of any kind of medicine, and even of the use of the hot bath, and other hot applications. The longer a patient has been ill of cholera, the more carefully ought all means of relief to be applied.

Another means of relief which none can safely determine upon except a medical man, is

the employment of *calomel*. There is no medicine of more value than this, in innumerable cases of disease; no medicine of which the name is more familiar to all; and no medicine which has been so much and so mischievously abused. Considering its great use in the hands of physicians, and its great abuse in the hands of mothers and nurses, and charitable ladies, it is difficult to say whether it has saved or destroyed the greater number of lives. Calomel is obtained by subjecting mercury (quicksilver) to a chemical process, with sulphuric (vitriolic) acid, muriate of soda (common salt), and muriate of ammonia. The quicksilver employed in this country chiefly comes from Germany, but there are mines of it in Spain, in Siberia, in China, in Peru, and some other parts of the world. It is commonly employed in medicine in the form of calomel; although another preparation, much more dangerous in unskilful hands, is used also, which is called the *corrosive sublimate*. Calomel is given in doses exceedingly various, according to the very various intentions with which it is prescribed. The common dose for a grown-up person is from two to five or ten grains, in which quantities it is frequently given as a purgative, with rhubarb, or jalap, or scammony, or colocynth.

But when calomel is given in cholera, it is given with the particular intention of acting, not as a purgative, but as a sedative. For this purpose it is given in doses of about twenty grains. Most Indian practitioners give this dose at first, even before, or, if not before, *with*

the dose of laudanum mentioned, or rather with forty or sixty drops of laudanum: and they consider the effects of it to be decidedly serviceable. It cannot be doubted that it has proved very useful; but its employment in any particular case must be left to the medical practitioner alone.

The medical adviser will also probably prefer some other stimulant to brandy. Many stimulants are used in medicine. Half a teaspoonful or a teaspoonful of ether with the laudanum is one of the best; and may indeed be safely given by any one. What is called ether is procured by distilling rectified spirit mixed with sulphuric acid. It is a medicine which requires to be repeated, and this is a matter in which the patient should act under medical direction.

Five or ten grains of the carbonate of ammonia, also, will be found one of the best medicines of the stimulant class: or twenty or thirty drops of the solution of ammonia; or of the aromatic spirit of ammonia.

In every case of violent spasm persons should be aware that inflammation *may* come on; and that if it *does* come on, the stimulants, which were useful before, become very hurtful; increasing the inflammation, and endangering life.

We have seen that when there are, after death, signs of disease in the stomach and bowels, those signs are signs of inflammatory action. The medical practitioner would detect this during life, by the excited pulse, the hotter skin, and tenderness

on pressure of the bowels. In such a violent affection as cholera the distinction is far from easy, however; but if the medical practitioner cannot make it, certainly nobody else can.

When inflammation has come on, both bleeding and the application of leeches to the pit of the stomach will be necessary. Some practitioners, who think highly of bleeding in cholera, apply leeches to the pit of the stomach and to the back of the neck in almost every case.

Both in case of inflammation, in order to subdue it; or in the simple case of violent spasm, to counteract spasm, a greater degree of stimulus may be tried over the skin of the stomach and bowels than rubbing either with or without embrocations. Blisters, for instance; but they will rise very slowly, or not at all, in the cold and languid state of the skin in cholera: for which reason some have applied nitric acid (*aqua-fortis*), and some have poured boiling water on the skin. These seem cruel methods. A cloth dipped in spirits of turpentine, laid upon the stomach, and kept on either till it acts decidedly on the skin, or till the patient can bear it no longer, is a better application. It is very much and very usefully employed in fevers, to check the serious disorders of the bowels which often come on. Mustard poultices are often used with the same intention—or poultices made with equal parts of mustard and linseed flour. In the examination of the bodies of some of those who have died at Sunderland, appearances of disease have been found in the spinal marrow;

and attempts have since been made to act on that part by the application of iron, heated to a white heat, to the back. This plan has been said to be very successful. The idea of having heated iron applied to the back is alarming; but when heated to a *white* heat it almost immediately destroys the life of the part, and consequently excites less pain than is imagined. The success of this treatment cannot be considered as determined.

In the opinion of the writer of these pages all the really important means of relief in cholera have now been mentioned.

A short notice of one or two other means may be added. One of these,—one, indeed, which some will think we should have mentioned before, is the *cajeput oil*. This oil is produced by the leaves of a tree which is common in the islands of Java and Borneo, (between China and New Holland). It is a powerful stimulant and antispasmodic, and also acts strongly on the skin; appearing therefore to answer many intentions at once in the cure of cholera. The common dose is three or four drops, taken on sugar: but twenty or thirty drops are given in cholera, and repeated if necessary. It has a high reputation in India; and has been lately much recommended in England. It may be taken in water, or peppermint water.

It is hardly necessary to mention Cayenne pepper, except to say that if no other stimulant is at hand, this is by no means a bad one. It is the fruit of the capsicum, a plant which grows both in the East and West Indies: the best

comes from the latter. Its dose, as a medicine, is from six grains to ten; but those who give it in cholera are not very particular about the quantity.

Bismuth has been strongly recommended. It is given in the form of the sub-nitrate of bismuth (commonly called the oxide), and is a metal found chiefly in Saxony. What is called the sub-nitrate is a solution of this metal in nitric acid, and procured (by precipitation from the solution) in the form of powder. The common dose is from three to ten grains; and it is certainly a valuable medicine in some irritable states of the stomach. At Warsaw, at St. Petersburg, and at Berlin, it was given in the cholera, in doses of three grains every two or three hours, mixed with sugar; and, it is said, with much advantage.

Magnesia has also been given in India, by some practitioners, in milk: and we have heard of its employment in England in combination with pepper. Its dose is from ten grains to half a drachm: and it may be given in milk.

Electricity and galvanism have been recommended, but not often employed, nor with very striking effects. They are used with the intention of rousing the nervous energy, and restoring the action of the heart.

Those who remember the description of the cholera in Chapter II. of this volume, may recollect that after the violence of the disorder is abated, a kind of fever comes on, which, in Europeans exposed to the climate and accustomed to the habits of India, was often attended

by inflammation or by great disorder of the brain, liver, or other organs. This is not uncommon in all cases of disease, or even after accidents of different kinds, wherein the powers of life have been excessively depressed. It is a state called *re-action*. When a man is taken out of a river apparently dead, and is by warmth and proper means restored to life, this re-action first shows itself in considerable pain and distress, so that the recovered man reproaches those who have saved his life with having inflicted such torture upon him. To this state inflammation and fever sometimes succeed. So also, if a man is thrown violently from the top of a coach, he is taken up speechless and insensible: after a while he recovers his senses, and his pulse, which had ceased to beat, can be felt again: then comes on re-action, often violent re-action, so that the man must be bled to prevent inflammation of the brain.

Against this re-action in *cholera* the medical practitioner will very carefully guard; and, watching it, check its progress by bleeding, or by leeches, or by purgatives, or by all employed at the same time. But the patient must *also* guard against this re-action: for having been till now distressed by vomiting and pain; cold and listless; hovering between life and death; and unable to take any kind of nourishment; he is very likely, when relieved from such urgent distress, to become unmanageable, and to wish to eat and drink what he has a fancy for, and to have no more to do with medicine. He must still be obedient to his doctor. It often, perhaps

always, happens at this period, that purgative medicines are required to bring away offensive collections from the bowels; the remaining of which might either bring on a relapse, or prolong and aggravate the feverish symptoms. With common care such mischief will probably be averted in this country. Bleeding will seldom be required: a few doses of calomel and rhubarb; or one or two table-spoonfuls of castor-oil in peppermint-water, with ten or fifteen drops of laudanum, will commonly be sufficient.

Any person, however unacquainted with medicine, must see from these remarks on its treatment, that a great deal depends in every case on the attendants on the sick person. If the disease is concealed for a day or two—nay, often, if it goes on unchecked for an hour or two—the hope of good being done by *any* body is very small. If the friends and neighbours desert the sick, all the sick will die. It was said in India, that *none* were known to get well who did not take medicine, and were not otherwise attended to; and in Persia the people have learnt so well the dangerous character of cholera that if a man is attacked, even in the streets, the people run up to him, strip off all his clothes in a moment, pour buckets of *cold* water over him, and then rub him from head to foot as hard as possible, until the heat of the skin returns, or the spasms subside.

Even in this fatal disease, then, the ingenuity and activity of man can apply resources which render it comparatively harmless. In crowded and dirty cities, in wretched houses, the abode

of idleness and vice; or in countries where ignorance and obstinacy prevent the proper application of medicine, it rages almost without control; indeed, with a violence which threatens to sweep all the people who live in such unfortunate circumstances away from the earth. But when it is introduced into towns better regulated; and into houses where it meets with cleanliness and sobriety; and among a people willing to apply whatever science has discovered to be useful, and to aid such application by kind and courageous attentions; there the disease seems to have lost its ferocious character. The people no longer fly from it to die on the highways and in the desert; it no longer daily consigns hundreds to death; it neither suspends the business nor ruins the confidence of the people; but, being met with fortitude and patience, seems to acknowledge man's power over it, as over the other evils and ills to which he is exposed. It is checked by his skill and his firmness; limited by his knowledge and his care; and we may add, great as its triumphs have been, and wide as has been its course, it will finally be banished from the well-governed regions of the earth altogether. First it will disappear from those which it has most recently attacked;—and in the end, as the blessings of civilization extend themselves to every region on which the rain from heaven falls, or the sun of heaven shines; and as man improves in knowledge, and virtue, and power, and by degrees converts vast spaces now neglected into spots of fertility and happiness, and is himself

raised in the scale of creation,—not the cholera only, but all the most severe febrile diseases, will probably be utterly banished from this globe.

The steps to this end, however, let the reader of the Working Man's Companion remember, are, *useful knowledge*, the kind and friendly virtues, temperate habits, and a calm and untroubled mind.

POSTSCRIPT.

THE progress of the cholera in the north of England, whilst these pages have been printing, affords a useful lesson to the people of those parts of the United Kingdom which have not yet been visited by it; and the lesson ought not to be thrown away. When it first appeared, as it did not attack many thousands of people at once, the fear of it greatly diminished. Many continued to deny that the true cholera had come to England. It was said that at this time of the year there was always great sickness at Sunderland; and that the deaths were not more numerous this year than in other years. This kind of belief prevailed for two months, although the cholera was all that time steadily destroying *one in three* of those attacked. In the very worst descriptions of fever in England the mortality is seldom so great as one in *ten* of those attacked; it is more commonly about one in fifteen; and in favourable circumstances not perhaps more than one in *twenty*. Yet, until within the last week, the observation was continually repeated, that the cholera did not seem to be so *very* serious a disease after all!

But about Christmas day the cholera showed itself in its old and dreadful character in every respect, at Gateshead, a town lying on the south bank of the river Tyne; Newcastle being on the north bank, exactly opposite to it. It is said that the people had *kept Christmas* with very great intemperance; and that drinking had been much indulged in. In *three* days one hundred and forty people were attacked with spasmodic cholera, and of these, more than fifty died. Still destroying, therefore, one in three, it attacked more than three times as many persons in each of these three days as it had generally done in any one day at Sunderland. What has been the consequence?—we hear that the people of Gateshead are “completely panic-stricken;” that the patients have been too numerous to obtain proper medical aid; and the deaths so many that it has been difficult to provide decent burial for the dead.

It is now beyond all dispute that the true cholera is likely to prevail in *every part* of England. But its progress is *slow*. It may be some months before it reaches the midland countries: it may be a year before it travels to the south of England. Or it may pass round the coast from sea-port to sea-port, and penetrate the interior of Great Britain at a later period. It will also, most probably, pass over to Ireland, where the poor are but too well prepared to fall victims to it. The same Great Power which permitted its origin, may arrest its progress; but there is every reason to expect that the

pestilence will pass slowly over every portion of the British Isles.

When the present fear has again somewhat subsided, which in a few weeks it probably will do, many will be disposed to think the danger is over; and to neglect temperance, cleanliness, and all those means which have been recommended as the best preservatives: but it will be well to keep in mind that between the 20th of October and the 28th of December, more than *one thousand persons* have had the spasmodic cholera in England, and that nearly four hundred have died of it.

January 8th, 1832.

APPENDIX.

THE heat of different climates having been frequently alluded to in the preceding pages, and expressed in the degrees according to Fahrenheit's thermometer, it should be explained that the heat or coldness of the air is measured by this instrument in consequence of the mercury expanding as its temperature is raised, and contracting when cooled. A small bulb at the bottom of the thermometer is full of mercury: when the bulb is made warm the mercury rises up the tube of the thermometer, and higher and higher as the heat becomes greater. At the sides of the tube are figures corresponding to lines, which lines mark degrees. The heat at which water boils, according to this thermometer, is 212 degrees; that is to say, when the bulb is exposed to the heat of boiling water, the mercury rises to a certain height in the tube, and this height is divided into 212 equal parts. If the bulb is put into ice, the mercury falls as low as the 32nd mark; therefore, according to the thermometer of Fahrenheit, the freezing point is 32, and the boiling point 212. When thermometers are made, both these points are tried; and the space between is divided into 180 exact

degrees. In temperate weather in England the mercury in the thermometer placed in the shade, in the open air, would rise to about 48 degrees. In warm weather, it rises to about 65. A room is of a comfortable warmth when mercury rises to the 55th degree. When the mercury rises to the 76th degree in the shade, butter begins to melt; when it rises to 80, the weather is what we call very hot, although it is very often ten, or fifteen, or even twenty degrees, higher in India. The ordinary temperature of the human body is a little more than 90 degrees, as shown by placing the bulb of the thermometer under the tongue, or even holding it a few minutes in the closed hand. In some fevers it rises to 100 or 104. The lowest point in our thermometer is called *zero*; but there are degrees of coldness lower than this instrument indicates; and which are indicated by other kinds of thermometers. We then say the cold is so many degrees *below zero*; which it often is in a Russian winter. At forty degrees below zero, the mercury becomes solid. Degrees are commonly thus written,—one hundred degrees of Fahrenheit—100° *Fahr*.

In perusing this work, the reader who has the opportunity should refer to the *Globe*, and remark the situation of the *Equator*, or equinoctial line, and also the lines called the *Tropics*. He will see that the globe is divided into degrees, marked by lines across it, and down it. The lines

across it show the degrees of *latitude*, of which there are 90 north of the equator, and 90 south of it. These have been repeatedly mentioned. The Mauritius will be found 20 degrees *south* of the equator, or in 20 degrees south latitude. Ceylon 10 degrees north of the equator. Calcutta about 22. Astracan 46. Moscow 55. Archangel 64, &c. London is about 57 degrees north of the equinoctial line. Each degree is equal to 69½ miles.

The space within a line drawn about 23 degrees north of the equator, and another line 23 degrees south of it, is what is meant by the *Tropics*. In the earth's course round the sun, the sun is always *directly* over some part of the earth within those lines: it is over the line north of the equator in the middle of our summer: over the line south of it in the middle of our winter: and exactly over the equinoctial line twice a year, at what we call the equinoxes. The *Tropics*, therefore, are the hottest parts of the earth.

THE END.

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