The Nature, Symptoms And Treatment of Seasickness

by

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Having been over fifteen months at Sea in the capacity of "Ship's Surgeon" and having had experience of the North American, South American and East Indian Trades I have had a fair opportunity of Studying Seasickness in its various phases, much more in fact than of any other individual disease I can think of, and such being the case I have elected that "Seasickness" shall be the subject of my Thesis. From a personal point of view I am unable to speak as it is an affection I have never suffered from. When I first went to Sea, for a couple of days after leaving port I generally had a slight headache but seasickness in its best known sense I have always managed to escape. In rough weather my appetite is not so good as under ordinary circumstances but this is not to be wondered at as it is also the case even with old and experienced Sailors.

Seasickness, or as it has been termed by some "Motion-Sickness", may be defined as "a peculiar functional disturbance of the nervous system, inducing languor, giddiness, headache, vomiting or derangement of the bowels as the case may be, produced by sickness resulting from the motion of the ship".

I have defined seasickness as being due to the motion of the ship, and some one may enquire, may there not be something in the sea air over and above the motion which helps to induce the seasickness? Such does not seem to be the case, for it is a well known fact that one may be thoroughly seasick from the turbulent motion sometimes experienced on lakes and rivers far removed from the influence of the sea air. Again it is well known and admitted on all hands that one may be sick from motion other than the motion of a vessel. Travelling in a railway carriage may be cited as an example. I have known one such instance myself; a young lad who invariably had headache, nausea and vomiting on every occasion

that he made a railway journey and who was at all other times in the best of health. I have also heard of cases of young people who could not make a short journey by train or other such conveyance without suffering considerable inconvenience from many of the symptoms so well known in seasickness. Children are less susceptible to this affection than adults and this I can verify as I do not remember having seen a single case of seasickness in a child under a year old, and in fact up till two or three years of age the affection is very rare. This at first seems strange but it has occurred to me that it is quite easy of explanation. Children are lulled to rest by motion. The rocking of a cradle, for example, will soothe a child when if this or some other form of motion were not resorted to the child would in all probability assert the fact of its existence in a manner which admitted of no denial. The motion of the cradle seems to act as a narcotic to the child, and may it not be possible that the motion of

The ship acts in the same way and that children instead of feeling any inconvenience rather enjoy this motion?

The question of the Pathology of Seasickness is rather a vexed one and one about which there is very considerable diversity of opinion, and as almost every drug mentioned in the Pharmacopoea has been suggested for the treatment so every imaginable theory has been advanced as to the Pathology of Seasickness. In a very ably written paper on this subject from the pen of Dr. J. A. Irwin of Newport, a theory is advanced which Dr. Irwin very rightly terms his "novel views" on this subject. He suggests as one of the causes the "disturbing of the endolymphe in the semicircular canals", which idea, to say the least of it, is very far fetched and considerably beyond the comprehension of ordinary thinking individuals. On the other hand the "purely mechanical" theory of Dr. Glynn Whittle has, as far as I can make out, been disputed on all sides and must ne-

be more than mentioned here. The result that the normal and regular movement of the contents of the stomach being substituted for a "jumbling-about" motion, the contents of the stomach come after a time to act as a foreign body, forgetting that various foreign bodies may be introduced into the stomach without producing nausea and vomiting, and also failing to explain why the nausea and vomiting continue when this foreign body has been got rid of. To me it seems that a much more rational explanation than either of these two can be got at very readily. The pneumogastric nerve - one of the most important nerve structures in the body - sends filaments to the heart, lungs and viscera and may, I think, be justly looked upon as taking an active part in the phenomena of sea-sickness. Over and above the vagus some of the senses generally come into play to bring things to a climax or at least to hasten their advent; - sight, smell, taste &c.....

As to any one going out to sea for the first time

The idea always uppermost in their mind is:- Will I or will I not be seasick? They have heard so much about seasickness that they come on board ship with preconceived ideas on the subject - a certain timidity or fear - and are thus unknown to themselves paving the way for the very thing which they wish to avoid. Should it turn out on this, their first experience that they are sick, on every succeeding occasion they, as a matter of course, look forward to the prospect of being seasick. From these and other facts I am led to believe that fear goes a long way towards inducing seasickness in the great majority of cases. Some people, on the other hand, go with the determination that they will not give in and do manage on many occasions to hold out for a very considerable time but are eventually obliged to collapse. In these cases, although fighting with a will against the feeling, the mental motion when continued for a time seems to produce a shock to the system more or less as the case

may be. In either case the pneumogastric nerve comes into play producing the well known phenomena of "mal-de-mer".

It is a well recognised fact that anæmia of the brain will, by reflex action, give rise to nausea and vomiting. It is also admitted that irritation of the vagus will cause anæmia of the brain. Well then or shock act on the pneumogastric nerve, the branches going to the heart inhibiting its action, the branches to the abdominal organs causing dilatation of the Splanchnic arteries and so giving rise to Congestion of the viscera, the Stomach and intestines more especially. The heart, being inhibited, is acting weakly and so does not send sufficient blood through the brain. Besides the Splanchnic arteries being dilated the blood naturally rushes in that direction being the way of least resistence and in this manner the anæmia of the brain set up by the irritation of the vagus is kept agoing. The anæmia of the brain being once established we have a reflex action

Coming into play and giving rise to the nausea and vomiting which will go on so long as the exciting cause continues to act. Besides this the stomach is in a very congested condition and so gastric juice is secreted in great abundance, so great that after a time the excessive acid secretion acts as a direct irritant on the walls of the stomach and so will keep up the vomiting for a longer time than might otherwise be the case. But some one may ask, how do you account for the fact that people get over being seasick? Well that is so in the majority of instances and I think the only answer that can be given to the question is that the system gets used to the motion after a time. It seems to be able to adapt itself to the new condition of motion and so shock ceases to be produced and the shock, which I look upon as being at the bottom of the whole mischief, ceasing, the other disorders cease and as a matter of course convalescence follows. In addition to all this there is the feeling of

Sinking or depression so often complained of by patients suffering from seasickness. Is it not possible in these cases that the branches of the vagus going to the lungs partake of the irritation to the other branches of the nerve and act on the lungs thus producing the symptoms mentioned? In many instances I have noticed that seasickness did not get proper hold on persons until they had observed the motion of the ship, or the tossing of the waves. I have seen cases of persons lying pretty comfortably in their berths during the night and the ship rolling considerably. So soon however as morning broke and they had a glimpse of the great waves through the port they seemed to be seized with a sudden fear and so things were brought to a climax. The eye in this case conveys to the brain the sensation that, to their mind, there is some cause for fear and so the vagus is called into play. In the case of smell or taste giving rise to seasickness, the motion has probably been going on for some time and so the vagus is already acting

and the stomach in an irritable condition only requiring something to set it agoing. It is a well known fact that smells or tastes of a disagreeable nature may by reflex action give rise to vomiting even when the stomach is in thoroughly good working order. Is it not possible that the stomach being in such an irritable condition, smells and tastes which under ordinary circumstances are agreeable and are appreciated, may, owing to the abnormal condition of things, act in quite an opposite manner? The throbbing sensation in the head so often complained of is probably due to the large, soft pulsation in the vessels of the brain arising from the insufficiency in the supply of blood. The derangement of the bowels is admitted on all hands. Sometimes it takes the form of diarrhoea but in by far the great majority of cases the patients are troubled with constipation and this I think can be easily accounted for when one takes into consideration the fact that almost all if not all the gastro-hiliary

Secretion and the secretion of mucous is got rid of by vomiting. Some assert that there is frequently also a derangement of the urinary functions in that the quantity of urine is diminished. This one can easily understand as the greater part of the food or drink taken by the mouth is again rejected. Besides the vomiting is generally accompanied by a profuse perspiration and the quantity of saliva secreted is quite abnormally increased.

The question is often asked, Can death occur from seasickness? Unquestionably death may occur, but in very exceptional instances. Death may occur from hysteria or from exhaustion when the seasickness has been very much prolonged. I have no doubt however that spurious cases do sometimes occur. Death is said to have been caused by excessive seasickness when as a matter of fact it resulted from something entirely different. One case I know of which I look upon as a case in point. A young girl died very suddenly the morning after crossing

the Irish Channel. She had been very sick during the voyage and that had been assigned as the cause, the popularly accepted opinion being that the brain arising from the excessive vomiting had led to apoplexy. However I know for a fact that she had been suffering for some time from an affection of the middle ear and it seems to me to be the more rational inference that this old standing affection of the ear had wrought its way through the bone at this place and so penetrated into the brain and hence the death. The seasickness seems to me to have been merely a coincidence in the case. Of course there is a possibility that the disturbance due to the sea-sickness might have hurried on the perforation which under more favourable circumstances might have been postponed. It is a very popularly received idea, but to me it seems a popular fallacy, that seasickness does one good. I can hardly understand how an affection producing in some instances such extreme exhaustion as to bring the patient almost to

the drink of the grave, is beneficial. If or even in the milder forms there must be a greater or lesser degree of shock and ~~in~~ all cases in which there is shock to the system there must, in my opinion, be injury to the individual concerned. If a person perhaps in pretty good health otherwise is troubled with what is commonly called "Biliousness" nothing is said to be better for him than getting thoroughly seasick. Some one again is troubled with a sluggish liver and a sea voyage is recommended. In either case the sea voyage would in itself be beneficial but ~~not~~ for the reason that if the person is seasick it will do him good. In such cases the end can be attained in the first instance by treating the biliousness or affection of the liver as the case may be and then let the patient have the sea voyage for the sake of recruiting but ~~not~~ for the ostensible purpose of being seasick which on the face of it seems to me absurd.

Symptoms:- In cases of seasickness. The actual vomiting which is a marked feature in the majority of instances is generally preceded by certain sensory impressions such as the disgust of the senses of sight, taste or smell or even hearing. For instance the sight of a person being sick will often precipitate an attack in the case of the observer and I have repeatedly noticed cases of persons in one cabin in whom an attack was started by hearing some one being sick in an adjoining cabin. Smells again which one would appreciate under ordinary circumstances often form the turning point of an impending attack. The smell of cooking which is appreciated by most people in good health may be cited as an example. Again persons can often keep up pretty well until they attempt to taste some food when they are immediately obliged to pay their tribute to the fishes.

Extreme pallor of the face is very noticeable and often tells a tale when the individual is trying his

first to be known and does not at all relish the hint perhaps dropped by a fellowpassenger, who has himself run the gantlet, that he (the individual) is about to succumb. Seasickness is almost always accompanied by a shivering sensation and cold perspiration, the latter of which symptoms is not much observed until vomiting supervenes. When the vomiting does occur the perspiration is copious so much so that I have actually seen it running down the cheeks in a regular stream. Vomiting having once occurred goes on until the stomach is emptied of its contents, solid and fluid, and then we have for an uncertain period, depending much on the susceptibility of the individual, an intermission which is in turn followed by vomiting and vomiting of a greenish or greenish-yellow matter, no doubt composed of the acid secretion of the stomach and a quantity of biliary matter. often this is also mixed with some mucous. During the interval the patient experiences much relief but seems to be quite exhausted and although the chilly feeling

does not as a rule occur the cold perspiration becomes much diminished. Giddiness is generally present in the beginning of the ailment but when the later symptoms begin to show themselves, if present it does not seem to be noticed by the patient. It may be that the presence of the greater evil causes the lesser to pass unnoticed. Pain in the head is often a marked symptom. This is sometimes of a constant gnawing character but much more frequently of a pulsating or throbbing nature. When vomiting occurs it is very sudden in its onset and the whole contents of the stomach are quickly got rid of. It seems to affect some people very curiously. I knew one case of a gentleman who was always sick when there was the least motion but he never missed a meal. He came regularly to the table, ate freely, went on deck again and was but a short time there when he was siezed with a sudden fit of vomiting and the whole contents of his stomach parted company. He was apparently quite well in the interval of meals.

This it must be admitted is a very exceptional case but then we know that the exception proves the rule. Copious salivation is a marked feature in almost all instances. In some cases when the patient was lying prostrate in an exhausted condition, during the intervals of vomiting I have seen the saliva running from the corners of the mouth. I suppose as the whole system is subjected to a severe shock we may assume that the nerves supplying the salivary glands participating in the shock undergo a temporary paralysis and hence the salivation. The utter prostration experienced by one after being seasick for a time can be quite easily understood when you take into consideration the vast amount of waste there is going on. For not only is the vomiting a severe strain on the system, but the preliminary shock experienced is often in itself sufficient to account for a very considerable amount of prostration. Taking these things into account and keeping in view the fact that although there is so much waste going on the reparative

process is entirely falling behind, for whatever is taken by the mouth in the form of food or drink is again rejected, one can easily understand why there should be so much exhaustion. In long voyages if the seasickness continues, the prostration resulting, may cause one to have grave fears as to the prognosis, for from want of food the patient may succumb through sheer exhaustion. The bowel derangement if at all exaggerated may prove a serious complication, especially if it takes the form of diarrhoea. Everything being rejected by the mouth we may have some difficulty in checking it. But by far the more common derangement of the bowels is constipation, and in these cases we have always the enema to fall back upon if the patient cannot keep down the medicine taken by the mouth. In females, more especially those of a nervous temperament, you sometimes find the seasickness taking the form of swooning. They refuse to eat or drink and it is a difficult matter sometimes to encourage them to speak.

They lie very quiet every now and then going off into a swoon. During the intervals of swooning they seem weak and exhausted but are not troubled in the least with either nausea or vomiting. Reaction generally comes about almost as rapidly as the onset of the vomiting in the beginning of the attack. The patient begins to feel better in spirits, the appetite improves - in fact sometimes becomes ravenous - and convalescence quickly follows. In other cases again the recovery is slow, the reaction comes about very gradually and sometimes assumes a febrile character as indicated by rapid pulse, hot skin, flushed face &c... In all such cases convalescence is particularly slow.

Various complications and Sequelae are frequently met with, such as Hysteria, Abortion, exaggerated menstrual flow and so on. In females especially those who are naturally nervous you sometimes have hysteria to deal with as a complication. If the weather is at all rough, which is frequently the case in transatlantic voyaging, you are all the more likely to meet with such cases.

I have had to deal with cases where the patient absolutely refused to eat or drink or in any way help herself. I remember at least one case in which the patient - a girl of about 18-19 years of age - would have taken her own life had we not helped & watched over her. If this is such a thing as temporary insanity which we hear of at Coroners Inquests; this I think might be justly looked upon as a case of that nature, for the girl became perfectly rational in every way so soon as we got into smooth water again. Another case of a similar nature happened during a different voyage. I have a favorite of the case and will give it briefly. The patient was a married woman 30 years of age who had given birth to three children. When 6 days out she was taken with symptoms of insanity which was first noticed among her fellow passengers in the Steerage and my attention was thus called to her. I found she exhibited unmistakable symptoms of insanity and had her at once removed to a safe place. The ship

had been tossing about considerably during the two days previous to the seizure and she had been feeling very sickly but had not vomited all the time. I kept her confined and I started her on 30grs. Pot: Brom: with 10 grs. Hydr: Chlorat: thrice times a day. She very soon began to show symptoms of improvement. For the first week she had an attack each morning when she rushed wildly about the room insisting that she be liberated. In about half-an-hour she quieted down and continued so for the remainder of the day. I heard from her husband that when her first child was born (dead) some five years previously that she exhibited very similar symptoms for about a month. He thought at the time she began to improve as the milk began to diminish in her breasts. The two following confinements the children were born alive and no such symptoms were seen. After a week I gave her the medicine only at bedtimes and in another week ceased it altogether. During the remainder of the voyage she continued quite rational.

In regard to Abortion I met with several cases which I look upon as such and of which I have the notes. A young married lady going to India sent for me when about five days out from England, the weather having been so rough that she was confined to her cabin all the time. That morning she had been suddenly seized with profuse flooding having been troubled for some days previously with backache. This flooding she looked upon as her monthly discharge but felt rather uncomfortably from the excessive quantity. Besides the previous period had been missed and this tended to increase her anxiety. I may mention that she had been married about five months and that the date of the discharge she now called me to consult about coincided with the time her regular catamenia should have appeared under ordinary circumstances. I had an opportunity of examining the discharge and found quite a number of clots and some shreds of membrane. I then put her perfectly quiet in the recumbent position and gave ergot with a small

quantity of a dilute acid and gentian. She made an excellent recovery. The discharge gradually diminished in quantity and had quite disappeared in seven days. The weather about the time she sent for me began to improve and I consider that was much in her favour. She remained quite well during the rest of the voyage.

Another case of a similar nature occurred on a voyage from Liverpool to Patagonia when we were carrying some 500 emigrants. A married woman aged 24 who had one child 16 mths. old was, three days before we reached our destination, seized with pain in the back. It occurred during the night and continued till 5 a.m. when considerable flooding set in and some clots came away. I was sent for soon after and on examination found an unmistakable foetus among the clots and blood. The membrane was complete and with its contents measured about 1½ in. in diameter. The bleeding seemed inclined to continue so I had her carefully bandaged, adapted perfectly quiet in the recumbent position and started her on 20 m. ergot and 10 m. Acid: Sulph: dil: every hour.

This I continued for 12 hours. The bleeding having by this time considerably diminished I gave the same dose every two hours. At the end of 24 hours I diminished again, giving similar doses three times a day. This I continued for several days. At the end of a week she was quite well. I learnt from her self that it was about six weeks from the last sexual act until this occurrence. She cannot assign any cause for the mishap and never had anything of the kind before. A third case occurred during same voyage and might be called a "miscarriage" as the "quickening" had already taken place. The patient was a married woman aged 29. She had had a miscarriage when about the same length advanced in pregnancy some seven months previously. I was called to her the night after the occurrence of abortion just mentioned above. I found her suffering from severe pain in back and belly. She had had diarrhoea very badly through the day and as I imagined it might have arisen from what I thought for diarrhoea. She soon seemed much easier and slept comfortably till morning. I saw

her again early next day when she was much easier but complained of feeling weak. That night about 10 o'clock I was again called to see her when I found she complained of the pains but I noticed they were more marked and came at intervals. I at once suspected labour and on making an examination found the head of the foetus presenting. In about half-an-hour it was born. It moved but for a few moments. A little pressure on the fundus uteri brought away the placenta intact in about five minutes. This woman had suffered considerably from seasickness during the voyage but when this took place the voyage had practically come to an end. On enquiry I learned that she had fallen down the stair a week previously but had not but barely mentioned she experienced any inconvenience in the meantime. It seems a striking coincidence, these two cases taking place so near one another but whether the one bears any relation to the other I am not prepared to say. It seems to be a pretty generally received opinion that

abortion is a comparatively frequent occurrence as a result of seasickness and that after three months the risk is much less, so much so that cases of premature delivery as a result of seasickness rarely occur. I may just mention that this same voyage we carried quite a number of females who were very near their full time and landed all without mishap in a very satisfactory condition. The menstrual period is very frequently much increased and not only is the number of days it continues increased but in many cases the "flow" is quite abnormally great. The discharge frequently occurs a week or ten days before the normal time and when once started it is very difficult to get it stopped. In many cases I have noticed that the discharge would not cease for 10 days or a fortnight even under the influence of medicine. The majority of cases will however yield to ergot carefully and judiciously administered, with the use at the same time of a little aperient medicine if required. This affection as a result of sea influence seems to be

more frequently observed among cabin than among steerage passengers. I suppose because steerage passengers are, as a rule, more used to roughing it and can stand more knocking about and fatigue. It has been suggested by Dr. J. A. Irwin that this disturbance of the menstrual functions is due to congestion of the pelvic viscera which seems a more reasonable and certainly a much more rational explanation than his theory as to the pathology of seasickness. Many cases are presented to our notice in private practice of sluggish, delayed or painful menstruation and it seems to me natural enough to infer that when a seavoyage is practicable in such cases it might be followed by much benefit to the sufferer.

Treatment:- Every now and again we hear of some drug which has been tried and found useful in the treatment of seasickness and we are assured on the authority of some one that it is a specific for the disease. Many of these so called "specifics" I have tried, in some cases with very considerable benefit

while in others my result has been simply nil, and after careful consideration I have been compelled to come to the conclusion that there is no real specific for the disease. A great deal seems to me to depend on the particular individual's idiosyncrasies and then you may often do not discover until you have experimented a little and sometimes after a fair trial of almost every thing that has been recommended you are forced to give up in despair. In such cases there seems to be no drug of any avail and the only mode of treatment left open to you is to remove the "exciting cause"; that is:- to have your patient placed on terra firma at the earliest possible moment. Some assert that there is another cure:- habit or custom. Well my experience has led me to believe that in the great majority of cases this is by far the best remedy but that in a few exceptional instances the person will never get used to the motion. The Captain of a ship in which I sailed told me of one case in which, when commanding a sailing vessel, he was obliged to put in to the nearest

part in order to land an apprentice who was in such a state of exhaustion that death seemed imminent. They had been a month at sea and this poor little fellow had been so ill all the time that he was quite unfit for work. I have carefully observed cases of ladies coming home from India, the voyage averaging 33 days, and towards the end if the ship rolled at all they were as utterly prostrated as at the beginning of the trip. Such they told me had always been their experience and some of them had been the voyage quite a number of times. In such cases if we can only arrange (which is a very difficult matter) to have their attention taken off the sea absorbing topic of their watching moments and it may be of their dreams - that sea present in their minds - that they are on the "salty deep" and direct their thoughts to some other object or objects and by so help their attention so concentrated on them that they will forget they are on the sea at all, I have no doubt it might be followed by a satisfactory result. Sleep can also be done by an effort of will and if they can only

banish the fear with which they realise their situation I am quite convinced their malady would be followed by an alleviation if not by a cessation of the symptoms. In fact if they can only control their fear from the beginning I am quite satisfied that many of the victims of Sea-Sickness would escape altogether. In every case, as I have already said, I believe that fear goes a long way towards inducing seasickness and therefore we should always attempt to get rid of such fear by trying to turn their attention to other objects. It has been observed among young sailors given to be very sick at first that when compulsion is brought to bear on them and the performance of their duties insisted on by their superior officers that the seasickness soon disappears. If we could only invent some means of keeping passengers placed under our charge occupied during the voyage, and compel them to perform the prescribed duties I believe we would have the seasickness to deal with. Such an idea may be, and undoubtedly would be looked upon by the general public, as preposterous and so much the

existing state of things we are obliged to make use of the means within our power for alleviating the sufferings of those placed under our care.

Apart altogether from medicinal remedies there are many modes of treating seasickness and I consider these even of greater importance than stuffing your patient with drugs. The position the patient occupies is of vital importance. They should always adopt the horizontal and preferably the head and feet turned towards the sides of the ship. The head should always be on a level with the body, no pillow supporting it. In this way the impaired cardiac action is in a measure aided and so there is less risk of the anaemia of the brain being reached to which I look upon as being at the bottom of the whole mischief. Various kinds of swing cots have been invented and I have no doubt are of much service. One patented by Gardiner and called "Gardiner's Patent Level Cot" has been very favourably spoken of. These are all arranged on the swing principle so that they do not participate in the irregular jerky motion of the vessel when heaved

about in a heavy sea. If hammocks came more generally into use on board passenger ships the berths, which are built in and so fixed to the ship and must move with it, would be less called for I am certain. For the hammock would act much in the same way as the patent swing cots and would not be subject to the jerky motion of the vessel. Passengers would not find them so comfortable for everyday use as a built bunk in rough weather. I feel convinced they would be extensively patronised. Some authorities insist on the patient lying on the right-side but it seems of no material difference on which side they lie so long as they lie at all and keep the head low. Some again believing in the "mechanical theory" of Dr. Glynn Whittle insist on pressure being used over the epigastrium. This no doubt gives a sensation of relief to the patient but I do not consider it as at all a vital part of the treatment. In ordinary cases of vomiting pressure on the epigastrium seems to interfere a sense of relief to the patient - mainly from the support to the abdominal walls but I fear if it will in any way exercise a curative effect and I

think the same may be justly inferred of the vomiting of seasickness. What I do look upon as a vital part of the treatment is that the patient should be kept not only in the horizontal position but in the horizontal position in the open air. The fresh air acts as a tonic to the over excited and irritable nervous system whereas if the patient retires to his cabin down below there is always more or less lack of fresh air and over and above all that a "stuffiness" which one can easily imagine the already over sensitive nervous system cannot tolerate for any length of time.

Two drugs, the Bromide of Potassium and Atropia, should according to my impression be assigned a place far above any other medicine in the Pharmacopoeia for the treatment of Seasickness. However, notwithstanding all my satisfactory results with these two drugs I am obliged to admit that in some instances both the Bromide and Atropia have failed as did everything else which I tried. There seems to be a considerable diversity of opinion as to whether the Bromide of Potassium or the Bromide of Sodium is of

most service in the treatment. Some one in advocating the use of Sodium in preference to Potassium assigns as one of the reasons why it should be used that the Crystals dissolve better and it is more easily carried about. Until I read that simply no reason. I have tried both but much more frequently the Potassium and as I have generally had a satisfactory result from it I have a partiality for it although I do not for a moment offer to assert that it is preferable to the Sodium with which I have also been successful. That the Bromide of Potassium may be of use in the treatment of Sea-Sickness it must be given before the actual disease sets in else it will be rejected by the Stomach same as every other thing the patient attempts to swallow. If the Sea is likely to be rough at the very beginning of the voyage the person must have been using the drug before coming on board for at least a period of 24 hours. Some people insist on administering it doses Five or four times a day and pushing it until Bromism has been produced. Well to me this seems rather heroic

treatment and I consider that an equally good result can be brought about by a much milder form of treatment. Give 3gs doses every six hours for a period of 24 hours and follow this with a similar dose twice during the 24 hours and if the voyage is likely to be a long one continue the treatment for a week after coming on board. In case a person is only going a short run, say cross Channel, when even in good weather the rocking of the small steamer gives rise to sickness I would say begin your treatment with the Bromide two days before starting. First day give four 3gs doses and second and third day give two 3gs doses. I am quite satisfied if such a mode of treatment is followed out that sea-sickness is not escaped altogether will be much mitigated in its effect. As a precautionary measure I would advise a smart purgative the day before sailing in addition to the Bromide.

The Atropia which I have always given in the form of Liq: Atrop: Sulp: I look upon as being wonderfully useful in the treatment of Seasickness. This differs from

The Bromide in that which the Bromide is only a preventative the atropia acts in many cases both as a preventative and a curative. This may possibly be accounted for by the fact that as the quantity you require to give is very small there is not so much risk of its setting up vomiting even when the Sea-Sickness has got a firm hold on the person. I always give them drops in a teaspoonful of water and repeat it every two hours until the Physiological effects begin to be produced. So soon as the patient begins to experience dryness of the mouth and throat I cease administering the drug for a time but if the weather is rough I give the medicine again so soon as the physiological symptoms before produced have disappeared. In many cases when I gave my patients this drug I have been enabled to pull them through pretty rough weather without their being seasick and they have repeatedly assured me that they have never escaped Seasickness on any previous occasion. In other cases I am quite certain it has been the means of checking Seasickness

when the vomiting had already begun. The Liq. Atropiæ may also be given hypodermically but I prefer giving it in this manner. Before I began to think much about the Etiology of Seasickness I had attained some very satisfactory results in the treatment of persons suffering from this affection by the use of these two drugs and I think the results I have obtained go a long way to confirm the idea that the vagus is the prime mover in the phenomena of Seasickness for it is a well recognised fact that both these drugs, but more especially, atropia exercise a very considerable effect on the pneumogastric nerve.

After these two drugs an effervescing mixture should be assigned next place in order of efficacy. The mixture which I used consisted of Sodae Bicarb: grs.20. with 20m. Spt: Chloroformi. This I made to effervesce with citric acid and to the acid mixture I always added 2m. of the dilute Hydrocyanic acid. This formed a cheap and easy mode of treating cases of Seasickness and was, I found, especially useful in the emigrant trade

when any medicine such as Atropine, not in everyday use, is ready to be found. In fact the Hydrocyanic Acid which I made use of in these cases I was obliged to procure myself. This mixture to have any effect should be given in the earlier stages of the attack else it will be of no use. I suppose the excessive secretion of gastric juice is in some measure neutralised by the Soda. Besides the Chloroform acts as a Sedative to the Stomach and is also a general stimulant. Again it is well known that Hydrocyanic Acid is very useful in cases of Vomiting from causes other than Inebriety and why should it not also be useful in that disease? Granted that each thing is of some help you will readily agree that the mixture is a very advisable one to give in such cases.

Citrate of Caffein in two or three grain doses is said to relieve the Sick Headache. Cannabis Indica also relieves the Sick Headache and has the advantage over Caffein that it does not give rise to Sleeplessness which the Caffein frequently does. A mixture of

Aromatic Spirits of Ammonia and Spirits of Chloroform is said to be useful in many instances. Bismuth I have tried without any good effect although it is highly spoken of by some. Of late years the nitrate of Amyl and nitroglycerine have been much recommended. The nitrate of Amyl I have used by inhalation and in a few instances the treatment has been attended with a satisfactory result but I do not consider the drug deserves all the encomiums that have been passed on it by many who are said to have derived benefit from its use. The nitroglycerine I have used in the form of tablets of the 1-100th of a grain. I have continued the use of this with a feeling of fullness and throbbing was produced in the head but I have for so far obtained no results which would lead me to recommend it as a "real Specific" in the treatment of this disease. Several other drugs, which have no doubt been found useful, have been much recommended by some authorities but as their effect is simply narcotic I do not consider they are deserving of all the praise which

has been lectured on these narcotics, unless used with the greatest care, sometimes give rise to a very unhappy result. If the Surgeon has many patients to attend to he cannot in my opinion do them all justice by giving laudanum or using the Hypodermic needle all round. One gentleman in advocating the use of morphia hypodermically says when going round the inpatients of a morning he always carried his needle and bottle with him and if he found any suffering from headaches he at once used it. This is a sort of treatment which I think deserves the highest condemnation and should not be tolerated for a moment. Morphia hypodermically and laudanum are the two I wish to condemn most not but that I grant you they may be attended by a satisfactory result in some instances but I consider that the manner in which they are often used or rather abused is highly injudicious. Chloral Hydrate has been recommended but Dr. R. Bruce Low in writing to the British Medical Journal (Oct. 1880)

says he has taken as much as a 120 grs. in three hours without any alleviation of the symptoms. In fact he considers his sufferings were intensified. Cocaine, the most recently mentioned remedy for Rabidness, is a drug I cannot speak about personally as I have not had so far given it a fair trial, but it has been most favourably spoken of by some writers on the subject. Dr. Otto (Berliner Klinische Wochenschrift, No. 43, 1885) says he has administered the drug in doses of ¼ to ½ gr. dissolved in water, three times a day and found much benefit from it. The subcutaneous method given in larger quantities it has not the same beneficial effect. Pregnant women bear it well but he has not tried it with children. Dr. Manassein in writing to the same paper (August. 1885) says he made a voyage especially to test the drug and was highly satisfied with the results he obtained.

Some external applications have been recommended. Dr. Chapman recommends the application of ice along the spine for the purpose of lessening the nervous

irritability and it is said that this treatment sometimes arrests the vomiting. External sedative applications have been used applied over the epigastrium:- A liniment composed of equal parts of Belladonna, Chloroform and Camphor liniments is highly spoken of. The vapour of ammonia inhaled through the nose is said to be of much service.

Attention to the diet is another matter of so much importance that it should not be neglected. The diet before embarking should be light. During the attack we should always insist on the patient having a little food. In the earlier stages alcoholic drinks of all kinds should be avoided. Later on if stimulants seem to be indicated give some effervescing liquor the best of which seems to be champaign. Port and beer have been said to do good but they seem to me rather to do harm.

Last but not least attention to the bowels is of much importance. In every case where a person is at all likely to be seasick and a long voyage before him or her as the case may be my advice to them is

that above all things they should be caused to keep the bowels regular. The great tendency of passengers on board ship is to become very costive so that taking aside the seasickness altogether aperient medicine is in the majority of cases absolutely necessary. This constipation may be easily accounted for when one considers the fact that the tendency is to eat too much, the mode of life again is entirely changed and they have little or no exercise. If aperient medicine is not used they lay in to feel "out of sorts" so that should rough weather supervene, being in this state they at once fall victims to seasickness, whereas if they had attended to these minor details the attack might have been averted. I always found that pretty large doses of aperient medicine were required by persons on board ship. My favourite purgative was two pills given at night, a blue and a 1/4 gr. podophyllin followed up in the morning by a Seltzer draught if required. This I found of immense value and those who took this medicine and attended to my instructions did not suffer much inconvenience from seasickness.

In conclusion it may not be out of place to add here a few words in regard to the facilities for the treatment of disease, sickness or otherwise, or accident as the case may be, within the reach of the "Ships Surgeon". In many respects he is placed in one of the most responsible positions a man can very well find himself in and with a supply of appliances and medicines quite inadequate to cope with many of the "ills which flesh is heir to". He is thrown entirely on his own responsibility perhaps with two or three hundred souls, or even more, on board it may be only for a week or ten days but it may be for a months. In emigrant vessels which are under Board of Trade supervision and liable to be inspected each time leaving port there are instruments, but instruments made for a purpose and the majority of which are not to be depended on in case of any operation which you might find yourself obliged to perform. I grant that the probability is you will not require them but if required when an

you ? Again your supply of drugs only includes the more common ones of which you have usually a plentiful stock but many of the drugs which are of great importance in the treatment of various affections are not to be found on board. The instance I mentioned before when I wished to have a supply of Hydrocyanic acid and was obliged to order it supply is a good example. But then there are many ships which do not come under Board of Trade regulations at all and these although they carry a Doctor can hardly give him more as an ornament than anything else for the means within his power of treating disease or accident is almost nil. The majority of these ships carrying neither instrument nor appliances but simply the proverbial "Ships medicine Chest" the contents of which the Captain is deemed competent to dispense by aid of a "Book of directions". It seems to me that all ships carrying passengers should be bound by law to have a good and well selected supply

of drugs, instruments and medical appliances on board, that the ship should be under inspection having port and that this inspection should be thorough and not the farce which it now amounts to. These remarks although applied in general have a direct bearing on the subject of my thesis for, as I have tried to explain, the drugs of most benefit in the treatment of Beriberi are not at all likely to be found on board. Not in one round out of ten will you find such medicines as, Nitrate of Cinyd, Nitroglycerine, Strophine, Cannabis Indica and Cocaine.
