by thorium, the breathing exercises must be good. The gas-washing bottle costs 10s. 6d. and the $\frac{3}{4}$ oz. of thorium nitrate 12s. 3d., making a total of 22s. 9d.

REFERENCE.

¹ A Method of Applying the Rays from Radium and Thorium to the Treatment of Consumption, BRITISH MEDICAL JOURNAL July 25th, 1903, p. 197.

THE THERAPEUTICS OF SEA VOYAGES.*

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[ABSTRACT.]

THERE is so little available literature on this subject, and it is so useful for stay-at-home medical men to know something of the nature of sea-voyaging from a therapeutic standpoint that I make no apology for introducing the subject on this occasion.

Yearly there are sent abroad on sea voyages a large number of invalids who have no chance of receiving benefit therefrom. The main idea is that a change of air is probably the one thing likely to do good, and that brings me to the first point, namely, that a perfect all-the-year-round climate is not to be found in the world. If bracing and dry, there will be much wind and dust; if equable it will necessarily be moist and to some extent enervating: there is no known climate which is dry, windless, invigorating and equable. A sea voyage gives one a good chance of a long period of equable weather, but in a steamer making for any particular place, and proceeding northwards or southwards, there is too much rapidity in the changes for most invalids. The voyage to New Zealand, one of the two commonly prescribed for febrile consumptives, running out via Cape Town and back via Cape Horn, is by no means always a desirable journey, whether on first-class liner steamers or specially-fitted sailing vessels. From my own notes of weather experienced during a round voyage to New Zealand and back, from April to September, I may summarize that the first fortnight was cold, windy, and wet, and the third week was spent in muggy heat in the tropics; that the weather then grew daily colder and less agreeable, while from April 29th to May 6th the average mid-day deck temperature was as low as 40° F. On May 19th we arrived in New Zealand in autumn time, and for a week in Port Chalmers the weather was as variable as it is possible for weather to be in a temperate zone. At Lyttelton in June the weather strongly resembled that of an English November. Homewards, between the Colony and Cape Horn were days of bitter cold, tempests, and heavy rains. Five days later we were in almost insufferably hot weather, and two consumptives on board became highly febrile and contracted troublesome coughs.

Now, on both steamer and sailing vessel changes of climate must, of course, be encountered; but if on the latter they are more gradual, it is also true that, once in the tropical doldrums—a most unfavourable place for the phthisical and debilitated—a sailor may have to wait even weeks for a favouring wind. Physiologically speaking, on a sea voyage there is plenty of open sunshine and light, and the air is uncontaminated by organic particles. Passive motion takes the place of exercise for the feeble; tissue change hurries along, and where an increase of appetite follows all may go well; but many invalids find ship food very unappetizing.

As a tonic, a restorative, and a sedative for worn-out or brain-fagged people a sea voyage may do wonders. For consumptives with actual slight mischief in progress or in a latent state a voyage to South Africa and back from January to April will often prove an excellent measure; but to send a phthisical person really febrile and subject to pleurisy on a long sea voyage by himself is often a piece of ignorant cruelty. Nor will a voyage that includes much of the tropics be suitable for nervous diseases. The intense heat and damp are too enervating. Cases of angina pectoris, exophthalmic goitre, hypochondriasis, chronic bronchitis (unless sicca) should never be sent to sea.

The second point is the choice of a ship. For the majority, a first-class steamer in a first-class line is too expensive; though on the steamers of some of the second-rate lines the cabins are larger and the feeding not at all unsuitable, moreover the attendance is often better in the latter. But no steamers carry certificated nurses regularly, if at all; the

surgeon meets with the greatest difficulty in getting invalids supplied with medical comforts and extra attention, and there is a feeling that board-ship is no place for the sick. Again, there is seldom adequate provision for cold and draughty weather; cabins are small, inconvenient, and must often be shared with some one else; and in bad weather the passengers may be "battered down between decks" in a place which rapidly grows steamy and unwholesome, and has little air or light. Three consecutive days of this weather will produce a most depressed effect on most invalids, the "racing" of the screw the continual jerky motion of the entire vessel, and the nervous dread of disaster often act disastrously on people who are out of health. *Per contra*, the duration of the voyage is definite, and the course is prearranged in a steamer voyage; the bill of fare is plentiful, so is drinking-water, and there are generally entertainments on board; moreover, there is nearly always a qualified medical man.

The contrary conditions frequently obtain on sailing ships, except those fitted up solely as invalid passenger ships. But the lack of an ice chamber is generally much felt, and handicaps the cook in his efforts to provide dainty fare. In favour of sailing ships, I may remark that the cabins are commonly well-ventilated and roomy; there is no smell or throb of machinery, no cramping of space on deck, and life, if monotonous, is peaceful and undisturbed. Where time is no object, in cases of neurasthenia and brain fag, such a voyage may well be prescribed. The treatment of sea-sickness, which is so greatly dreaded, and over-dreaded, should in my opinion be begun before embarking. Four or five days before sailing I like to bring patients under a course of sedatives such as chlorobrom or ammonium bromide, at the same time attending thoroughly to the action of the bowels, and endeavouring to remedy any dyspeptic condition. Beginning with a brisk purge of calomel and hyoscyamus, or colocynth, I prescribe gentian and soda, or bismuth and hydrocyanic acid, according to the case, and then 10 gr. or 15 gr. of ammonium bromide and a small dose of hydrobromic acid three times a day regularly until the second day out. An individual with bad circulation and flabby heart will require diffusible stimulants in addition, and either sedative or stimulant may be increased as the critical time approaches, according to the necessities of the case. A great deal may be done by judicious counsel and encouragement from the medical man attending the case, especially if he be skilled in the art of hypnotic suggestion. I have frequently improved bad cases of *mal-de-mer* by mere hypnotic suggestion as recommended by Lloyd Tuckey and others. In severe cases, whether due to cerebral or gastric disturbance, I have been well satisfied with the results of a blister, as large as the palm of one's hand, placed over the epigastrium. Of course there is no royal road to cure in all cases of *mal-de-mer*; some seem to be due even to such a trifling matter as slight astigmatism or ordinary errors of refraction, and the wearing of suitably prescribed spectacles on deck gives the relief required.

As advisers in the home circle, we doctors should remember that in sending a patient on a voyage we are isolating him from his home, and from any kind of home, and from the everyday world altogether; and that he will live among a set of more or less unsympathetic and careless strangers. We should reflect what it would mean if he were to die on board, or if it became essential that he should land somewhere abroad, far from friends and country, and remain there for a time. To some people mere home-sickness makes a voyage one prolonged discomfort. I would urge on family doctors the desirability of sending a communication to the ship's doctor in every instance. This is seldom done, and I have often been confronted, as the vessel leaves the land in the distance, with serious cases of whose technical medical history I have been told nothing. It is well-nigh impossible to make a satisfactory physical examination of a patient in the cabin of a steamer in motion. Again, the dispensary of a ship is not too well stocked, and if the doctor has no knowledge of the drugs that have been already exhibited, the patient may suffer in consequence. Only on my last voyage I had to treat a case of violently spasmodic asthma, and neither nitre nor stramonium were to be found in the medicine chest; and there was a quite inadequate supply of potassium iodide.

The routine of life on board ship has been too often described to need recapitulation here. Patients should be warned against over-eating (and this warning is by no means unnecessary, for little exercise is taken); also against sleeping on deck, especially in the tropical nights, which are very uncertain in temperature.

* A paper read before the St. Pancras Division of the Metropolitan Counties Branch of the British Medical Association.

With regard to clothing, thin flannel is the coolest wear in the hottest tropical weather, especially in a damp heat, and cotton drill and satin jean, smart though they look, should be avoided. I am strongly in disfavour of alcoholic drinks at sea, except, perhaps, in cases of atonic dyspepsia. In malarial regions alcohol is especially to be avoided. No laundry work can be done on board, so an ample supply of underclothing must needs be taken. Flannel or flannelette pyjamas should be worn at night throughout the voyage.

In conclusion, there are certain types of invalid who do no good at sea—dyspeptics, who require a specialized diet; aged, irritable, or nearly bedridden people; and those with chronic rheumatoid arthritis of the smaller joints. There are no facilities for the due treatment of surgical diseases requiring frequent antiseptic dressing, for there is no really adequate hospital accommodation on any ocean liner, however large, as far as I am aware. The only chance for an inebriate to improve at sea is on a sailing ship commissioned on teetotal principles, and such are, indeed, rarely to be found. On the whole, there are few cases of invalidism for which a sea voyage is a suitable remedial measure.

SOME GENERAL RESULTS OF AFFECTIONS OF THE NOSE AND NASO-PHARYNX.

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THE effects of obstruction to nasal respiration upon contiguous structures is widely recognized, and the local changes thus caused are very marked when the obstruction occurs in early life. As a result of adenoid vegetations, for instance, we get the well-known changes in the shape of the superior maxillae and the changes in the tympanic cavities, catarrhal and suppurative, giving rise to deafness of a greater or less degree. In adults, too, the effects locally, though not so marked, are obvious enough in many cases—changes in the external appearance of the nose, excoriations of the upper lip from the discharge, dull aching or even sharp neuralgic pains in the head, changes in the pharynx, larynx, middle ear, and so on. In fact it is clear that both from the obstruction itself and from the nasal discharge which may be present as its cause or result some alteration must take place in the surrounding structures.

It is not, however, to the local results that I wish now to direct attention. The effects of nasal obstruction, and especially of nasal discharge, upon the system generally, and the position of the latter as a possible or contributory cause of certain conditions of what we may speak of in a general way as ill-health, have received until recently little attention. No doubt this is due to the lack of knowledge which prevailed to within the past very few years concerning all affections of the nose. However, it is safe to assert that in no branch of medicine or surgery have such strides been made as in the diagnosis and treatment of diseases of the nose and its accessory cavities. The danger of this rapid improvement is that the rhinologist is apt, even more than might be the case with the more slowly developing special branches, to see things through glasses tinted by his speciality, and reduce to terms of nasal affections as many diseased conditions as can by any means be gathered in. On the other hand, to avoid this danger he may take up the opposite position, and, by being hypercritical and too conservative, miss the connexion existing between some nasal affections and those of a more general character.

The accessory air spaces of the nose, situated as they are in close proximity to the contents of the cranium, are worthy of all the interest and study which can be expended on them; and when we remember the very thin partitions which divide three of them, the frontal and sphenoidal sinuses and the ethmoidal air cells, from the dura mater, it is evident what serious results may arise from disease of their lining membranes and walls. Already during the few years in which the rhinologist has directed attention to these sinuses cases have been described as diagnosed during life and found *post mortem*, in which suppuration of the brain and its membranes has been found either as a direct extension from these sinuses or indirectly through venous and lymphatic channels. When one remembers the number of cases in which disease of the mastoid antrum has resulted in cranial affections, one is driven to the belief that as our knowledge of the nasal cavities and their diseased states improves we shall be able more frequently to trace the connexion between cranial affec-

tions and nasal disease, and also, remembering this relationship, to diagnose and treat certain inflammatory and suppurative conditions of the meninges and brain which hitherto with our limited knowledge have been either overlooked or, when suspected, have been assigned a wrong cause.

However, at present I am more concerned with the general results of the more common affections of the nose and nasopharynx. It has always appeared to me that the mere mechanical interference with nasal respiration caused by adenoid vegetations in the naso-pharynx is not sufficient to account for the general symptoms which frequently obtain in this condition. And yet that is the general teaching. Still it has no doubt happened to others as it has to me to see many cases of undoubted adenoids with marked nasal obstruction in which the only complaints were mouth-breathing, snoring during sleep, and, it may be, some degree of deafness—no general symptoms whatever.

A week or two ago I saw at the Glasgow Ear Hospital a very good example of this. The child, a little girl of 8 years, was brought by her mother because of a certain amount of deafness. Questioning the mother elicited the information that she continually went about with her mouth open, and that she snored at night; otherwise the child was most robust, well grown, plump, very bright and mentally quick, with well-shaped chest, and a good appetite. In fact those who saw her remarked on her very healthy appearance. Further examination, however, showed that there was decided interference with nasal respiration, and by the finger a large mass of adenoid growth was felt. Later this was removed, and the deafness and difficulty of nasal breathing disappeared. In my experience, and no doubt in that of many others, this is by no means an isolated case. We are constantly seeing children suffering from nasal obstruction due to adenoid vegetations in the naso-pharynx in whom the commonly taught general symptoms of mental obtuseness, or, as it is called, aprosexia, delayed growth, pigeon chest, and general ill-health are absent; while, *per contra*, frequently in those cases in which these symptoms are present we find the adenoid growth very small in amount, and causing little, if any, interference with respiration through the nose.

Take, for instance, the case of a little girl of 10, whom I lately saw. Her medical attendant sent her to me suffering from deafness and delay of mental development approaching imbecility. On examining her I found that her tonsils were somewhat, though not greatly, enlarged, and that she had only a moderate increase of adenoid tissue in the nasopharynx. Nasal breathing was obstructed to only a slight extent. Yet after operation she improved wonderfully till now her mother says, "You would not know she is the same girl, she is so bright and cheerful;" even in two months others notice a marked change in her mental condition. It is a common example. Seemingly so little cause for the marked general symptoms, and yet such decided improvement after its removal.

That restoration of nasal breathing is not the sole cause of the improvement following removal of these growths is proved by the fact that in many cases mouth breathing persists for a long time after the operation, and yet both mental and physical improvement takes place. It is unnecessary to multiply instances bearing this out. We are constantly being told, "He is very much better, but he still breathes through his mouth and sleeps with his mouth open." He may no longer snore, as the levator palati may have regained their tone and there is no longer any obstruction to their action.

This being so, I have inquired what is the chief cause of the general results of adenoids, and the conclusion pressed upon me is that the secretion, which occurs in greater or less amount in this condition, must be given a prominent place. This varies much both in regard to its amount and to its character. It may be very small in amount or most excessive, and in character we find any gradation from ordinary mucus, odourless and even non-irritating, to very thick and bad-smelling muco-purulent discharge. In one little girl whom I saw frequently it was very abundant and very offensive to the smell, and in her the general physical symptoms were the most marked I have seen. Every morning she was sick, and vomited a large quantity of malodorous, thick muco-purulent material—the night's collection from the vegetations in the naso-pharynx. She sweated profusely during sleep, was very anaemic, had typical pigeon chest, poor appetite, and altogether her general state of health and physical development was such as to suggest tubercle, but though she was carefully examined with this in view no pulmonary or