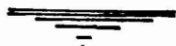


Thesis for degree in M.D.

July, 1899.

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## A Case of Multiple Neuritis and its Treatment.

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The case of Multiple Neuritis which I have made the subject of this Thesis, came under my observation a short time ago, when I was acting as ship-surgeon on a line of steamers running to and from Rangoon, and it presented so many special features of interest, both in the onset and progress of the disease and in its recovery, as I think justified me in considering that it was altogether out of the common run of such cases.

The patient was a German Count, a captain in the German army, who was spending his year's leave travelling all over India and Burma. I give his movements in detail, as I think they have some bearing upon the causation of his disease.

He landed in Ceylon at Colombo, at a tolerably warm period of the year for that part of the world, and travelled through the lower parts of India gradually working up to the northern extremities. After a stay of some duration in Cashmere, he and his party went to Calcutta, then across to Rangoon and after a short stay/

stay there he went up north again to the hilly district above Mandalay, and it was during a railway journey to Mandalay that his illness began. During his travels he was subjected to extremes of heat and cold within very short spaces of time, from 90° Fahr. and over, in Colombo, to several degrees of frost in Cashmere. The nature of the remote parts of India and Burma through which he travelled compelled him and his companions to "rough" it to a very considerable extent, sleeping out in all weathers with little shelter, and enduring all sorts of hardships which can only be appreciated by those who have spent some time in the country. He neglected too a very necessary precaution which people out east as a rule adopt, namely, the wearing of a Cholera belt, or broad flannel binder round the abdomen. This simple precaution has a wonderful effect in preventing anyone who wears it from taking fever or catching a chill of any description. In the case of Europeans out East, the abdomen and lumbar regions seem to be the most sensitive parts of the body, and to one who has not become acclimatised sleeping out without wearing/

wearing a cholera belt, is almost certain to be followed by an attack of diarrhoea, colic, fever, or even worse. The patient was a strong healthy man about six feet in height and 34 years of age, of a very robust constitution and weighing before his illness began about 12 stones. The only illness he ever remembered having had previous to this one, was a slight attack of scarlet fever from which he made a perfect recovery. He first began to feel unwell during the long railway journey from Rangoon to Mandalay. At the season of the year when the journey took place, although the heat during the day is almost insupportable to some people, the nights may be bitterly cold and from the manner in which the carriages are constructed it is impossible to shut them up and prevent constant draughts blowing through them. That night too he fell asleep when it had just begun to get cooler, and not having taken the precaution to get out of his baggage any rugs or thicker articles of clothing, he awoke early the next morning shivering and feeling most uncomfortable. On his arrival/

arrival in Mandalay he felt so much out of sorts that he proceeded straight to his Hotel and did not accompany his companions on any of their excursions during their stay there. The patient, I may remark here, was a man of first class intelligence. He had the most excellent recollection of all the different symptoms and phenomena that occurred from the very outset of his disease, and could give the exact date when a new symptom appeared or an old one diminished in severity or disappeared altogether. I give here his own description of his disease, very much in his own words and I cross-examined him most carefully to prevent any error. For the first three days after he began to feel out of sorts, he felt as if his head was swollen up and had too much blood in it, and he only felt tolerably comfortable when he was stretched out at full length on a long arm chair with a very soft cushion under his head. Thinking that perhaps over fatigue or a touch of the sun would account for this uncomfortable feeling, and for the intense headache which gradually supervened, he did not send for a doctor until the/

the third day of his illness, when by this time the swollen feeling and pain in his head had got almost insupportable, and he had now the impression that it had extended down the neck and along the spinal cord. There was the same feeling of discomfort down the back, not so much an actual pain, but such that he found it more comfortable to lie either on one side or the other rather than stretched on his back. By this time too he felt feverish and his appetite entirely left him. His voice got very weak and quavery, and his eyes were so painfully sensitive to light that the room had to be kept as dark as possible. His hearing was painfully acute and he could not bear the sound of the slightest noise. His breathing too was affected, and the slightest amount of pressure on the chest made him feel as if he were being suffocated, so that he had to recline in bed with his chest and shoulders raised and without a coverlet upon his chest. His friends — never noticed any delirium, but he used to waken up at times with the haziest ideas of where he was, and thinking that he was still in Germany.

The/

The Doctor when called took his temperature and at once set his case down as an attack of fever as his temperature was 102.4 and prescribed Quinine. On the fourth day of his illness however, in spite of the Quinine the temperature rose to 103° and in addition to an aggravation of the previous symptoms a new element appeared in the case. Pain began to be felt shooting out from the spine very slightly along the arms, more round the trunk but much more severely down the legs. At this time the headache and feeling of discomfort in his head and spine became more bearable, the aversion to light got less pronounced, his hearing became more natural and noises were less objected to. The shooting pains for the next few days were the things most complained of. All this time he was able when necessary to move about, wash himself, go to stool etc. without feeling that his muscles had at all diminished in strength, but after the pains had lasted for two days, he found that it was a great labour for him to move about and that the least amount of exertion tired him. The Doctor who was attending him diagnosed the/



the pains as rheumatic and gave him salicin but without any effect. Gradually the shooting pains declined first in the arms and trunk and more slowly in the legs and were replaced by a numb sensation in all the muscles but most decided in the legs. He was still able to move about a little and go to stool, but felt his legs so heavy and fatigued after such exertion that he stopped going about altogether and remained constantly in bed. This numb sensation increased and gradually developed into definite pain and very soon this pain especially in the muscles of the legs got almost insupportable. The slightest movement caused the most excruciating pain, and even when the muscles were at rest, the pain was so intense that he could not bear the weight of a single coverlet upon his body, and sleep was impossible unless after the administration of a strong opiate. The fever had by this time gone down to 99° to 100° morning and evening and kept about these figures for the next fortnight. He was able to pass his urine himself all through his illness, although as long as the fever lasted/

lasted it was hot and burning, very high coloured, and he noticed a large deposit each time in the chamber. His bowels almost from the start got extremely constipated, and either an enema, or a dose of purgative medicine had always to be given before the bowels would act. To relieve the pain a new remedy "antikamnia" was given to him at regular intervals. It gave almost immediate relief and produced a cessation of pain always for about four hours after each dose, a profuse perspiration came on at the end of that time, and then the pain returned with undiminished severity. At this time the other members of his party had to leave him to continue their journey, so it was decided to take him back to Rangoon to a German friend's house there, where he could remain until he got better. He was conveyed in a dhooly to the train, and after an eighteen hours railway journey, he was carried to his friend's house in Rangoon, having suffered agonies during the journey with the jolting and vibration. He/

He reached Rangoon on the twelfth day of his illness, and he remained there four weeks before he came on board. After his arrival in Rangoon the pains in his muscles gradually grew less, those in the arms and trunk disappeared at a comparatively early date, but the pains in the lower limbs lasted much longer and were still present although only to a very slight extent when he came under my care. During the four weeks that he remained in Rangoon his muscles gradually atrophied. Those of the face, arms and trunk to a very considerable extent, but those of the legs wasted away to such a terrible degree, that his legs were reduced literally to skin and bone. The Doctor who attended him in Rangoon tried various remedies. For the first week large doses of Quinine were tried as the Doctor told me he thought there was something malarial about the case, but as there was no improvement and the pain was still very severe, he tried treating the case for a week with large doses of salicin. Beyond putting his digestion into a deplorable state and making him loathe/

loathe the sight of food, it had no effect upon his condition at all. A combination of Quinine and Salicin was next tried, and he was carried on board with a large stock of medicine, Quinine Salicylate in Pills some bottles of purgative medicine, and a dozen phials of sleeping draught, the last a mixture of opium and bromide of potassium. His Doctor came on board with him and gave me a detailed account of the case since it had come under his care four weeks before. I can now give a description of the case as I found it after the disease had lasted nearly six weeks. On looking at the patient the first thing that arrested the attention of even the most casual observer was the peculiar attitude in which he lay. He reclined on his back in his bunk with his head thrown back, his mouth open, his arms and legs stretched out and showing the most marked wrist and foot drop that I have ever seen. His cheeks were sunken, his lips pale, and his eyes were very prominent and had a peculiar startled expression in them, so that altogether he had rather a ghastly appearance. Naturally the first thing I did was to make/

make a very thorough examination of the patient to find out the condition of all his organs. The patient's family record was very good and his previous history was unexceptionable. As I have mentioned before the only diseases he had ever suffered from, were scarlet fever and a goitre which troubled him a little at the age of 25. (I thought that this goitre might account for the prominence of the eyeballs as the right lobe of the thyroid body was still much enlarged but caused no inconvenience. At the time it began, he was treated with Thyroid extract and the symptoms disappeared.) He had never had any venereal disease, and except for the Goitre and the Scarlet Fever he had always enjoyed the best of health. He was a most temperate man in the use of alcohol, rarely exceeding one bottle of hock or one bottle of beer daily, so that in this case there could not be any suspicion of alcoholism. I shall pass over rapidly those organs of his body which I found to be in good condition, and describe in detail those which shewed evidences of the disease from which he was suffering. His heart, lungs, liver/

liver, and kidneys were all perfectly healthy. (The urine was of a deep amber colour, slightly acid in reaction, with a very copious deposit of mucus and urates, but without any traces either of sugar or of albumen.)

An examination of the eye at this time with the ophthalmoscope, revealed nothing abnormal. The pupils which were perhaps a little dilated, responded equally to light and in accommodation, and both Stellwag's and Von Graafe's symptoms were absent. The hearing was now perfectly normal both as regards bone and air conduction.

The voice was very strange. It had a peculiar quaver or tremor in it as if he had not complete control over it, and it was specially noticeable if he was in the least degree excited. The pulse was on an average about 85 per minute, slightly irregular at times, but fairly firm and easily compressible.

State of the Skin.- The pigmentation of the skin was greatly increased especially on the abdomen and inner surfaces of the thighs. Sensation was now quite normal/

normal, and never had been lost. During the mid-period of his disease, he was troubled very much with "formication," especially about the legs, but it had passed off almost entirely by the time he came on board. I tested the sensation of the skin with heat, cold, and with a needle, and could detect nothing abnormal.

There were no trophic changes visible. The finger tips were slightly clubbed and the nails were curved a little. *His temperature was perfectly normal all the time he was on board.*

State of the Reflexes and Nerves.- The cutaneous reflexes were present, but the deep ones were lost. Pain was felt when the nerve trunks were pressed upon, and there were one or two painful points, for example, at the origin of the Anterior Tibial nerve, and at certain points down the sides of the spinal column.

State of the Muscles.- The muscles of the arms and trunk were atrophied to a very considerable extent, but in those of the lower limbs the atrophy was extreme. The arms might have passed for those of a very very thin person, but the legs were emaciated to the last degree. The following were the measurements. (Both legs were the same).

Calf - 9 inches, Midleg -  $11\frac{3}{4}$ . Groin -  $14\frac{1}{2}$  inches.

There was a great depression in the front of the leg where the tibialis anticus muscle should have been, and except in the case of one set of muscles, namely, the adductors, what one could feel between the finger and thumb had not at all the sensation of muscle, but had rather the feel of connective tissue. The fact that the patient was a cavalry man and thus probably had a larger development of the adductor muscles than an ordinary individual, would probably account for them still being perceptible. In the adductors and sartorius muscles also I noticed a great deal of fibrillary tremor, but it was not present in any of the other muscles when I saw the case.

The respirations were a little hurried and laboured at times, but as the weather was terribly hot, nothing very definite could be said on that point.

I put the patient through all sorts of exercises, and found that he could accomplish all the movements that a healthy man could do, but he did them all very slowly and concentrated all his attentions upon even the/



the slightest movement, as if it was a work of the most enormous difficulty. The weakness was most extreme. He could not stand even with assistance, and his usual attitudes were either, lying back at full stretch with head and limbs extended, or else sitting, tailor fashion, with his hands resting on his knees. He weighed a little over six stone and a half.

The above is a brief description of the patient's condition when he came under my care. I can now proceed to describe in detail the treatment which I adopted during the eighteen days that I had charge of him. As I have mentioned before the patient's digestion was in a deplorable state. His tongue was coated with a thick grey fur, and his breath smelled most offensively. He had no inclination for any nourishment at all, and I judged from the state of his tongue that his stomach was not in a fit condition for the reception of food. As he felt very thirsty owing to the intense heat I allowed him a wine-glass full of milk to a tumbler of soda-water, three times that day, but otherwise I gave him no food at all, and stopped all his medicines. There was a most marked improvement immediately/

immediately. His restlessness got much less and at night~~s~~ he dropped off into a very quiet, sound sleep, without having to take the usual dose of the sleeping draught, which had been administered to him regularly every night for the previous four weeks. Next day his tongue was much cleaner, the pains in his muscles were entirely gone, so for breakfast I gave him the whites of two eggs beat up in a tumbler of water. For lunch he got a tumbler of soda-water and milk, and for dinner the whites of two eggs again in water as before, and that night as on the previous night he went off quietly to sleep and slept for six hours and a half. Next morning he looked quite bright, his tongue was almost quite clean, and he said he had now an appetite. The eggs and soda and milk were continued for another day, and I was gratified to find that I could now squeeze and manipulate the muscles of the lower limbs, without causing him the slightest pain or discomfort. There were still some painful points to be found, mainly along the course of the nerves and specially at the point where the anterior tibial nerve comes/

comes to the front of the leg. The improvement in his appetite was still more marked next day, but I increased the amount of his food very cautiously, giving him for breakfast a little porridge and milk in addition to the eggs, and for dinner some fish and toast and a little chicken. I gradually increased the amount of food, giving him plenty of fruit and vegetables, until within a week he was having, for an invalid, a very liberal diet. I had of course made the patient as comfortable as it was possible for him to be, considering the great heat through which we were passing. He had a large cabin to himself on the cool side of the ship, and lay on a water bed with plenty of cushions about him, and lots of books to read. I also made for him the very first day after he came on board a broad flannel binder to fasten round the abdomen, as there was a difference of fully twenty degrees sometimes between the night and day temperatures, and I wished to avoid any risk of a relapse from chill during the night, when everyone had to sleep only in their pyjama suits and a single coverlet.

The/

The patient was now in a fit condition for something to be done for his muscles. His digestion was good, he slept well, and his bowels were gradually coming back to their normal condition, less medicine being required to move them each time. He felt bright and comfortable, and was now able to smoke and take a hopeful view of his condition.

During my voyages out to Burma I had had many opportunities of studying the Burmese methods of massage, which have been in favor with the Burmese native doctors for very many years. I was fortunate enough to make the acquaintance of a very intelligent and well educated Burmese doctor, who gave me many lessons in their particular method and instructed me in it until I was fairly proficient. The Burmese use their method of the art to a very considerable extent, for a vast number of aches and pains, and in the treatment of enlarged joints and glands, and most of all in the treatment of wholly or partially paralysed limbs. It differs to a very considerable degree from all the European methods which I have studied, and I have read up most of the text books on the subject. They obtain wonderfully/

wonderfully good results too, in spite of the fact that they massage entirely contrary to our ideas, namely, towards the extremities instead of towards the trunk. One of the main distinctive elements in the Burmese system is that practically no friction at all is applied to the skin, and the reason for this is easily understood. In a hot climate like what prevails in Burma, if friction were applied to the skin it would be almost certain to be followed in a very short time by a bad outbreak of prickly heat, or very possibly an eczema. the result of course being that the massage would require to be stopped entirely until the skin had become healthy again. They never use any oil or unguent of any kind during the operation.

The Burmese system may be divided roughly into two divisions:

First: That which is used in the neighbourhood of joints and parts of the body such as the scalp, the angle of the jaw, along the region of the spine, and in fact wherever from the fact of the tissues which are to be operated upon being closely applied to a bony substance, it/

it is impossible to get a good grip of them.

The finger nails of the operator are kept very closely clipped and only the very tips of the fingers are used. The tips of the fingers are placed firmly on the skin and pressed hard down on the bony surface beneath.

The fingers are then moved very firmly backwards and forwards within a very short distance unless where the skin is loose and freely admits of a more extended movement. The movement is made backwards and forwards radially in all directions from the starting point. The start and finish of each movement is lingered over for fully three or four seconds and to this fact they ascribe most of the virtue of the treatment. What surprised me most was the amount of vigor which they employ in the operation. For instance, for a headache, this is applied all along the temples, gradually working down to the nape of the neck, with an energy which one would be apt to suppose would cause a headache rather than cure one. During the operation, the masseur makes chiefly for those parts of the temples and the nape of the/

the neck which he knows from experience are the specially painful points, working longest and most vigorously at them and instead of the pain being aggravated, even the most sceptical person with a headache has admitted to me after the operation, that it had completely dispelled the headache. There was a Burmese woman passenger on board who was an adept at this method, and I used her services largely among the lady passengers who suffered from headaches, either as a result of the heat or after sea-sickness, and in every case with the best possible results. I found it an excellent method of treatment too in a case which I had on board of enlarged joints from rheumatism, and I was able in a comparatively short time to restore a large measure of movement to a joint, which had been stiff and immovable for a considerable period.

The Second method is the one which is generally employed in the treatment of the muscular structure of the arms, legs, and trunk.

Starting from the insertion of the muscle or group of muscles to be operated upon, a part of the muscle is grasped very firmly between the fingers and sides of the/

the thumbs and pulled steadily and strongly out from the bone. Very firm pressure is applied, and kept up for three or four seconds, and then the part is allowed very slowly and gradually to slip back into its place from between the fingers the pressure being firmly maintained all the time. Great care is taken not to apply any friction at all to the skin, and after the muscle has all slipped back into its place, the skin is left between the fingers and thumb of the operator, in precisely the same position as at the start. This is a point to be kept well in mind, as from the firmness of the pressure which is applied the irritation which would be caused by such a degree of friction to the skin would be very great indeed. As in the previous method the Burmans ascribe the benefit which is obtained to the continued firm pressure which they apply to the part of the muscle that is kept for some seconds between the fingers. I asked the Burmese doctor if this method was applied to muscles which were still moderately tender and painful, and he replied that it was their method of removing such pain, and that I would find that it was always successful.



The above is a very brief description of the two chief methods which the Burmese masseurs employ, and it is much more difficult to describe than to demonstrate upon a patient. The patient upon whom it can be best shewn is one whose muscles are weak, flaccid, and devoid of tone. To practise this system of massage thoroughly and well for any length of time, involves an enormous expenditure of energy upon the part of the masseur, and to a European it is particularly trying in such hot weather. The Burmese who have the knack of it, seem to think nothing of a six hours spell of it, and do it as vigorously and conscientiously at the end of the time as at the beginning.

It was with the greatest confidence therefore that I resolved to try this method upon my patient, and the results provided me I think with ample justification. The recollection of the acute pain which he had so lately suffered from in his muscles, during his illness, made the patient look rather askance at me when I began to massage his limbs, and when I gave specially vigorous attention to those muscles in which he still felt a little/

little tenderness. But to his astonishment, when I was finished for the night, every particle of discomfort in the legs had disappeared, and he said he seemed to feel the blood flowing all through the muscles, and for the first time since his illness began he felt his legs quite comfortable and freely moveable. I of course massaged, from the extremities, towards the trunk. He slept better that night than he had done for weeks, and next morning he had not a particle of pain or discomfort, although he said he fully expected to be sore all over after the apparently rough treatment his muscles had been subjected to. That day he was quite eager for the massage and I spent an hour at his legs in the morning and an hour and a half at night till I was myself completely exhausted. This time I gave special attention to the painful parts along the course of the nerves and round about the joints, and altho' at first he decidedly objected, more from fear of me producing pain than anything else, latterly he took it perfectly quietly, and in the course of three days, firm pressure along the course of any of the nerves caused no pain whatever/

whatever. By this time he was feeling so well that he expressed the wish to take his meals sitting, with his feet resting on the ground. Up till this time, he had taken all his food lying upon his back, and was unable to have his feet hanging over the edge of the bunk as they got so benumbed and powerless that they had to be lifted back for him into the bed. He felt so well that the first day he was allowed to sit up, he remained up rather long, and he complained of feeling the same old numb feeling, and was rather cast down about it. However after that night's massage his legs were quite comfortable again, and next day the numbness did not return.

At the end of the first week he was able to stand with assistance, although it required a very considerable effort, and he could sit up for the best part of a day without the benumbed feeling returning.

He found the heat rather trying, as the temperature was from 88° to 90° during the hottest part of the day. To make it as comfortable for him as possible at that time, I had a long Penang chair placed in one of the alley/

alleyways (where there was always a slight breeze) with a mattress laid on it and plenty of cushions, and in this he lay as comfortable as the circumstances would allow. One of the first things which everyone noticed an improvement in was the patient's voice. The peculiar quaver gradually disappeared, and was only noticeable when he was much excited or annoyed by the children disturbing him. I attributed this change more to the general improvement in his condition than to anything else. His digestion was now in an excellent state, but I still made fruits and farinaceous foods the major part of his diet, and gave him fish and fowl in the way of meat. He was still very nervous and excitable, but this got less and less pronounced as the voyage proceeded, and his general health improved. I endeavoured to keep his spirits up as much as possible, and I was greatly assisted in this by several of the other passengers who had travelled a great deal, like the patient, and could talk to him so as to keep him cheerful.

The patient had only one relapse and it was easily accounted/

accounted for. One day he had been feeling so well, that having been able in the morning to stand without assistance, he thought he would attempt to walk without letting me know about it, and it produced such a violent tremor of all the muscles of the legs, (which was still present when I came to massage him that night) that I asked the explanation and he confessed what he had done. However I massaged the legs so thoroughly for two hours that the trembling stopped completely and he felt comfortable again.

This little indiscretion made him particularly careful in future never to exceed any exercise that was allowed him, and I never permitted any movement except what was done in my presence. For the first few days of the treatment I noticed a considerable amount of fibrillary tremor especially in the adductor muscles, but this very soon disappeared.

On the tenth day of the voyage he was able to stand up without assistance and walk three steps. This caused him that night to have considerable discomfort in the knee and ankle joints, but by using the first method/

method of massage vigorously all round the joints it disappeared. From this point the improvement was very rapid, he was very soon able to walk quite a considerable distance, and to come to the dining saloon with very little assistance. There was never any inco-ordination of movement throughout the whole course of his illness.

I measured his legs carefully on three separate occasions during the voyage, and the figures shew how steadily the improvement went on.

	<u>Calf.</u>	<u>Midleg.</u>	<u>Groin.</u>
1st. Day of Voyage	9 inches.	11 $\frac{3}{4}$ inches	14 $\frac{1}{2}$ inches
9th. " " "	10 "	13 $\frac{1}{4}$ "	15 $\frac{1}{4}$ "
18th. " " "	10 $\frac{3}{4}$ "	14 "	16 "

As a rule the muscles increased in size and strength pretty uniformly, but the change was most marked in the Rectus Femoris muscle, which, from being barely perceptible to palpation, rapidly increased to a quite considerable fleshy mass. The one in particular which took longest to recover was the Tibialis Anticus, and doubtless this was due to the difficulty of getting at that/

that muscle. However by persevering at it with the first system of massage, it gradually recovered and the depression which was so marked between the tibia and fibula, filled up to a very gratifying extent.

His general condition too greatly improved. His weight increased very considerably, his pulse got slower and steadier, the amount of urates in the urine greatly diminished and soon his urine was perfectly normal. The passage through the Red Sea was particularly trying to everyone on board, but the patient did not suffer in the very least, and was able, alone, to come up the companion way on to the upper deck, where a slight breeze was to be had.

The improvement at the north and cooler end of the Red Sea was most marked. He was able to take quite a considerable amount of exercise without fatigue and when we reached Port Said he was able to walk ashore without any assistance.

Port Said was the place where he left our ship and took another steamer across to Trieste, and from there he went home, alone, to Munich.

He/

He wrote to me lately, saying that he was progressing as favourably as ever. He could now walk for a mile without feeling much fatigue, and with vigorous massage and the use of electricity, all his muscles were fast recovering their normal condition.

As the labour that would have been involved in giving to the muscles of the arms and trunk the same attention that was given to the legs, would have been rather too much for me considering the amount of other work which I had to do on a large liner, I gave them comparatively little attention as I thought they could be treated well enough after he arrived at home, and there was nothing about their condition requiring urgent attention.

Hence after the first week I confined my attentions entirely to the legs.

One of the oldest medical practitioners in Edinburgh, Dr. George S. Keith, was a passenger with us and he took the greatest interest in the case, and specially in its treatment, and he considered the improvement that took place in the short space of time and under the weather/



weather conditions, little short of miraculous. It was by his advice that I took accurate notes of the case as it went along and at his suggestion that I selected it as a subject for this thesis. The hot climate through which we were passing was very trying even to a person in perfect health, and should have been even more so to an invalid in such a weak condition as my patient was when he came on board.

Yet in spite of that, a man who was carried on board at Rangoon weaker and more helpless than a child, was able on the eighteenth day after, to walk ashore at Port Said without assistance, and proceed on his journey home all alone.

In making a review of the whole case, the fact which strikes one very forcibly at the very outset, is the indications which the case presented of a central origin of the disease. It was fully a week before the actual pains in the muscles developed, and during that week there was most intense headache, and the patient's eyesight, hearing, voice and respiration were all very much/

much affected. The shooting pains out from the spinal cord and tenderness on pressure over the nerve trunks seem to me to indicate an extension of the inflammation or whatever the lesion was, further afield until finally a peripheral neuritis was completely established.

This case most nearly corresponds to the variety of Neuritis described by Dercum in his book on Nervous Diseases under the heading of "Malarial Neuritis," where he says; "In Malarial Neuritis the muscles of trunk and limbs and cranial nerves are equally involved. There is much pain in the extremities and muscular wasting is extreme. Vesicular and other cutaneous eruptions are common and the pigmentation of the skin is increased." The patient during his ten months stay in India had never suffered from fever in the slightest degree, but it is quite possible that the country which he was in, may have stamped its impress upon his disease. The only way in which I could account for the serious manner in which the legs had suffered as compared with the arms and trunk, was that the chill had most seriously affected the lumbar region owing to the neglect/

neglect of the cholera belt precaution, and travelling about from hot to cold parts of the country had predisposed him to suffer so severely from a chill as he did.

What seems to me to be very remarkable is that while the muscular structures suffered to such a terrible extent, the skin was only very slightly affected and very quickly recovered. There never were any eruptions on the skin and no trophic lesions. Throughout the whole course of his illness there was never the slightest indication of the formation of a bedsore, although he had not stirred out of bed for nearly five weeks and lain always in the same position.

Beyond the increased amount of pigment in the skin there was really nothing else to be noted about it, either in the way of increased or diminished sensation.

In regard to the rapidity and completeness of the recovery, I think that special credit is due to the manner in which the patient was dieted, and specially to the style of massage which was adopted.

As regards the diet I consider that it would have been/

been a huge mistake to have fed up the patient with roast beef and other forms of butcher meat with the idea of replacing as speedily as possible the fleshy substance which had been lost. Such a diet I am convinced would only have caused the nervous and excitable condition of the patient to have been longer in disappearing, and I think that the diet of porridge and milk, fruit, and farinaceous foods, along with a moderate allowance of fish and fowl, was under the circumstances the best thing for him and considerably assisted the return of the natural action of the bowels. Neither did I consider that it was at all advisable to administer any medicines in the way of nerve tonics as most of these, and certainly those which I had at my disposal on board ship, are merely nerve irritants.

Then lastly as regards the massage. In the special circumstances of the climate, and the situation in which we were placed, it was probably the only method which could have been employed. Electricity of course on board ship was out of the question, and in the state of the patient's muscles would have been of very little advantage/

advantage, at least in the earlier stages. Dr. Keith informed me that in all his experience he had never seen a case where the emaciation was so extreme, make first of all such a complete all round recovery, and secondly make it in such a remarkably short space of time, especially under such trying climatic conditions. This system of massage entails upon the masseur such an enormous expenditure of energy, that I am afraid that in this country it would have little chance either of becoming popular or of being conscientiously practised, still from my own personal experience of it and from the benefit I have seen accrue from its use in a great number of patients on whom I have seen it practised, I consider it to be far and away the best and quickest system of massage which can be employed. The method of thoroughly squeezing the blood out of the tissues by the firm sustained pressure, seems to cause a greatly increased flow of blood to the part after the pressure is withdrawn, and besides strongly stimulating the action of the veins and lymphatics, causes the muscular substance/

substance to be very thoroughly manipulated and very rapidly causes it to acquire a healthy tone. For rheumatic cases and those in which there are deposits of uric acid in the tissues, it may almost be looked upon as a specific. The sustained pressure too seems to exercise a semi-paralyzing or dulling influence upon the sensory nerves of a muscle or other structure which is the seat of chronic pain, it would of course have been impossible to apply the above treatment to the patient's muscles during the acute stages of the disease.

I made the most minute enquiries among the other passengers who had an extensive knowledge of the country as to whether they had ever seen similar cases to this particular one. Two of them had had personal friends who had suffered in pretty much the same manner from the same cause, and had heard of a very few other cases, but in every case if recovery took place it only did so to a very partial extent, and the patients had been invalided home as incurable and totally unable any longer to perform their duties. One man who followed the course of the case with the greatest interest/

interest, had had a brother who took ill with very much the same disease but who never rallied after the acute symptoms passed off, and died after a two month's illness. In his brother's case the atrophy of the muscles had not been nearly so extreme, and when he saw the remarkably speedy improvement which this case shewed, he expressed the opinion, that had his brother been taken away from the country and treated in a similar manner, he ought to have had a much better chance of recovering than my patient had. The doctor in Rangoon who gave the patient into my charge said that he looked upon the case as being quite hopeless, and that such a degree of atrophy as was present could never be recovered from. He was a man who had been in practice in Rangoon for over twenty years, and had never seen either a case so bad as this one, or one less severe make anything like a complete recovery. Taking into consideration therefore these opinions expressed both by professional and unprofessional men who had had experience of such cases, I think I am justified in coinciding with the opinion expressed/

expressed by Dr. Keith, that the all-round recovery of such a severe case, in such a very brief space of time, was little short of miraculous.

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