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## THE NEW TREATMENT FOR CHOREA.

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Probably no subject in Physiology is more interesting than that which treats of the contractile power of muscular fibre, and its various connections with the spinal cord, in the production of reflex action, or with the brain in the fulfilment of volitional impressions. If the study of muscular contraction, and the different factors concerned in its production, offers so much interest to the student of normal life, surely any complication brought about by disease to so perfect a system must claim the attention of medical men.

Thus Chorea, with its pathognomonic spasms, offers peculiar attractions as an example of a perversion of function. For in this disease we have muscular fibre capable of contraction; will power capable of volition; conductors to carry impressions, and spinal cord responsive to reflex action, yet all these factors are so modified and at the same time exaggerated, that natural movement is impossible, ordinary motions become contortions, and efforts end in failures. Actions that under normal physiological conditions are accurate and methodical, now become purposeless and incoherent, and each muscular contraction brings on a series of spasms which gives the body an appearance of uncontrollable restlessness. Further than this, the daily routine of life, such as eating, or the necessary exertion of dressing and undressing, produces such irritation, that what in health are considered comforts and luxuries, are now converted into so many means of distress and torture. The entire mechanism of the muscular system seems to have received some deep morbid impression, and the study of the causes, the existence, and the treatment of these symptoms presents an attractive field for medical investigation.

In a recent compendium of therapeutics I find fifty-one remedies enumerated as recommended by various authors in the treatment of St. Vitus' Dance. The compiler says in his preface, "I have not attempted to mention every remedy employed for a disease, but only such as have some good authority, or else some very plausible theory for their use." If with the exercise of such discrimination it was only possible by careful examination of the literature of medicine to reduce the methods of cure to fifty-one, the remedies for the disease must be very numerous, and I should beg some indulgence for suggesting in this paper a plan of treatment which is not included in this lengthy enumeration.

Of course, in such a long list of remedies, many of them must rely entirely on empirical recommendation, and a few others may be strengthened by a direct theory of physiological action. But it is rare in medical reasoning that we can develop a theory of therapeutic action which will escape adverse comment and a long list of puzzling interrogation marks. If we can avoid the necessary uncertainties of medicines, and adopt a treatment which not only has common sense, but direct physical reasons in its favor, we forestall much criticism, and may induce many to adopt our ideas.

In the *Chicago Journal of Nervous and Mental Diseases*, (April, 1877), Prof. Ransom Dexter suggested the indication of entire and prolonged rest in the treatment of Chorea, and as far as I know this was the first and only publication on the subject. Prof. Dexter relates a case of chorea major in which many remedies had proved inefficient, and which was much improved by such absolute rest as was obtained by closing all means of external irritation. The patient was kept in bed, the room was darkened, the eyes bound up, and the ears plugged with cotton. The result of this procedure was so satisfactory that it was published to the profession. But Professor Dexter fell into the grave error of being too rigid in the enforcement of his theory, and I cannot agree with him in regard to his endeavor to secure entire absence of all external sources of irritation. Thus, binding the eyes and placing cotton in the ears would tend to frighten a child, while less radical measures, such as keeping the patient in



bed in a quiet dark room, would be found to act much more beneficially. I cannot but think that Dr. Dexter's extreme measures would tend to irritate rather than to cure; for, to close all avenues by which the mind can communicate with external things, would cause a restlessness that it should be our first object to avoid.

This treatment for chorea, though directly at variance with the practice generally recommended, seemed to present strong arguments in favor of its efficiency, and in a clinical lecture at the Washington Hospital in the winter of 1876 I said, "The exaggerated movements of chorea seem to indicate the value of rest as a treatment; and I must say, that an experience in a limited number of cases, convinces me that the time is not far distant when prolonged rest will constitute the chief hope of the physician in his endeavors to overcome this morbid condition." The opinion expressed at that time has not been shaken by more extended observation, and I shall now explain the reasons that have induced me to adopt this theory.

In a well marked case of chorea, if we ask the performance of some ordinary action, a reasonable attempt is made to do it; but before the action is carried out, the choreic spasm comes on, and this incoherence or insanity of muscles makes a compliance very difficult, or in some cases impossible. Now, if this complication is continued during the long and suffering day, the aggregate of unnecessary and irregular movement is immense; the nerve centres have gradually become more and more irritable, and when night finally comes, sleep is either much broken or disturbed. Observe the same patient on rising and you will find a decided decrease of the restless motions; but order a long walk, and on the patient's return it would not take a medical eye to detect the increase of spasmodic tendency.

In a choreic patient any voluntary motion brings on many exaggerated movements, both during the endeavor to carry out the design and after its imperfect performance. It may be stated then as a clinical fact, that any exercise or fatigue, far from being beneficial, exerts a most baneful influence, and not only causes a temporary increase of bad symptoms, but tends to render the

central irritability more deeply fixed, and the diseased habit more difficult to eradicate. Hence it seems reasonable to conclude, that if we reduce all motion to a minimum, we will correspondingly reduce the tendency to choreic action, and thus prevent to some extent the formation of a habit, and give to the muscular system the complete rest which its irritable condition seems to demand.

To furnish proof of these opinions, I shall briefly allude to eight cases of chorea that have been under my care during the last two years, and in all of these the element of rest has been the main factor of a treatment which has been singularly successful.

CASE No. 1.—Girl thirteen years of age, of no rheumatic history and no cardiac complications, developed chorea after an intense anxiety or fright, and in the course of three weeks grew rapidly worse under ordinary treatment. When I first saw her the muscular agitations were intense and distressing. Every attempt at movement was followed by a long series of choreic spasms. Her expression was listless, and formerly a bright girl, her mind had now become dull and stupid. It was even difficult to give nourishment, which could only be taken in a fluid form. A room was selected as the one in the house most free from noise and bustle; she was ordered to remain in bed, the windows darkened, and no one but the nurse was allowed to be with her. Of course, at first it was difficult to keep her quiet in bed; in fact, sometimes the contortions were so violent as to necessitate the use of force to keep her in a recumbent position. But in forty-eight hours an evident improvement had taken place. The rest had produced a minimum of movement, and a consequent and marked diminution of choreic disturbance. She now expressed herself as satisfied to stay in bed, for she felt so much more comfortable; light wine and a diet as generous as her condition would allow, were ordered. During two weeks in bed she grew rapidly better, and at the end of that time she had resumed her natural appearance in almost every way. The choreic tendency was hardly perceptible, many movements being performed without any spasmodic results. This patient took kali brom. grs. 30, largely diluted in water, at night, and during the day sol. kali arsenitis guttæ 15. It must be stated, however, that before commencing the element of rest, both these drugs had proved of no benefit in her case.

CASE No. 2.—Girl eleven years of age. After spring examinations at school became irritable and restless. Soon after this she developed the uneasy movements of chorea. For two weeks she has been under the care of a physician, and has been growing rapidly worse. She always walked to his office, and after this medical



excursion the patient was invariably more restless. As soon as she came under my care I ordered her to bed in a darkened room, to be kept as quiet as possible. Every form of excitement was avoided, and in three days the child was very much better. After nine days of absolute quiet this patient presented no evidence of chorea, and in fourteen days she was allowed to sit up, and a few days after to walk out. In this case I tested the value of massage as an addition to the rest. I found that such passive exercise did not irritate the patient to choreic movements, and that it was a very necessary adjunct to the treatment.

CASE No. 3.—Boy eight years of age. For ten days before seeing me he has had jerking movements of his limbs, and now chorea is quite well marked. In this case the disease was evidently not fully developed. He was ordered to bed to be kept very quiet, light wine and good diet, and to be massaged twice daily. The tendency to spasmodic movements became much less under this treatment, and in two weeks, much to his delight, he was allowed to get up. This case had evidently been curtailed in its course.

CASE No. 4.—Boy nine years of age. Soon after a severe blow on the right side of the head, developed a hemichorea on the same side of his body. This was about three months before I saw him. When he came to the clinic his condition was the following: the right side of his face, neck, the right arm and hand and right foot were in continual agitation with spasmodic movements. The right arm was wasted, being much thinner than the left, and he was unable to hold anything in his right hand. There was also evident paresis of the affected leg, as was shown in walking. This certainly was a very unpromising case for the rest treatment, for it had already shown itself persistent, and from its origin looked more serious than an ordinary case. Mainly on account of the chorea being on the same side as the blow on the head, it was thought that it did not arise from any local irritation under the point of injury. Hence he was treated in the same manner as the other children, and in two months, with the exception of slight remaining paresis, he had recovered entirely.

Of the remaining four cases I will not speak, as they are ordinary examples of the disease, treated in the manner already described, all recovering after an average of two weeks of treatment.

In regard to the use of medicines in chorea, I would say that if arsenic, or in fact any remedial measure, has an effect in this morbid process, surely its action should be much aided by repose. To a system reduced by suffering, tonics are necessary in the restora-

tion to health ; and when sleep does not come naturally to a patient, of course some means to promote it must be resorted to. For these reasons I am accustomed to give sol. kali arsenitis during the day, and kali bromide at night, both in decided doses. But I am confident, from former experience, that these drugs are no more than adjuncts in this plan of successful treatment.

In the exercise of this rest treatment, care must be taken to carry it out completely. Mere confinement in bed in a hospital ward is not sufficient. The presence of other patients, the passing to and fro of nurses, the bustle of administration, and numerous distractions, would give to a choreic patient much cause for restlessness. Therefore I would say as a *sine qua non*, that unless the rest is without interruption or irritation, it will be found, if not useless, of little benefit.

Hence, it will be found necessary to provide an apartment for the patient where the blinds can be closed to avoid irritation by the eyes, absence of noise to avoid excitement by the ears, absence of any conversation to render the mind as quiet as possible. Add to these requisites an attendant who can be still and patient, to the advantages of good nourishment and necessary medicines, and you have a system which is essentially good and curative.

It must be stated here that care should be taken to keep the patient in a condition not to be injured by too long confinement in bed, and I cannot do better than to quote, on this subject, from Prof. Wier Mitchell, in his article on "Rest in Nervous Diseases," Seguin's Medical Lectures, No. 4. "Think, then, when you put a person in bed, you are lessening the heart beats some twenty a minute, nearly one-third ; that you are making the tardy blood to linger in the by-ways of the blood round, for it has its by-ways ; that rest prone binds the bowels, tends to destroy the desire to eat ; and that muscles in rest too long get to be unhealthy and shrunken in substance. Bear these ills in mind, and be ready to meet them, and you will have answered the really hard question of how to help by rest without hurt to the patient."

In all the cases after the first treated by this method, massage or passive exercise was ordered twice daily, and was found to aid materially in bringing about a good result. For in this way no



choreic action was brought on, and the patient had the benefit of pretty thorough exercise twice daily. The circulation in the muscles is by this means promoted and actually excited, the torpor of the bowels is removed, and if the manipulations are carried on with care and assiduity, no ill effects result from it, and the injurious influences of confinement in bed are almost entirely counteracted.

There is one symptom, however, in chorea which alone calls for this process of massage, without regard to the treatment by rest. This is the paresis and atrophy of muscles which occurs after the chorea has existed some weeks. The most marked example of this was in the case of hemichorea spoken of before. Yet it is to be found in all bad cases after the full development of the disease, and such an important indication demands this special attention and treatment.

The use of massage, then, is not only necessary in counteracting the effects of prolonged rest, but it is a direct combat against the evil consequences of the disease, preventing, to a great extent, the atrophy, and preparing the muscles to resume their normal functions when the disease shall have been overcome.

It seems difficult to believe that regulated movements, or calisthenics, could have been recommended as a means of cure for a disease, which now seems to demand rest and quiet as the two essential points to bring about recovery. The long series of irregular movements brought on by these exercises could not have had a very beneficial influence, and the duration of the disease must have been needlessly prolonged by such recommendations. Indeed, I am forced to consider that this semi-homœopathic system, of movements curing movements, will now be entirely abandoned. For whatever may be our idea of the pathology of chorea, the fact still remains that there exists a certain irritability of nerve centres which produces the most prominent symptom of the disease. In irritation or inflammation of any kind, whether of a joint or nerve, or of the bowels, or any mucous surface, the first indication in a wise treatment is rest.

It is from reasoning somewhat in this manner that I have been led to adopt the ideas advanced in this paper, and my observations

in practice concerning their influence and applicability are certainly satisfactory and encouraging.

It would be very interesting to enter into comparative experiments as to the results in this treatment; but as in all such procedures the element of error is so hard to eliminate, and the manifest difference of every case so apparent, that the prospect of producing anything satisfactory is rather doubtful. Therefore, for the present, at least, I shall be satisfied merely to emphasize the importance of rest in the treatment of chorea, by the relation of these cases, and by this epitome of argument in its favor. If time shall ripen the truth of these reflections, further discussion of the subject will be necessary and interesting.

In these remarks on chorea I have endeavored to give to the Society a new view of the treatment of a disease, which though it may be seen but rarely in general practice, is none the less interesting on that account. It is a treatment which may be termed moral or physical, but it is also essentially medical, for it suggests a means to alleviate and allay the most prominent, and, in fact, the characteristic feature of the disease.

The value of rest in the management of chorea will, I am confident, become in time an established fact among the best medical men; and I shall feel no slight reward, if the suggestions in this paper induce more able minds and more accurate observers to prove its usefulness and test its value.





