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THE TREATMENT OF LOCOMOTOR ATAXIA.

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As a rule there is a disposition on the part of physicians, particularly specialists, who diagnose locomotor ataxia, to give a prompt and unfavorable prognosis, and to dismiss the patient with a few words of gloomy advice and perfunctory pity. It is for this reason that the victims of this serious disease of the nervous system fall into the hands of quacks and irregular practitioners, who promptly proceed to suggest and try fanciful remedies, and empty the pockets of a class of patients who grasp too readily at therapeutic straws.

To those who see much of this and like diseases it is a patent fact that there is always a liability to suggestion which seems almost characteristic and inseparable from the condition of invalidism.

An apparent improvement attends the administration of any new remedy, especially if it possesses novelty and is invested with a mystic import. For this reason one individual who has been in the local courts has made a large fortune from "magic" boots, which are sold at enormous prices, while a vast number of sheep and goats have contributed a part of their genitalia for the production of an equally profitable lymph.

For a time all such invalids declare in triumphant tones that they are getting well and that the regular physician is an ignoramus. Sooner or later, however, the novelty ceases and there is a relapse. An experience of a great many years has made me familiar with all this, and I have been impressed with the wisdom of antagonizing the quack and working as long and faithfully as possible for the patient's welfare, although the outlook is often discouraging. I think this is also the view of my friend, Dr. Dana, who has had unusual therapeutic success.

Two classes of cases present themselves. One includes about 60 per cent. of all patients in whom there is a specific cause, and in whom the tabes is due to a parasyphilitic infection. This is progressive and usually incurable, but even this may be greatly modified if not arrested by intelligent treatment. The cases that form the other 40 per cent. are not only greatly helped but often cured.

Of course the existence of arthropathies, lost reflexes and atrophy of the optic nerve indicate neural disease that has gone on to actual destruction; but there are other symptoms which if treated with appropriate remedies will repay all the efforts of the physician.

Bearing in mind the luetic causation of so large a proportion of cases of tabes, we naturally turn to the use of one of the two universally used drugs that are

available to combat specific disease of all kinds; but it must be admitted that only in a very small proportion of examples of tabes, as well as other organic nervous disease due to parasyphilitic causation, does the use of mercury and the iodids do any natural good. In fact, it has been often alleged that specific treatment is apt to do harm. In a small number of suitable cases, say 20 per cent., the employment of the former especially is serviceable. In some patients the disease develops very rapidly, and the early stage merges quickly into the second in such a way as to suggest the energetic activity of a syphilitic toxemia. I have known many such cases in which, within two years after there were recognizable initial symptoms, there would be well-developed ataxia. In other cases, in which there were attacks of paralysis of the ocular muscles, the exhibition of iodid or the use of inunction would prove of the greatest service almost immediately.

Again, in the mixed types it is clearly indicated. In this connection I may refer to a patient who had his initial sore six years ago, and in whom no symptoms of any kind developed until the spring of 1908. There were then vague, fulgurating pains, Argyll-Robertson pupils, loss of knee-jerks on the right side, and a static ataxia. There were no bladder symptoms, but there was constipation. One month ago (October, 1908) the patient came to me. He was then able to walk but in a disorderly way, there being no true locomotor ataxia. Two days after his arrival there was complete loss of power in both legs, loss of both knee reflexes, exaggerated plantar reflexes, increase in tactile, pain and thermic senses, no incontinence of urine but frequent priapism, inequality of the pupils and no reaction to light. The patient was immediately put on an inunction of mercury, large doses of iodid and ergot, with the result that in two weeks there was slight return of power. Here, then, was a probably irregular subacute myelitis, chiefly located in the dorsal spine. It had been diagnosed at home as tabes.

Profiting by the teachings of Russell Reynolds, a clever English physician, whose work in the seventies, as the result of an illogic reverence for all that is German in medical literature, has been almost forgotten, I have for years used, and with encouraging success, the bichlorid of mercury, either in small doses by the mouth or by inunction by means of some readily absorbable agent, and this has acted better than any other mercurial salt except perhaps the protoiodid. By inunction it is superior to any of the oleates or better-known salves or emulsions. Nitrate of silver or other drugs of the kind are, of course, useless and obsolete.

The treatment of special symptoms is, I am convinced, of great importance, and most encouraging results are possible, so that we should direct our attention

to the modification of the pains, the ataxia and the cystitis which is so important a feature.

The treatment of pain is often most difficult, and a long list of remedies of more or less popularity have been utilized, often with little or no success. Pyramidon is about the best of the coal-tar remedies, but none of them is of much use except in dangerous doses when the pains are severe or of long standing. A careful record and study of nearly every case will show that the barometric changes have much to do with the pains, and it is for this reason that they are often called rheumatic. If this influence can be determined large doses of one of the salicylates or of aspirin may be recommended. The most effectual remedy, of course, is morphin, and it is my experience that if it is used under a physician's direction there is very little danger of producing a habit. Prolonged warm baths will often diminish the pain without any other treatment, and if proper apparatus is available a more extended kind of hydrotherapy may be prescribed. Gastric crises are often associated with intestinal disturbance and sometimes with autotoxis. Dietetic regulation should, therefore, be instituted, as well as the administration of antiseptics, especially hexamethylenamin, or borax. The crises of pain occasionally yield to the analgesics just suggested, as well as to the nitroglycerin in frequently repeated small doses. We may at the same time apply the actual cautery, or cup the dorsal region.

Several forms of systematic exercise have been recommended for the ataxia, that of Fraenkel being perhaps the best. The idea is to train the individual so that he may be able better to coordinate, thus overcoming the ataxia. Directions for the use of this series of exercises may be found in several of the standard textbooks; others will suggest themselves to the practitioner, who should study the necessities of each case and the details of the disorderly movements. I have been in the habit of utilizing a modification of the "setting-up" military drill. It is also well to encourage the patient to stand with his eyes closed, and this static ataxia may be modified by making the patient stand with his feet approximated with his eyes shut; the hand of the operator may be placed on one shoulder of the patient, thus supporting him, but it should be gradually removed so that, if possible, he may be made to preserve the erect posture without assistance. Sometimes this does a great deal of good and favors the development of that kind of courage and self-reliance, the loss of which causes so much demoralization when the patient is suddenly startled or he attempts to cross a crowded street.

As a rule, the persistent employment of regular exercise which teaches the patient to train his power of balancing and the direct corrective use of vision and touch, as well as precision in consuming particular acts, do much good, although the fact must be borne in mind that the real purpose is not to accomplish the effects of ordinary gymnastic exercise or violent massage. Of all diseases of the spinal cord none is more influenced than this by the evil effects of fatigue, so that indiscriminate calisthenics or immoderate walking are extremely pernicious and retard or actually thwart all our best-directed efforts. As a rule, it is best to advise long periods of rest and suggest moderate superficial massage, only sufficient to keep up the local tonus of the muscles or to facilitate the emptying of the capillary vessels.

Systematic exercise should not be used in cases in which there is much pain or in which there are gastric crises, or where there is reason to believe that the bones are friable.

In many cases the ataxia proceeds directly from the plantar anesthesia, which is usually most pronounced on the peroneal aspect of the foot.

Many suggestions have been made as to how this should be treated. Strange to say, it is not always profound nor is it of necessity persistent, although the rule is that it is a permanent sensory disturbance. Mere rubbing or faradization with a wire brush is rarely effective, and it is surprising sometimes how much the walk will improve if the high-frequency current be applied directly to the soles by means of a spark electrode. I have no faith in the use of electricity in any of its forms in any other way, although I have used them all. In hysterical cases in which there is a great suggestibility, of course this as well as any measures that appeal to the imagination will do temporary good.

In about 60 per cent. of cases of tabes there is more or less involvement of the bladder, which varies from mere dysuria due to atony, to paresis and dribbling, and actual cystitis produced by the accumulation of residuary urine is common. It is strange how much mischief such a condition, with its attendant toxemia may produce. For some reason which we do not understand, the tabetic patient is especially subject to the influence of toxins and septic poisoning, while intestinal troubles as well as cystitis are responsible for a decided aggravation of his disorder and profound exhaustion, and a continued condition of this kind was at a previous time often mistaken for secondary tuberculosis.

About six years ago a patient came to me from a Western city. He was almost helpless and his ataxia was so pronounced that he had to be helped from his carriage and almost carried into my office. Beside the familiar disappearance of the deep reflexes he was exceedingly emaciated and feeble, and suffered from gastric crises with diarrhea and had the classic pains and ocular symptoms and a great deal of vesical disturbance.

His home physician had inserted metal sounds insulated to their tips, and applied galvanic current to the interior of the bladder, but no attempt had been made to wash this viscus, although it contained at all times much offensive urine. Two days after his arrival in New York he took to his bed, having rigors and high temperature and other evidences of infection. His temperature ranged from 101 to 105, and for several days it was between 103 and the latter figure.

His condition became so alarming that his friends were sent for. Ordinary lavage of the bladder promptly removed the difficulty. The patient's temperature subsided, and in a week or so he was permitted to leave his bed. Then the use of systematic daily washing and catheterization and the internal administration of hexamethylenamin and atropin effected a remarkable change. Under proper regimen and supportive treatment the patient soon became able to walk, discarding the help of other people and his cane; got in and out of his automobile, and now has very little ataxia or other symptoms, and actually plays golf.

While the patient's reflexes are still absent, his affection seems to be at a standstill, and he is much encouraged. In these cases, which are numerous, it is of im-

portance to wash out the bladder at regular intervals for a long time, and this may be done with a normal salt solution or a borax solution, while hexamethylenamin may be given well diluted in ten-grain doses, and especially when it becomes necessary to discontinue the lavage for a few days.

In this connection I may say that I never have seen a case of tabes in which there were any urethral lesions.

As a claim has recently been made that the determining cause of tabes is a lesion of the urethra, I wrote to Dr. James Pedersen, one of the most skilful genito-urinary surgeons and urethroscopists, who replies: "I am willing to say that I do not recollect having treated with benefit to the general condition any true case of locomotor ataxia. I can, however, say that cases with symptoms of spinal and cerebral neurasthenia, having at the same time genitourinary lesions, have, of course, been benefited by local treatment."

These patients require a warm winter climate and at all times one that is preferably dry. San Antonio is an excellent place, and Lower California is also suggested, provided that high altitudes are not sought or do not increase the patient's distress. There are various places in Colorado well adapted for the sojourn of tabetics.

It must not be forgotten that a considerable number of patients, specially in cases due to shock, trauma or hysteria, in which there is no syphilitic basis, may be cured in a comparatively short time and by very simple measures. I have elsewhere recorded a very interesting case of this kind, and since its publication I have had equal success with others.¹

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CURATIVE EFFECT OF REST IN CHILDREN WITH PERSISTENT LOSS OF APPETITE.*

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There is occasionally seen in children a group of symptoms which are benefited by rest, and by no other treatment.

The little patient, from 2 to 10 years old, is brought to the physician with a general complaint that he has been in poor condition for several months, or that for a long time he has been alternately up and down, going to school for a few weeks and then collapsing into a curious state of physical prostration. There is usually no history of antecedent illness or predisposing cause. The parents will state that the child has a most uncertain appetite, and, in fact, at times will eat so little that it is a wonder that he can exist. Often the patient will refuse several meals in succession and will habitually reject the most important articles of diet—meat, eggs, vegetables. Often the boy or girl is subject to the most correct regimen; the meals are nicely prepared, most appetizing in variety and flavor, appealing to any normal childish palate, but the child remains absolutely indifferent to his food, taking the most minute quantities after prolonged urging. As a consequence of this voluntary semi-starvation, the chronic lack of appetite is associated with excessive muscular

weakness and certain nervous symptoms. The child shows a singular unrest, is unable to keep still, but tires under the least exertion. He can not run or walk any distance without fatigue.

A boy of this type will show no physical courage. All normal boys are combative, a little inclined to play the bully, eager to show their strength and skill. Pluck is a valuable asset for a boy. It is well for him to fight occasionally for his rights; it increases his self-respect and prevents much of that hateful nagging which is universal in school life.

The boy's parents and friends are secretly ashamed of his lack of nerve. A girl shows equally her feebleness by her languid movements and has to be urged to take exercise. For several months there may have been a steady loss of strength or recurring periods of prostration.

If under 5 years of age, the child may behave differently. Part of the time he is running about, fussing with his toys; in active motion for a few minutes, then lying down or wanting to be held. He is either in incessant motion or limp with fatigue. There is no rest for the child's attendant. He is capricious and ill-tempered; will not eat, play or sleep at the right time.

In temperament, such children may be of an attractive type, animated and graceful in manner, charming in expression and talk, but nervous and precocious. More often they are irritable, emotional, highly neurotic; at school they learn with difficulty, have small powers of concentration, are easily confused, and are much worried over the more rapid advance of their comrades. They are poor sleepers; if very young, will not take a noon nap; if older, do not fall asleep early in the evening—toss about in bed, awake, languid, unrefreshed.

There may be the history of an imperfect convalescence from an infectious disease, or a steady deterioration in physique without adequate apparent cause. Sometimes the parents will say that the child has had persistent treatment in the way of tonics, country or sea air, well-regulated gymnastics, with temporary benefit or utter failure, the child coming home a complete wreck from a long vacation. He has perhaps grown rapidly in height without any increase in weight, which is stationary or even diminished.

SYMPTOM-COMPLEX.

The patient should be carefully examined and every detail of his life considered. In the etiology of the malady, heredity generally plays a minor rôle. The parents are as likely to be of vigorous physique as of delicate, neurotic constitution. All local or constitutional diseases should be searched for as a cause for the patient's continued ill health. He or she will be found to be under weight with slender limbs and poorly developed muscles; pale and rather withered in appearance. The tongue will be clean, with no serious disturbance of digestion, no secretory or motor gastric lesion. There is a general constipation from inanition. The pulse may be rapid, irregular or often normal.

Particular attention should be given to the condition of the heart. The cardiac symptoms will often be interpreted by the personal equation of the physician's mind. A considerable cardiac dilatation may exist. The heart sounds may be normal or so-called functional murmurs heard at the apex or pulmonic areas. As a rule, the heart is in good condition and all organs and functions are in order.

1. *Railway and Other Injuries, etc.*, p. 209 et seq. New York, 1904, William Wood & Co.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.