

TREATMENT BY SUSPENSION.

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IN 1883, Dr. Motschoutkowski, of Odessa, published in the *Wratsch* a paper in which he detailed the results of treatment by suspension of several cases of disease of the nervous system—results sufficiently startling, especially as regards the cases of *tabes dorsalis*, to have merited something more than the scant notice they received at the time. The treatment, however, does not seem to have been practised by anyone until it was brought under Charcot's notice by a medical man, who, during a visit to Russia, had seen it carried out there. In the end of 1888, Charcot gave the treatment a trial, and in the beginning of last year, at one of his *cliniques* at the Salpêtrière, detailed his results. Although those were by no means to be compared with what the Russian physician obtained, still, backed by the great name of Charcot, they were such as to attract universal attention, and to ensure for the treatment a thorough trial. We have now had the experience of a year, and it may be well to review the results, in order to see whether the early promise of the treatment has been realized.

As to the manner of carrying out the treatment, Charcot gave directions—and all who have since practised it seem to have had these for their guide—that it was to be done with an ordinary Sayre's apparatus, using both head and arm pieces. The time allowed for the first suspension was to be half a minute, and each subsequent suspension was to be increased by the same period until a maximum of four minutes was reached. A direction was also given that the patient was to raise his arm every fifteen or twenty seconds, in order that the weight of the trunk might be thrown more and more on the neck alone. Suspension was to be carried out on alter-

nate days, and in thirty suspensions all the good likely to result was supposed to have been obtained.

Motschoutkowski, on the other hand, using the same apparatus and the same method generally, had suspended patients for a much longer time. Ten to twelve minutes was not an unusual duration, and five minutes seem to have been about the minimum after the treatment was fairly commenced. The course, too, was a much longer one, 97, 80, and 50 being some of the figures met with in his cases. Emphysema, phthisis, degenerated arteries, were to be regarded as contra-indications, and cases in which laryngeal crises occurred were regarded as unsuitable.

Motschoutkowski's list, as given in a translation of his paper in a recent number of *BRAIN* (Oct., 1889), comprised in all nineteen cases, twelve being cases of tabes, the others including cases of lateral sclerosis, chronic myelitis, disseminated sclerosis, and sciatica. There was no improvement except in tabetics. Of the twelve all improved except two, and those were early cases. The improvement consisted for the most part in disappearance of the paræsthesiæ and in diminution of the ataxy, but in three of the cases the improvement was remarkable. In the first there had been weakness and muscular wasting, reduced faradaic irritability of muscles, analgesia in the feet, ataxic gait, and unsteadiness in standing. After ninety-seven suspensions there was marked improvement—disappearance of paræsthesiæ, increased muscular force, and less ataxy. The second case was similar, but the change even more remarkable. He was confined to bed and unable to walk: After seven suspensions he was able to get up, after eleven he began to walk, and the improvement continued to advance as the suspensions went on. In a third case there was great weakness, muscular wasting, reaction of degeneration in the muscles, no impaired sensibility, but excessive pain. The pupil reflex was normal. After a long course of suspension, the muscles had regained their contractility, the pains had disappeared, he was able to walk, and the recovery was both complete and permanent. Such a case as this—especially as the patient was a publican—naturally suggests the picture of

multiple neuritis, and without the slightest attempt to question Motschoutkowski's diagnosis, it is well to bear in mind that such cases sometimes deceive the most experienced observers.

In none of the cases was there a return of knee-jerk, or any change in the visual apparatus.

None of Charcot's cases seem to have been so advanced as those just described. In March¹ he had treated in all one hundred and fourteen cases. In sixty-four the treatment was not sufficiently prolonged. Of the remaining fifty, thirty-eight improved, the gait was less ataxic—especially after each suspension, but after eight or ten continuously so—there was greater steadiness in standing, the bladder troubles improved, and so did the pains. There was no change in the condition of the reflexes. In one case out of three of Friedreich's disease, some improvement is said to have taken place. One case of disseminated sclerosis became worse; two cases of sexual failure improved. In eight cases of spastic paraplegia rigidity is said to have become less. Four cases of paralysis agitans are said to have felt better, and to have slept better; but no change occurred in the tremor.

Such results as those were quite sufficient to force this method of treatment under the notice of physicians, and we find lists of cases with detailed results scattered through the periodical literature of the last year. We propose now to refer to those results so far as they have come under our notice.

Morton² gives details of six cases of tabes. His best case shewed great improvement in walking, almost total cessation of lightning pains, return of pupil re-action to light, and return of sexual power. Optic atrophy, which was present, became no worse. There was similar if not so marked improvement in the other cases. Five minutes was the time allowed for suspension, and if the arms were not affected, the patient was allowed to suspend himself.

In the same journal Dana gives his experience of the

¹ *Progrès Médical*, June 22nd, 1889.

² *New York Medical Record*, April 13th, 1889.

treatment in six cases of tabes. He noted improvement in two—one after sixteen suspensions—the other after ten, no improvement in the others. Two cases of paralysis agitans are said to have felt better, nothing is said as to any change in the tremor. His general impression of suspension is that “it is a measure of minor and occasional value,” and after making this statement, he somewhat inconsequently goes on to suggest suspension by the feet, instead of in the orthodox manner.

Simpson¹ reports two cases. One was confined to bed but after a course of suspensions was “able to walk,” but the pains were still present: the other experienced improvement in pains and subjective feelings.

Watzfelder² has five cases of tabes. Those were suspended at first thrice daily for three minutes at a time, owing to a misunderstanding of the method. After five days of this somewhat heroic treatment, they were reduced to the ordinary alternate day treatment. They are said all to have shewn improvement—the gait becoming less ataxic, the incontinence less marked, and the pains less severe, although the improvement in the last respect was not constant. In one case “diplopia almost gone” is noted.

Eulenberg and Mendel³ suspended thirty-four cases. In three the improvement was marked—consisting in greater control over bladder, diminution of pains, improved gait and increased steadiness in standing. One shewed a decrease in pains and paræsthesia alone. In none of the three noted as markedly improved, is there complete recovery from any one of those symptoms. In the majority of the remaining cases some improvement was present, affecting bladder function, gait, power of standing steadily, or pains, in four there was no improvement, one improved at first, relapsed later, and one was worse, having distinctly greater trouble with his bladder.

Ladame⁴ relates his experience of fifteen cases of tabes, and one of Friedreich's disease. In two there was no im-

¹ *Canadian Practitioner*, June 1st, 1889.

² *New York Medical Record*, May, 1889.

³ *Neurologisches Centralblatt*, June 1st, 1889.

⁴ *Revue Médicale de la Suisse Romande*, June 20th, 1889.

provement; in the others there was slight improvement, similar to that experienced in the last series of cases. In two cases there was a return of the power of erection. No complete recovery of control over bladder is claimed. In his experience there was first a rapid improvement followed by a relapse, this being succeeded by a period of gradual improvement attaining its maximum after twenty suspensions.

Balaban¹ working under Dujardin-Beaumetz suspended nine cases. In one there was disappearance of pains, in four they were diminished, in two they disappeared but returned, in one they were not affected. The gait improved in eight, in the other a temporary improvement was succeeded by a relapse. In the same patient diplopia became worse; in one vision is said to have improved.

Haushalter and Adam² treated a number of cases suffering from the most varied nervous diseases including tabes, myelitis, neuralgic pains, hypochondriasis, &c., but as we have not yet sufficient data to discuss the effect in such diverse cases, we shall content ourselves with looking at their results in cases of tabes and spastic paraplegia. Of the latter condition they give two cases. No benefit was experienced. Of tabes they report six cases—two, early cases with pains, did not improve. The other four improved, two of them very distinctly as regards gait, pains, and steadiness; in one gastric crises persisted.

Bianchetti³ details eight cases. In three the treatment could not be continued on account of faintness and amaurosis; in four of the remaining cases the results are described as wonderful, lightning pains, gastric and vesical crises, disappearing as if by magic. He produced no effect in some cases of paralysis agitans and impotence.

Marina⁴ suspended twenty-one cases of tabes. In one-half there was marked relief, the remaining half became worse. In one case, a return of the knee-jerk—a violent jerk after five or six taps—is claimed to have occurred

¹ *Thèse de Paris, Progrès Médicale*, Nov., 1889.

² *Progrès Médicale*, Nov. 2nd, 1889.

³ Quoted in *British Medical Journal*, 1889, vol. ii., p. 938.

⁴ Quoted in *British Medical Journal*, *loc. cit.*

Michell Clarke¹ gives the results which he obtained in fourteen cases—twelve of tabes, one of Friedreich's disease, and one of doubtful nature. He got improvement in ten out of the twelve. The two who did not improve had ocular symptoms. The case of Friedreich's disease experienced no permanent benefit. Briefly, his conclusions are that this treatment increases the power of walking and standing. The pains usually become less after fifteen suspensions; relief of gastric crises is less certain, while knee-jerk, Argyll-Robertson pupils, vision and ocular paralysis are unaltered. It is to be noted that some of this observer's patients received a very long course of treatment, sixty, seventy, and eighty being some of the numbers met with, yet it does not appear that the results were much better than those met with in cases where thirty, twenty, or even twelve were the numbers.

Darier² suspended four cases in which optic atrophy was the leading symptom, and in all of them he reports improvement in vision.

Grainger Stewart³ suspended five cases—three of tabes, two of spastic paraplegia. In all the improvement was marked. The pains disappeared, steadiness increased, and in one sexual power was regained. Two of the cases had only four suspensions, but the effect seems to have been equally great.

Bernhardt⁴ suspended nineteen cases. He carried out the treatment every other day, and as he found only one patient who could bear suspension for four minutes, he made three minutes his maximum. In those cases there was diminution and occasional cessation of pains during the treatment; some are described as enthusiasts claiming wonderful improvement in walking while there was nothing objective corresponding to this fancy; one had erections return, with involuntary emissions so troublesome, that he begged the treatment might be discontinued. This observer evidently regards the treatment by suspension as being indebted for what good it does to the mental effect.

¹ *Practitioner*, Nov., 1889.

² *Recueil d'Ophthalmologie*, Nov. 4th, 1889, p. 249.

³ *Edinburgh Medical Journal*, Jan., 1890.

⁴ *Berlin Klin. Woch.* June 17th, 1889.

Erb¹ reports six cases. One became a little better, one at first better, later became worse, two were distinctly worse, and one died of an inter-current complication.

Dujardin Beaumetz² had twenty cases. In the majority at first some improvement, later a relapse to the former condition; in the minority no change. He is inclined to doubt the value of the treatment.

In the three cases recorded by Hale White,³ one with pyrexia following suspension, the patients were apparently pleased with the treatment, although he notes that while in two the gait was rather better, and the ataxy less, in one of them pains and gastric crises became worse, and in the third, while the sensory symptoms were rather improved, the ataxy was worse and the other symptoms unaltered. One case had ten suspensions, treatment being stopped on account of the pyrexia. In the other two, the numbers were fifty and twenty-eight, while the time was gradually increased to seven minutes.

Dr. Althaus⁴ mentions two cases of tabes, in one of which lightning pains ceased, while gastric crises did so in the other. In one case of paralysis agitans the tremor is said to have ceased for thirty-six hours after the first suspension. The same authority (*Brit. Med. Jour.*, Vol. ii., p. 872) reports a case in which ability to walk was restored, and the knee-jerk returned, but such a case is so remarkable as to make a much more detailed account of it desirable than is given simply in a letter to the Journal.

Dr. Saundby⁵ has tried the treatment in six cases of tabes; and we cannot do better than quote his own words with reference to the effect of treatment. He says "It cannot be stated that any one of those cases derived benefit from suspension. One case certainly improved, but he was taking three-grain doses of iodide of potassium, three times daily, and he was also blistered down his spine."

Mr. Lunn⁶ reports five cases, one of whom improved

¹ *Neurolog. Centralblatt*, July 1st, 1869.

² *Therapeutic Gazette*, 1889.

³ *Lancet*, Jan. 4th, 1890.

⁴ *British Medical Journal*, 1889, Vol. i., p. 429.

⁵ *British Medical Journal*, 1889, Vol. ii., p. 602.

⁶ *British Medical Journal*, 1889, Vol. ii., p. 763.

considerably in walking power. He was taking iodide of potassium three times a day in fifteen-grain doses. The others remained *in statu quo*.

Churton, of Leeds,¹ suspended only one case, which became worse. He began with suspension for five minutes. In the communication in which he reports this case, he refers to another, which, while waiting for the suspension apparatus, improved so much as to be able to leave the hospital.

Such is the literature of suspension, so far as it has come under our notice. It will be observed that, although there is great variety both in the number and duration of the suspensions, the improvement claimed is fairly uniform. We have suspensions persisted in till eighty and ninety have been given, and improvement results; we have in some cases improvement almost equally well marked with three or four. So also as to the duration of the individual suspensions. While in some cases this is prolonged to ten or twelve minutes, in other patients it is found that three minutes is the longest that can be borne; while in still others three minutes three times a day is given, but whether it is given three times a day or three times a week, the results seem equally satisfactory.

We shall now proceed to lay before you the results of the suspension treatment as carried out by us at the National Hospital, Queen Square, under the direction of the physicians there. As a rule, no difficulty has been experienced in carrying it out. The majority of patients bear it well, and suffer little or no inconvenience; but the toleration varies considerably, and some patients always suffer more or less. In one of our cases nausea and vomiting, or a tendency to vomit occurred in one case during each of the four suspensions he had. Several had slight faintness with dimness of vision; a good many complained of some pain at the back of the neck, or in the jaws after suspension. Two had very severe pain at the lower part of the back at the conclusion of each suspension, and this remained present on each occasion. Other observers seem to have had similar experiences.

¹ *Brit. Med. Jour.*, 1889, Vol. II., p. 818.

We have had, fortunately, no serious accident, but that the treatment is not without danger is evidenced by the fact that suspension has had already some victims. Two patients¹ were strangled from slipping of the chin-strap; a case is reported by Dr. E. Bloch² in which the patient suspending himself against the doctor's orders was killed; a similar accident occurred in a case reported by Dr. Gorecki. Another fatal accident was that which occurred to a medical man in America³ suspending himself, apparently for experimental purposes. Dr. Borsari, of Modena,⁴ reports a case in which serious symptoms came on in a patient after two or three suspensions of fifteen minutes each, and who died soon after of cerebro-spinal meningitis. It will be observed that in none of those cases were Charcot's directions closely followed.

In thirty-seven of our cases the treatment was carried out exactly as Charcot directed—viz., on alternate days, with a maximum of four minutes. In the other eight, suspension was carried out every day, with a maximum of three minutes' duration. The numbers of suspensions were as follows:—

- 12 had less than 20.
- 11 „ between 20 and 30.
- 22 „ over 30. Largest number was 50.

The cases were:—

Tabes...	...	...	...	...	...	32
Paralysis agitans	...	...	...	...	...	5
Ataxic paraplegia	...	...	...	...	...	2
Spastic	...	...	...	...	...	1
Functional	...	...	...	...	...	1
Neurasthenia	...	...	...	...	...	1
Doubtful nature	...	...	...	...	...	1

Of the forty-five cases nine improved; of these six were tabes, one was paralysis agitans, one was functional paraplegia, and one was of doubtful nature. Five became distinctly worse; the rest remained *in statu quo*.

¹ *Bulletin Médicale. Lancet*, p. 727., June. 1889.

² *Progrès Médicale*, 1889.

³ *New York Med. Jour.*, June 11th, 1889.

⁴ *Brit. Med. Jour.*, Vol. II., 1889.

We shall now consider the cases which improved and those which became worse, with reference to the manner and degree of such improvement or deterioration.

Of the cases of tabes which improved, three were cases in which the improvement, although not great, was distinct and steady, consisting in a less ataxic gait and greater steadiness in standing. One remained subject to occasional lightning pains; another, although better, was still suffering from pain in the loins. Of the remaining three cases noted as improved, one was a very ataxic patient, who had first of all twenty-five suspensions without any change occurring. Soon after this, while having a course of baths in the hospital, he became much more ataxic, and suspension was resumed. After ten suspensions a steady and gradual improvement set in, and when he left hospital, after having in all forty-five suspensions, he was able to walk rather better than on admission. Considering the negative effect of the first course of suspensions, the improvement occurring during the second can scarcely be regarded as anything more than a coincidence. The other two cases of improvement experienced this to a considerable extent at first, having greater steadiness in standing and walking, but towards the end of the course of suspensions—in one of forty-one suspensions and in the other of thirty—they relapsed into their former condition.

So much for improvement occurring in cases of tabes. The other cases which improved were a case of paralysis agitans, a case of functional paraplegia, and one of doubtful nature. In the patient suffering from paralysis agitans, the improvement consisted of abolition of the tremor, which, however, he stated, occasionally returned at home after it had ceased to be present on the occasion of his visits to the hospital. The gait and the other conditions characteristic of the disease remained unchanged. The case of functional paraplegia improved a little, but as this is one of those cases in which one can confidently predict improvements with vigorous treatment of any kind, the fact that she did improve can scarcely be looked upon as shewing that there is any peculiar therapeutic value in suspension.

As to the case of doubtful nature which we have included among those who benefited by suspension, he came to hospital in August, complaining of pains in his legs, and after examination his knee-jerks were noted as absent. His pupils reacted normally, he had no inco-ordination, but slight starting of the tendons as he stood, no bladder trouble, no anaesthesia. Unfortunately his knee-jerks were not examined during the time he was suspended, but on examining him after his complete course—he was an out-patient—his knee-jerks were found active. His pains were less. What the nature of the case was it is not easy to say, but there is no evidence in favour of tabes except the absent knee-jerk, and as this was only observed on one occasion and by one observer, it can hardly be accepted as convincing.

Of the other cases, as we have said, five became worse while undergoing treatment, viz., three of tabes, one of spastic, and one of ataxic paraplegia. Of the three, one was a case pursuing a rapid downward course, and this course was in no way checked by suspension; a second was an extremely ataxic patient just able to walk with strong support, with bad cystitis and incontinence, and subject to pains and gastric crises. His treatment suffered interruption by a severe attack of gastric and vesical pain, accompanied with vomiting, and after it was resumed and completed, his cystitis and incontinence were still bad, although his bladder had been washed out daily; he was still subject to attacks of pain, and his power of walking was lessened. The other case of tabes which became worse was an out-patient. After nine suspensions he remained away for a week on account of severe lumbar pain, and on returning his walking was manifestly worse. He had one more suspension, and then had an attack of erysipelas of the face, which did not allow resumption of the treatment.

The case of spastic paraplegia which became worse, was a young man with the disease affecting chiefly the left leg, and after he had had thirty suspensions this leg was considerably more rigid than it had been. The patient with ataxic paraplegia suffered from nausea or vomiting at or after each suspension, and although he had only had four he was weaker

and more shaky than he had been before the treatment was commenced.

Of the cases which remained *in statu quo*, most had ataxy, a few had occasional attacks of pains, some had cystitis and incontinence, one or two had gastric crises. Those symptoms underwent no change. Six had optic atrophy as a complication, of whom two were completely blind. No improvement was experienced in those cases, and in the cases where vision was less affected, careful testing could reveal no improvement, although one patient expressed the belief that he could see better. Dr. James Anderson has had this patient under observation since, and he informs us that there is now a distinctly greater impairment of vision.

It is evident that our results are not to be compared with those obtained by the majority of observers. While there are a few isolated observers, such as Bernhardt, Erb, Dujardin-Beaumetz, and Saundby, whose results are no less discouraging than ours, the great majority seem to have been far more fortunate. In the preceding lists there are in all 255 cases of tabes, of whom

171 improved,
77 did not improve,
7 became worse.

Our list included 32 cases of tabes, of whom

6 improved,
23 did not improve,
3 became worse.

To put it differently:—the percentage of improvement in other cases is 67 per cent., while in ours it is 18·7 per cent.; the percentage without improvement in those is 30·2 per cent., while in ours it is 71·9 per cent.; while in those cases 2·8 per cent. became worse, in our cases 9·4 per cent.

As perhaps explaining in part this great divergence, it must be remembered that while with any new treatment such as this, everyone who gets good results will at once be inclined to publish them, those who are not so fortunate and who are perhaps less sanguine, will not have the same eagerness to announce their unfavourable results. Two instances

in which this has been the case have come under our own notice, and we have no reason to suppose that our experience is unique. Then as to any great innovation in therapeutics we may be sure that its first year is its best. The enthusiasm for it dies down later, and the results are no longer seen in the rosy light which accompanies the dawn of any new treatment. We have only to look back a few years for an example of this, to the introduction of nerve-stretching for the relief of this same disease. The feeling with which a perusal of the results of that treatment in its first year will inspire anyone now is one of surprise, that any treatment offering such marvellous results should have fallen so soon into disrepute and disuse.

We have not yet cases of disease other than tabes in sufficient number to allow us to draw any definite conclusions as to the effect of suspension. Some cases of paralysis agitans have improved a little while being suspended, the majority have not. The results in spastic paraplegia are varied, while in disseminated sclerosis the general consensus of opinion is against any good effect of suspension. That the sexual apparatus is affected in some way in a certain number of cases is evident. That actual increase in power is caused is, we should think, extremely doubtful. Over excitation is a much more likely result, and whether this is to be regarded as an improvement or the reverse will depend on the nature of the case.

With the experience which we have had of suspension in cases of tabes it will readily be understood that we are not inclined to give the treatment much credit for relief, and far less for cure of any of the serious symptoms. In endeavouring to gauge the value of any therapeutic agent in this disease the peculiar and varying character of its manifestations must be borne in mind. One of our greatest authorities on nervous disease states the percentage of cases shewing no progressive tendency so high as 50 per cent., and every one knows that in many cases actual and marked improvement takes place both under treatment and independently of it. There was lately in this hospital, under Dr. Buzzard's care, a patient with tabes—a patient who, eight years ago, was

unable to walk from extreme ataxy and weakness, but who, during the last three or four years had been steadily improving and who is now (although the disease is well marked) able to walk about without even a stick, and to carry out efficiently the duties of military librarian in one of our garrison towns.

Reference has already been made to Dr. Churton's case, which improved distinctly while waiting for the suspension apparatus to be mended. Had this case been suspended, the improvement would naturally have been ascribed to the suspension, and such cases show how extremely careful one must be about *post* and *propter*. That ataxy varies at different times is well known. The familiar case of a patient who immediately after a severe attack of lightning pains has a marked increase of inco-ordination, illustrates this. Suppose such a patient towards the conclusion of the attack of pains subjected to suspension treatment, there is every chance that the cessation of the pains and the subsequent improvement in gait will be credited to the treatment, although numerous cases make it evident that improvement would follow even if nothing were done.

Lightning pains themselves come and go in the most unexpected way. Between one paroxysm and another there may be an interval of a few days; between that and the next there may be as many months; or they may vanish and never return. The very cases in which they have persisted for some time are those most likely soon to recover from them, for after all, their duration is limited, and this must be borne in mind in estimating the value of suspension, which by many is claimed as so efficacious in those pains. In none of our cases were pains a severe symptom before treatment. They did occur occasionally and they did not seem to be affected by suspension.

Gastric crises, too, relief from which, though to a much less extent than from pains, is claimed as a result of suspension, are just as variable and capricious as the pains. They, too, may vanish and never return, or they may return in a day or a year. That they had gone permanently could only be claimed after prolonged observation, and even then without a very large number of cases and without much

more uniform results than have as yet been obtained, their disappearance could not be ascribed to the treatment.

In none of our cases were gastric crises a very severe symptom. They had recently been present in very few, but where this was the case they continued to obtrude themselves at times. In one case a severe attack of gastric and vesical pain, accompanied by sickness and vomiting, necessitated an interruption of the treatment for a fortnight. We do not think that we should be justified in ascribing this crisis to the treatment, any more than we think others justified who do not hesitate to ascribe the absence of such symptoms to suspension.

The bladder troubles also in tabes are variable, and depend so much on mental conditions and on general physical conditions, both in and outside the body, that the greatest possible care is necessary in drawing conclusions as to the effect of treatment on them. In the majority of the cases reported, improvement in these symptoms is noted, but as in at least three cases—one of Michell Clarke's, one of Eulenburg and Mendel's, and one of Bernhardt's—there was greater trouble in this respect, while in another of Michell Clarke's, a tendency to incontinence was replaced by a tendency to retention, we must refuse to credit suspension with the improvement in one set of cases unless it is also made responsible for what happened in the other series. In our cases we have observed no change. Where cystitis was present the incontinence remained, and that too, although the bladders were daily washed out. In the other cases where urinary trouble was present, this consisted in slight difficulty in commencing the act, or in difficulty in resisting the call. In none of the cases was the symptom a troublesome one, and it remained unchanged. In the recorded cases in which incontinence was a symptom it is not stated whether cystitis was present and whether any local treatment was adopted. If the latter was the case, then it will become a question how much of the improvement is due to the local treatment. So far as we are aware, the only case in which a cure of cystitis by suspension alone is claimed, is one referred to at a recent meeting of the Medical Society of

London. Such a result is, of course, extremely unlikely, to say the least of it, and we should certainly hesitate to accept it without further details.

As to the increase or restoration of sexual power which is claimed as the result of this treatment, we have not observed it in any of our cases. A greater tendency to erection has manifested itself in at least one instance, but where sexual power was gone it has not been restored. Such a result of suspension, however, is claimed by some, while on the other hand one observer claims to have stopped the occurrence of troublesome erections by this treatment. In another case—one of Bernhardt's—there occurred during treatment an excessive tendency to erection with seminal emissions, so frequent and so distressing that the patient begged that suspension might be discontinued.

Passing by the question as to the advisability of restoring sexual appetite or function in tabetics, especially in cases where the disease is stationary, we can only say that this restoration after suspension treatment is by no means constant, and that instead of it the patient may experience a kind of false restoration, and may find himself in a condition much more distressing than his original state.

So much for the varying symptoms of tabes. But there are signs which do not vary, or at least not to the same extent, viz., ocular paralysis and impaired vision, the Argyll-Robertson pupil and the loss of knee-jerk. Of these there is perhaps the greatest chance of variation in ocular paralysis, especially in paralysis of the Levator palpebræ. In one case it is claimed that ptosis had disappeared, but as it frequently does so under the most diverse forms of treatment, its disappearance under suspension is not of much significance. In no case is it claimed that diplopia disappeared, but M. Darier claims improvement in vision in four cases with optic atrophy. Although a good many such cases are recorded, this observer is the only one who claims improvement. Among our cases are six with optic atrophy, and no improvement resulted in any, although one thought his sight better. Testing did not confirm this impression.

But more changeless than these are the loss of the knee-

jerk and, when it is present, the Argyll-Robertson pupil. In one case where the latter was present it is claimed that after suspension the pupil reacted sluggishly to light. Everyone knows how very difficult it is sometimes to be sure whether the reaction to light is present or absent. To illustrate this, we may mention a case which was seen about a year ago by a physician of eminence and in whom it was noted that the pupils did not react to light. Three months later the pupils reacted to light, and they do so still, and I think the physician himself would be the first to acknowledge that this was due, not to treatment, but to an error of observation in the first instance.

As to the return of the knee-jerk, the facts to establish such a change must be incontrovertible. The violent jerk, after five or six taps, claimed by Marina as a return of knee-jerk is to be regarded with the greatest suspicion. A very inactive knee-jerk cannot be elicited in that way, and we should think it is much more likely to have been a voluntary phenomenon. As to Dr. Althaus's case, in which the knee-jerk returned, as the case is only somewhat cursorily described in a letter to the *British Medical Journal*, we shall require further details before we can decide as to the real nature of the case. We think it may be laid down as an axiom that in a doubtful case the evidence of a solitary observer—no matter who he may be—as to the presence or absence of knee-jerk, should always be re-inforced by that of at least one other.

Such are the considerations which it seems to us necessary to urge before we arrive at a true appreciation of the value of any treatment of tabes. We have not referred to the mental effect likely to be produced by an impressive treatment upon patients who as a rule have tried many remedies, unfortunately in most cases with little success, and who are only too willing to clutch at even the shadow of a new means of cure. That such mental effect is considerable in some cases is certain, and how far it will account for that feeling of well-being, and of improvement in gait and balancing power, which wants the confirmation of any objective sign, it is not easy to say, but that some of the improvement is of this nature, I think, may be assumed. That it will

vary in different cases is evident, and we may possibly be able to detect national, as well as individual differences. It is not easy to decide how far such a consideration is to be allowed to influence a medical man in the treatment of a patient. That it should have some influence we think all will be prepared to admit, but to say as has been said¹ that "the patient is to be the final judge of treatment" is more than we should be prepared to admit. Whether this means that the patient is to have the last—and presumably the decisive voice—in deciding on the nature of treatment, or whether it means that the patient is to draw conclusions as to the value and efficacy of treatment in his own particular case—conclusions which are to be accepted by medical men—in neither case, we think, can the dictum be accepted. If it be accepted, the physician will certainly be relieved of considerable responsibility, but we think it will then be difficult for him to justify his existence at all. It seems to us that it rests with the medical profession to decide on the value of any treatment. It is for that body to examine and sift the evidence for and against; it is for the individual members to collect it, and lay it before that tribunal. We trust that our contribution may not be without its use in enabling an estimate to be formed of the value of the treatment by suspension.

¹ *Lancet*, Jan. 4th, 1890.