ART. III.—HYSTERICAL MUSCULAR CONTRACTIONS.

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THERE is scarcely a muscle, or a group of muscles in the body which may not be the seat of hysterical contraction; and though this fact has long been known, the resemblance to organic disease is such that physicians and surgeons are still deceived by the counterfeits. As examples of the condition and of the errors to which it may give rise, I beg to submit the following clinical histories, which I have arranged into classes, according to the anatomical seat of the disease:

1. *Hysterical contraction of the muscles of the face and neck.*

CASE I. I. B. A., a gentleman aged 32, and a writer for the press from a neighboring State, was referred to me by a physician, to be treated for Bell's paralysis of the right side of the face, of eight or ten days' standing.

On inspection, it was very evident that the symmetry of the face was destroyed; but very slight further examination was sufficient to show that this was not due to any paralysis of the muscles on the right side, but to strong tonic contractions of some of those on the left side. In fact, there was not a single symptom of that affection present. The forehead could be wrinkled, the brow corrugated, the eye closed, the angle of the mouth extended, the upper lip elevated, the buccinator puffed out, and the orbicularis oris pursed up so far as the strongly contracted left levator anguli oris and zygomatic muscles would permit. Indeed, careful search failed to reveal the existence of any other derangement than persistent con-

traction of these muscles. The aspect of the patient was very striking. The angle of the mouth was retracted and elevated to its fullest extent, exposing the teeth on the left side, impeding mastication, and preventing the patient drinking any fluid except by taking it into the mouth with a spoon.

Of course, there was no valid cause why this case should, even for a moment, have been regarded as one of facial paralysis; but what has happened once may occur again, and I have reason to believe that instances of this kind are by no means very rare.

Upon questioning the patient, I ascertained that the contraction had ensued during a period of great emotional disturbance, and that he was of a very impressionable and nervous organization. There was no marked derangement of the general health.

I did nothing for him but prescribe the bromide of zinc in gradually increasing doses, beginning with two grains three times a day, and in the course of a week the muscles relaxed and the patient was well.

CASE II. Mrs. B., a lady aged 36, had been repeatedly subject to hysterical attacks of various kinds, and on one occasion was the subject of hemiplegia, clearly hysterical in character. One day, about a month before she came under my observation, she was startled by a sudden alarm of fire in an adjoining house, and was on the instant seized with contraction of the left side of the face. The eye was tightly closed, and the angle of the mouth retracted and elevated to its utmost extent. The family physician, a homœopathist, regarding the case as one of facial paralysis, applied the faradaic current to the right side, and gave two or three hypodermic injections of strychnia. It is, perhaps, scarcely necessary to say that, as in the preceding case, there was no sign of paralysis. The treatment with electricity was continued for a month without effect, and then the patient came under my care. At that time the left eye was tightly shut, and the skin permanently wrinkled by the force of the contraction of the orbicularis palpebrarum muscle; the other muscles of the left side were all in a state of rigid contraction except the masseter, pterygoid, and temporal. There was, therefore no trismus, the muscles supplied by the facial or eighth nerve being alone involved.

I determined to bring this patient as rapidly as possible under the full influence of the bromide of sodium, and therefore prescribed a solution in water containing thirty grains to the teaspoonful, three times a day. In the course of three or four days, the effects of the medicine began to be manifested, and as the bromism became more profound, the contractions began to relax, till, by the tenth day they had entirely disappeared, and the symmetry of the face was restored.

CASE III. Miss C., a young lady eighteen years of age, and of a strongly hysterical temperament, was brought to me to be treated for rigidity of the jaws. As she expressed it, she could not open her mouth wide enough to allow of her eating a strawberry. Upon examination, I found both masseter and temporal muscles rigid, and she could barely open the mouth to the extent of separating the teeth a half an inch. Even here the true nature of the disorder was not recognized, as she had been treated for paralysis of the antagonizing muscles, with electricity and strychnia, by an "electrician," who ought to have known better. I subjected her to treatment with the bromide of zinc ($\mathcal{R}$ *Zinci bromidi* $\mathfrak{z}\text{ij}$, *aqua* $\mathfrak{z}\text{ij}$ *tr. p. m.*; dose 10 drops three times a day, increasing a drop for the doses of each day, and gradually after a few days the process of relaxation began, and in twelve days from the time of beginning treatment, she was entirely well. I continued the solution as above till a month had elapsed, at which time she was taking forty drops three times a day. There has now, after a lapse of four months nearly, been no return of the trouble. Two other cases similar to this last are now under similar treatment with thus far good results. In one of these cases for the first time, on the 2d inst., I recommended in addition to the bromide the use of the faradaic current rapidly interrupted to the contracted temporal and masseter muscles.

No very severe case of hysterical trismus has come under my observation, and I am not therefore able to speak of my own knowledge relative to the efficacy of very large doses of atropia. Thus far the use of any one of the bromides has fulfilled every indication.

A case very much worse than any I have seen, and belonging to the category of hysterical contractions of the muscles of

the face, is reported by Bourneville.¹ The patient, a woman 39 years old, had suffered from previous hysterical manifestations, and was seized with contraction of the muscles of the right side of the face, in consequence of the sensation induced by the unexpected visit of the attending physician, M. Huguier. Both this gentleman and M. Sandras regarded the case as one of paralysis of the left side of the face. This side was leeches and treated with electricity. Suddenly after six weeks the contraction disappeared.

CASE IV. Miss S., aged 34, consulted me in December, 1874, for double vision, with which she had been affected for seven months. She had been treated for cerebral disease—first for meningitis and then for tumor—during the course of which she had been blistered, leeches, and subjected to very thorough medication with mercury and iodide of potassium. On ophthalmoscopic examination I could discover no evidence of brain lesion. Both eyes were strongly convergent. There was either paralysis of both external recti muscles or contraction of both internal recti. I came to the conclusion that the latter was the case—mainly for the reasons that there were no head symptoms, and that the affection had been developed suddenly as the apparent consequence of a powerful emotional cause; that there were also occasional contractions of the muscles of the angles of the mouth, sometimes on one side and again on the other, and that there were other hysterical phenomena present, such as the *globus* and fits of laughing and crying.

As the affection had lasted several months, I despaired of being able to relieve it by medicines, and wrote a note to a distinguished eye surgeon of this city referring the case to him for operation. Giving her the note to deliver, I told her its contents, and advised her to have the matter attended to at once. The next day she returned. Her eyes were perfectly straight, and the double vision had disappeared. She stated that the idea of an operation had frightened her; that she had gone to bed thinking of what she would probably have to endure the next day when she presented the letter, and that when she awoke in the morning she discovered at once that

¹ *De la contracture hystérique permanente, Paris, 1872, p. 34.*

the diplopia had gone, and that her eyes no longer converged. So far as I know she has had no return of the trouble.

CASE V. While engaged in writing the present paper, Mrs. T., aged 34, was referred to me by Dr. Downs of this city for my opinion and advice in regard to double vision, from which she had suffered for almost two years.

On examination I found both eyes convergent, the left rather more so than the right. There was also slight nystagmus in both eyes. The external recti acted quite well, but as soon as the will ceased to be exerted upon them the eyes at once converged through the contraction of the internal recti. At a distance of five feet or less there was but a single image, but at greater distance two were seen, and at fifteen feet were about eighteen inches apart and exactly on the same plane.

Thorough ophthalmoscopic examination showed both retinæ and disks to be perfectly healthy, and there were no other symptoms indicating cerebral disease except an occasional vertiginous sensation. The patient had suffered from that classical hysterical condition, tonic contraction of the fingers, and had also from time to time exhibited other evidences of the hysterical temperament, as for instance passing large quantities of pale urine. I therefore expressed the opinion that the diplopia was due to tonic contraction of both internal recti muscles, and recommended the use of bromide of sodium and fluid extract of ergot—with what result remains to be seen, though I think the prognosis is favorable.*

CASE VI. Mrs. T., aged 28, had been under treatment for wry neck, and had submitted to division of the left sterno-cleido-mastoid muscle two months before she came under my observation. The operation was of course followed by no beneficial result, as the contraction was situated on the opposite side. When I first saw her she had been affected for about a year—the contraction coming on soon after a fright from being attacked by a savage dog.

On examination I found the chin drawn over to the left side and closely approximating the corresponding clavicle. The sterno-cleido-mastoid of the right side was apparently the only muscle affected. It was possible by gentle tractile force to entirely overcome the tonic contraction.

*This patient entirely recovered under the treatment.

Concluding that this was a suitable case for the employment of hypodermic injections of atropia, as recommended by Dr. Da Costa* for wry neck of a rheumatic character, I began the treatment by the introduction under the skin of the $\frac{1}{30}$ grain of sulphate of atropia. There was no apparent effect upon the muscle, but the influence of the remedy was very distinctly shown in the redness of the face, dryness of the fauces, and disturbance of vision which ensued. The following day, I gave the $\frac{1}{45}$ gr. and the day after the $\frac{1}{40}$. I continued to increase the quantity gradually daily, till on the 10th there was a slight amelioration perceptible. She was then getting the $\frac{1}{30}$ gr. Amendment from this time was steady under more gradual augmentations of the doses, and on the 22d day the distortion was gone and the muscle was fully relaxed. Treatment was then suspended, and the patient has remained well to this day, though still strongly hysterical.

CASE VII. Mrs. S., aged 38, came under my care some six years since, to be treated for wry neck; apparently hysterical in character, and involving the left sterno-cleido-mastoid muscle. The lady was subject to attacks of "hysterics," but was otherwise in good health. The affection had been developed suddenly, so far as she knew, without obvious cause, and was unaccompanied with pain.

I treated her with hypodermic injections of the sulphate of atropia, reaching gradually to large doses, but without appreciable result, and with zinc, bromide of potassium, conium, opium, and many other substances, to no avail. I also made thorough use of galvanism and faradism to the contracted and normal muscles, with like result. I finally determined to divide the muscle. Accordingly the tendon of the left sterno-cleido-mastoid was cut in the usual manner. There was at once a complete restoration of the head to its natural position and movements. The cut extremities were kept apart, and in the course of a few weeks union was effected.

But while the process was going on, contraction began in the right sterno-cleido-mastoid muscle, and the head was drawn violently in the direction opposite to that which had formerly existed. Deeming all other measures futile, I divided the

*Pennsylvania Hospital Reports, Vol. I, 1868, p. 391.

muscle. Again relief was instantaneous, but very soon afterwards contraction began in the left trapezius, and gradually becoming more pronounced, caused the head to be drawn backwards, and towards the left shoulder.

I divided the occipital attachment of the muscle, with, as before, prompt relief, but in a few days the left levator anguli scapulae became more largely affected. This was also cut, and then the contractions disappeared for several weeks, but at last re-appeared apparently in the left complexus.

I now requested my friend, Dr. Markoe, to see the patient, and he agreed with me that it was desirable to divide the muscle as high up as possible. Assisted by him I performed the operation—the patient being placed under the influence of ether. Restoration was complete as in the previous operations, but very soon afterwards the right sterno-cleido-mastoid again began to contract. I divided it, and then the left became similarly involved again.

The patient was now, after these operations of tenotomy and myotomy, exactly as she was when she originally came under my care, more than a year previously. I regarded the case as beyond the reach of medical or surgical aid, and she soon afterwards returned home. I heard from her several times subsequently as unrelieved, but about two years ago I had a message from her to the effect that she had suddenly, without medical treatment, become entirely free from her disorder, and was as well as at any time before its origination.

This is certainly a very remarkable and instructive case. It shows how futile our remedies oftentimes are, and how guarded we should be in attributing the disappearance of a disease to the direct influence of anything we may do. Had this lady recovered immediately after medical treatment, or any one of the operations, the inference would probably have been drawn that the two circumstances stood in the relation of cause and effect, and that, too, with far more reason than can be alleged in favor of some other cases in which cures have been reported.

CASE VIII. Mrs. P., aged 30, received a severe mental shock, and immediately felt her head drawn over to the left side, so that she had the appearance of looking over that

shoulder. She consulted a surgeon, who cut the left sternocleidomastoid muscle, but without beneficial result. It was in fact the right muscle which was contracted. She then went to an electrician, who used electricity without stint, but without success. When she came under my care she had been affected for about two months.

I gave her the bromide of zinc in gradually increasing doses, and applied the actual cautery over the belly of the contracted muscle. But after six applications, and a month's treatment with zinc, she was no better. I then cut the muscle. Relief was instantaneous and permanent, but having in view the case just related, I refrain from claiming too much for the operation.

Hysterical contraction of the muscles of the tongue I have never witnessed, though cases are reported by several authors.

2. *Hysterical contractions of the muscles of the upper extremities.*

There is perhaps scarcely a physician present who has not witnessed examples of contractions in the muscles of the shoulder, arm, fore-arm, or hand, due to hysteria. The muscle most frequently affected is, according to my experience, the biceps, and after that the superficial and deep flexors of the fingers. One case of contraction of the latissimus dorsi, and two of the flexor carpi ulnaris, have been under my care.

The following cases present some interesting features:

CASE IX. Miss S., aged 16, was suddenly seized with a spasm of the fingers of the right hand, so that they were tightly closed upon the palm, and could only be opened by strong extraneous force. I saw her the following day, and advised the use of the bromide of zinc. After two weeks, as there was no improvement, her father consulted a physician, who diagnosed disease of the palmar fascia, and recommended an operation and forcible extension. The fascia was cut, and an apparatus was applied, by which the fingers were kept extended; but as soon as it was removed, the contraction again ensued, and, owing to the pain it caused, it could only be worn for a small portion of each day.

Again she came under my charge, after she had discarded

the apparatus, and with her fingers, if anything, more contracted than when I first saw her.

I now examined her very carefully. It was possible, with minute and gradually applied force, to straighten the hand; but as soon as the fingers were left to themselves, they slowly but steadily contracted, till the ends touched the palm. The thumb was not involved. Faradization of the extensors also overcame the contraction for the time being. I was satisfied that the muscles affected were the two flexors of the fingers; and I resolved to see what could be done with electricity. I therefore daily applied the continuous current to the contracted muscles, and the faradaic to the opposing extensors; but though I persevered for two weeks, there was no apparent curative result. Finally, I determined to try the bromides in large doses, and accordingly prepared a solution containing two grains of the bromide of zinc and thirty of the bromide of sodium to the dose, taken thrice daily. In a few days the bromism became well marked, and then the spasm began to relax. I continued the treatment till she could scarcely stand, keep awake, or articulate a sentence distinctly, and by that time the contraction no longer existed, and she could voluntarily extend the fingers. The medicines were then suspended, and there was no return of the trouble. In all, nearly four months had elapsed since she had first come under my observation.

CASE X. Miss S. I., aged 22, had a severe hysterical paroxysm, from elation at not passing an examination for the position of teacher in one of the public schools. During the attack, the flexors of the fore-arm, wrist and fingers contracted to their fullest extent. When I saw her, a month subsequently, she had been treated for spinal meningitis, by blisters and the actual cautery to the spine, and internal administration of iodide of potassium, without the least beneficial result. The elbow and wrist joints were strongly flexed, and the fingers were so closely in contact with the palm of the hand as to cause soreness, so that cotton wadding had to be kept between the two surfaces, in order to obviate, as far as possible, the effects of the continued pressure. The appearance of the limb was very much like that produced in some cases of cerebral hemorrhage, in which secondary degeneration of the spinal cord has taken place.

In this case, I recommended the administration of the bromides of zinc and sodium, to the extent of producing extreme bromism. Four weeks afterwards I saw her again. She was still under the influence of the medicines, and her muscles were so far relaxed that she could move the limb in all its parts, with almost as much ease as ever. I advised the continuance of the treatment for ten days longer, and then heard that she was perfectly well.

The other cases of hysterical contraction of the muscles of the upper extremities, that have come under my notice, present no remarkable features, so that I do not enter into detailed description of them. Suffice it to say that they all—nine in number—recovered, four spontaneously, and five after treatment, as described, with the bromides of zinc and sodium.

3. *Hysterical contraction of the muscles of the lower extremities.*

The cases belonging to this category are probably more numerous than those of any other. The muscles most frequently affected are those which flex the leg, or the thigh, and the foot on the leg, the latter giving rise to talipes equinus, and both sometimes leading to serious errors of diagnosis. Brodie, Barwell, Skey, Meyer, and others, have cited many cases in illustration of this latter fact; and, doubtless, some present here this evening have met with like instances.

Of the cases of hysterical contractions affecting the parts in question, which have come under my notice, the two following possess special points of interest:

CASE XI. Miss X., a young lady aged 15, was brought to me for examination, in order that I might refer her to a competent surgeon for such special treatment as she might require. For two years she had been under the care of a surgeon who had diagnosticated her case as one of white swelling of the knee joint, and had treated her by such means as are usually employed in that disease. For a long time past she had worn a steel splint, placed on the posterior face of the limb, and bandaged around so as to prevent all motion of the knee. As a consequence of the disuse and almost continuous pressure, there had been considerable atrophy of the muscles of the thigh and leg. There was slight contraction of the

flexors of the leg, and the atrophy gave the appearance of enlargement of the knee joint, which, however, I was satisfied, did not in reality exist. Although the patient declared that she could not straighten the limb, and that every effort to do so gave her great pain, I seized the leg with one hand and the thigh with the other, and forcibly extended the knee joint. There was no great degree of pain produced, and though the flexed position was again assumed, I prohibited the further use of the splint, confident that proper treatment would restore the limb to its normal condition. Faradization was used for the atrophied muscles, the joint was repeatedly flexed during the day by passive motion, the muscles were kneaded for half an hour, morning and night, and she was encouraged to use the member, by walking on it and flexing it by voluntary power. In addition, the bromide of sodium was administered in full doses. These means were entirely successful, and the patient now—a year subsequently—not only walks well, but can waltz with entire ease. She still has a little weakness in ascending or descending a staircase, but this is disappearing.

This young lady is one of these whose cases I have mentioned, as now under treatment for hysterical contraction of the muscles of the lower jaw.

CASE XII. I was requested, in September of the present year, to go to New Jersey to visit Miss R., aged 14, in consultation with Dr. Norton. I found her lying in bed, to which she had been continually confined for several weeks—both heels elevated to the fullest possible extent by the contraction of the gastrocnemii and solei muscles. For a considerable period before she was confined to bed she had walked about the house with both feet in the extreme position of talipes equinus. A surgeon who had previously seen the patient, had insisted on the necessity of dividing the tendo Achillis of each leg in order to get the heel down.

Strong efforts at flexion failed entirely to relax the contracted muscles, but before resorting to tenotomy I wished to try the efficacy of the bromide of sodium in relaxing the spasm of the muscles, and as there were involuntary twitchings of the non-contracted muscles, I thought it advisable to combine with it the fluid extract of ergot in full doses. A month af-

terwards Dr. Norton wrote me that under the use of these remedies the contracted muscles had begun to relax, and that the heels could readily be brought to the ground. There is, therefore, strong reason for expecting a cure in this case.

4. *Hysterical contractions of the organic muscles and of the sphincters.*

Under this head are embraced cases of spasmodic stricture of the œsophagus, and the urethra; gastralgia and colic from contraction of the stomach and intestines, and tonic spasm of the sphincters of the vagina, rectum and bladder.

While it is certainly true that all these forms of muscular spasm may exist independently of the strictly defined hysterical diathesis, it is equally the fact that they are rarely found unassociated with great nervous impressibility, and the preponderance of what may be called the emotional temperament.

Of spasmodic stricture of the œsophagus a number of cases, both in males and females, have come under my notice, and in all recovery has taken place, sometimes apparently as the result of medication with the bromides, at others spontaneously on the occurrence of some strong degree of emotional excitement. In all of the cases—so far as I can recollect, ten in number—the affection came on suddenly as the result of emotional disturbance—fright, anxiety, etc., and in all, there were other evidences of hysteria present. In some cases it was necessary for a time to feed the patients through a stomach tube, as the caliber of the œsophagus was so reduced as not readily to admit of the passage of even very small masses of food.

Spasmodic stricture of the urethra, the result of emotional excitement, and accompanied by other hysterical phenomena, is so common a condition as scarcely to have escaped the attention of any physician or surgeon in ordinary practice.

Tonic contraction of the stomach, as a manifestation of hysteria and giving rise to severe cramping pains, is a condition not often met with, but of which two examples have come under my notice. In neither of these was there vomiting or nausea. Both occurred in women, and both were cured by the free administration of the bromide of sodium—or at

least the contraction ceased while the patients were taking this medicine. The diagnosis was not a matter of difficulty as the hard contracted organ could be distinctly felt through the abdominal parietes, especially when it was distended by the small quantity of food it was capable of containing.

Hysterical contraction of the muscular coat of the intestines, producing great pain and nervous disturbance, is so common, that it is scarcely necessary to do more than refer to the condition. There are very few cases of hysteria in which it does not, at some time or other, form a notable feature.

I have never had under my own immediate observation a case of hysterical contraction of the vagina, but such cases are, as I understand from several of my gynecological friends, occasionally met with, and Briquet* states that he has repeatedly seen cases in which the contraction of the sphincter vaginae was so great through hysteria as to be distinctly felt when the attempt was made to introduce the finger into the canal.

Hysterical retention of the urine from spasms of the sphincter vesicae, and constipation from tonic contraction of the sphincter ani are cases of common occurrence.

5. Another form of hysterical muscular contraction is that which makes its appearance under the form of tumors, several instances of which have come under my notice, in which operations have been recommended. These are generally met with in the flat muscles of the abdomen and are not, as a rule, accompanied with pain. I have however seen them in the glutei muscles, in the latissimi dorsi, the pectoralis major and in the platysma myoides.

The persistence with which these contractions sometimes remain, when not subjected to treatment, is remarkable. They never, however, in my experience, withstand the action of the bromides carried to their fullest extent, as is sometimes necessary.

The difficulties of making a correct diagnosis are not very great, if attention be paid to the clinical history of the case. It will generally, if not invariably, be found that there are other indications of the hysterical condition present, and in

*Traité clinique et thérapeutique de l'hysterie, Paris, 1859, p. 326.

some instances, similar "phantom tumors" have appeared and disappeared, from time to time. The suddenness with which they develop to a large size is also a diagnostic mark of value.

That cases such as I have described are hysterical in character, will not, I suppose, be doubted. At the same time, it must be admitted that applying to them this designation does little or nothing towards explaining their real nature. That there is a central lesion, slight though it may be, in all of these, is a matter of strong probability; for in some cases, in which the contraction has become permanent, the lateral columns of the cord have been found to be seriously involved. But there is just room for the hypothesis that the spinal disease may have been the consequence instead of the cause of the muscular contraction, and that this latter is therefore the primary trouble. Though I cannot think this view tenable, it is thrown out by no less an authority than Duchenne. There is, no more reason for accepting it, than there is for regarding every other affection of nerves and muscles involving sensibility or motility in which the spinal cord is involved, as of eccentric origin.

It would be arguing in a circle to assume that in these cases in which recovery takes place, there is no central lesion, while in those which persist, the lateral columns of the cord are affected.

While I think the bromides are shown to be efficacious in relaxing hysterically contracted muscles, I am not disposed, in view of the fact that spontaneous recovery sometimes so unexpectedly takes place, to insist strongly in their curative virtues. I am willing to leave this point to the individual experience of those who may have to treat similar cases. My main object has been to call renewed attention to a class of disorders liable to be mistaken for others of more serious import, and incidentally to the fact that recovery is frequently the apparent result of emotional disturbance. To this latter circumstance we are justified in attributing the cures produced by so-called saintly influence by Our Lady of Lourdes, the zou-ave Jacob and the army of mesmerizers, magnetizers, magicians, spiritual mediums, quacks, etc., who infest to a greater or less extent every inhabited country of the globe.