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THREE CASES OF FACIAL SPASM TREATED BY INJECTIONS OF ALCOHOL¹

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To describe facial spasm is no part of this paper, but before making my short report on a new treatment it may not be amiss to mention a few points of distinction between facial spasm and facial tic because, while there is a superficial resemblance of the two affections, they are fundamentally different and the treatment appropriate for one is not in the least applicable to the other. By facial tic, of course, I mean motor tic, *tic convulsif* or habit spasm; not trifacial neuralgia or *tic douloureux*.

Both disorders belong to the hyperkinesias, both present an intermittent, painless twitching and contraction of facial muscles, both are or tend to become chronic and both cease during sleep.² Here about all common traits cease. The following are the chief contrasts, very briefly stated:

1. Tic is much more common than spasm and invariably develops in a nervous or neuropathic individual. Disposition or temperament appears to have nothing to do with spasm.

2. Facial spasm is a real spasm, pure and simple; an isolated disorder strictly confined to the mechanism of motor innervation of the face. Tic is not a spasm at all but a volitional movement (even when automatic and subconscious) with extensive psychic

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²To this there may be rare exceptions in the case of spasm.

and sensory associations. It is a motor obsession, or rather the motor expression or result of an obsession. Consequently:

3. Spasm is absolutely devoid of voluntary or involuntary control while tic is always to some extent under the control of the will and always subject to involuntary control by strong emotional or intellectual preoccupation.

4. To state it another way, spasm may be said to be an anatomical, tic a physiological, disorder. A good picture of facial spasm may be obtained by faradization of the facial nerve. Tic is always the replica of a perfectly natural (though may be unusual) and physiological movement. Looking at the distortion caused by faradization of the nerve no one would mistake it for voluntary contraction of the facial muscles. On the other hand, having seen only one individual contraction of facial tic, no one could say that the movement was not a perfectly normal and natural one—possibly unusual, possibly overdone, but the legitimate result of a casual cause. Voluntary imitation of facial spasm is practically impossible. The patient himself can always repeat or imitate his tic movements and another person can nearly always do so.

5. In harmony with the anatomical relations of spasm are the facts that in its incipiency it is confined to *part* of a muscle (generally the orbicularis palpebrarum), that eventually it takes in the entire distribution of the facial nerve, no more and no less, and that however bad it may be it is strictly unilateral. In harmony with the physiological relations of tic are the facts that it never affects part of a facial muscle, because we cannot voluntarily make fascicular contractions, that it rarely includes all of the facial muscles in any given movement, that one physiologically associated group of facial muscles may contract one moment and another group the next, that it is very apt to be bilateral either simultaneously or alternately, and that it is peculiarly liable to be associated with tic of nearby or remote muscle-groups.

6. The contraction of facial spasm is very like that produced by faradism when the vibrator is not running smoothly. That is, while the general effect is tonic there is, besides, a flickering or quivering or rapid, slight, irregular twitching such as never occurs in voluntary movement or tic and cannot be imitated. Each spasm begins with this flickering contraction, generally of part of a muscle and most frequently in the orbicularis palpebrarum.

The preliminary quiver may be exceedingly brief or may last several seconds and even in a fully developed case one often sees these little abortive spasms. Nothing of the kind is seen in tic.

7. Facial spasm may not look any worse than facial tic but it is much more uncomfortable than tic, much more of a disability. The subject of tic may talk and sing as he pleases. To be sure his talk will be interspersed with grimaces but his sentences are not interrupted by them. A patient with spasm may be cut short at any time.

Injection of the seventh nerve for facial spasm was the natural sequence of injection of the fifth nerve for facial neuralgia; the more natural, as the results of all previous treatment of facial spasm were anything but satisfactory. Stretching the nerve was about the only effective method and the common experience was that with return of voluntary motion the spasm recurred with unabated vigor.

The pathology of facial spasm being unknown, no entirely rational treatment is possible. The injection method is empiric, is new and may be found to have disadvantages not now known; but it is exceedingly simple and the results are far better than those of any treatment with which I am acquainted. To suppose that it will radically cure facial spasm seems unreasonable, but that it will stop the spasm is certain and that this relief will persist for a considerable time after the facial palsy incident to the treatment has disappeared, is also definitely known. Of course the great drawback to the treatment is the facial paralysis which it causes, and for this reason the method is scarcely applicable to very mild cases which are scarcely more than a slight inconvenience for the patient. I have injected only three of the seven cases which I have seen since learning of this method about two years ago. For a knowledge of alcohol injections for facial neuralgia and for facial spasm I am indebted to the French school, notably Prof. Brissaud and the clinic of Prof. Raymond.

CASE I.—Mrs. W., colored, widow, 38 years of age, in excellent general health, was first seen September 17, 1907. Facial spasm began in 1894 or 1895 as a slight twitching of the left orbicularis palpebrarum. Gradually the trouble increased in severity and extent until the spasm distorted the entire left side of the face. About two years after the beginning of the spasm she apparently had an otitis media on the left side with rupture

of the drum head and offensive discharge for some time. Under proper treatment the otitis was cured. It seems to have had no effect upon the spasm.

Examination showed typical facial spasm, intermittent, and varying considerably in frequency. The contraction was practically tonic with coincident slight twitches or quiverings. In

FIG. 1. Case I. Typical facial spasm.

duration it varied from a few seconds to about one-half minute. Sometimes it ceased for as much as an hour, sometimes recurred so frequently as to be almost constant for many minutes. Figure 1 gives an excellent picture of it.

On September 19, with an ordinary long hypodermic needle I injected 15 to 20 minims of 75 per cent. alcohol containing a

little cocaine. The injection was made immediately in front of the mastoid process, the object being to reach the nerve at its exit from the stylo-mastoid foramen. The spasm ceased at once and at the same time facial paralysis became obvious. In a few moments the paralysis was practically complete and involved all branches of the nerve.

FIG. 2. Case I. Six and a half months after treatment. Patient smiling to show absence of facial paralysis.

On October 2 the patient presented an ordinary peripheral facial paralysis. She had had no signs of the spasm except on the third day when she had noticed a very slight twitching about the eye. The paralysis was no longer complete, as with an effort she could close the left eye, but she could not pinch the lids

together. The lower branch seemed to be quite paralyzed, although the patient said she could eat with but little trouble. Even at this time she much preferred the existing facial paralysis to the previous spasm. Three weeks later the facial paralysis was less pronounced but still quite marked. The patient was not seen

FIG. 3. Case I. Same date as Fig. 2. Patient voluntarily contracting facial muscles to show absence of facial paralysis.

again until March 7, 1908, five and a half months after the operation, when the facial paralysis had practically disappeared. She, herself, had not been conscious of any paresis for a long time.

Figs. 2 and 3 are from photographs taken March 31, Fig. 2 whilst the patient was smiling, Fig. 3 whilst she was tightly closing the eyes and spreading the mouth as if to show the teeth.

Close scrutiny at this time revealed a very slight difference in movement of the two sides of the face, a difference which ordinary casual observation certainly would not detect. May 15, 1908, there was still no spasm.

CASE II.—A man of 64 years was first seen September 24, 1907. For eight or ten years he had been slightly deaf in either ear, no tinnitus. About four years ago his facial spasm began with a slight twitching about the right eye. At first there were intermissions of several hours. The area involved very gradually increased, the corner of the mouth having begun to draw only six or eight months before. The spasm in this case was not so severe as in Case I, but was sufficient to completely close the eye for about a minute and to draw the corner of the mouth very markedly to the right. Intervals between spasms were rarely more than a few minutes.

An injection was made as in Case I but with alcohol of only 40 per cent. There was no immediate effect but about a minute after the injection I noticed very slight facial paresis and the spasm ceased, but within twenty minutes the facial paresis disappeared and at the same time the spasm began. An hour after the injection the facial spasm was very distinct, although not quite as bad as before the injection. Evidently I had missed the nerve. On November 13 I made another attempt and because this patient was very hypersensitive and made a great ado about the pain caused by the injection, I foolishly used a very slender and quite short hypodermic needle. This was unnecessary as the injection was made painless by previous injection of a little cocaine in normal salt solution, and I believe the needle was too short to reach the nerve. At any rate the nerve was not reached, the result was *nil* and the patient returned to his home in another state, apparently with no benefit. Furthermore, 12 days later he called on his home physician with the auditory meatus full of bloody pus. The tissues of the canal were infiltrated and a small bit of cartilage came away. In a week all was healed with no bad effects. It seems reasonable to suppose that the cocain solution was not sterile. Possibly there was some other source of infection, but the process had no effect upon the spasm.

CASE III.—A man, 32 years old, was first seen October 28, 1907. The facial spasm had begun with a slight quivering about the left eye three years before. A year before it had begun to affect the face below the eye and three or four months before had involved the entire cheek and corner of the mouth. Although the muscular contractions were not so strong as in Case I, the intervals between the spasms were exceedingly short, and when the patient was talking or eating the spasm was almost continuous. In this case as in the others, I explained to the patient that the injection would cause paralysis of the affected side of the face, and advised him to see the first patient, whom he happened to know.

On December 3 he returned for treatment and I injected about twenty minims of 40 per cent. alcohol, preceded by a very weak solution of cocaine in normal salt solution. The injection of the alcohol was painless, but evidently I did not strike the nerve as the paresis induced was very slight and there was only very transient cessation of the spasm. On December 5 no trace of paresis could

FIG. 4. Case III. Five months after treatment. Patient smiling; shows no facial paralysis.

be discovered, although the patient said that the spasm was somewhat better. I injected fifteen minims of 40 per cent. alcohol, but missed the nerve. On December 16 I injected twenty minims of 50 per cent. alcohol and evidently reached the nerve, as there was almost immediate complete facial paralysis. At the same time the spasm ceased.

The patient passed from observation and it is only within the last few days that I have succeeded in locating him. His statements as to when the facial palsy disappeared are vague and unsatisfactory. Evidently it ceased to trouble him after a short time. At present careful examination detects a scarcely appreciable facial difference. Even in laughing and strongly con-

FIG. 5. Case III. Same date as Fig. 4. Strong contraction of facial muscles shows no facial difference.

tracting the facial muscles the difference is not so marked as many normal persons habitually display. There has been no return of the spasm. Figs. 4 and 5 are from photographs taken May 15, just five months after the last injection. Fig. 4 shows the patient

smiling and Fig. 5 as he is tightly closing the eyes and strongly retracting the corners of the mouth as in showing the teeth.

As the photographs demonstrate, the results in Cases I and III up to this time may be said to be ideal. Should the spasm return, as I believe it may, I see no objection to repetition of the treatment, just as I have repeated it in recurrence of trifacial neuralgia. Needless to say, the failure in Case II was not due to the method but to the operator.