THE TREATMENT OF NEURITIS BY ELECTRICAL METHODS.

BY

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It has been my lot to treat, by electrical methods, a great number of cases of neuritis affecting the trigeminal nerve, the branches of the cervical and brachial plexuses, especially the external and internal cutaneous nerves of the arm, the intercostal nerves, and the sciatic nerve. The result in the great majority of cases has proved most gratifying. With rare exceptions, relief of pain has been obtained, and in not a few a complete and permanent cure has been effected. The method I have employed for twelve years has been the use of high-frequency currents. Within the last few years I have employed also ionic medication, recommended by Professor Leduc of Nantes, and introduced into this country by Dr. Lewis Jones of London, using the method either alone or in combination with high-frequency currents.

As almost invariably the patient's general health is depressed, it is well in using high-frequency currents to pass through his body 500 to 800 milliampères of current as he reclines on the condenser couch. No better general tonic can be found. For the relief of the neuritic pain the skin of the affected area may be gently stroked by the hand of the operator as he holds one electrode, while the patient grasps the other. If this form of electrical massage is practised over clothing, the pain is apt to be slightly increased, at least for a time. Occasionally, if the pain is very acute, the use in the first place of the hot-air douche is advisable. Another way of applying high-frequency currents locally is by means of the brush discharge, which is painless, unless careless sparking is allowed.

The method of employing ionization is clearly explained in Dr. Lewis Jones's recent book on *Ionic Medication*. Of the various drugs employed, I have obtained the best results from the application of a 2 per cent. solution of quinine hydrochloride. The electrodes are composed of chains of zinc, and large pads of 16 plies of lint soaked in the solution are placed between the electrodes and the skin of the patient. It is advisable to wash the portion of skin to be treated before applying the pads. The electrode lying on the pad soaked in quinine hydrochloride is connected with the positive pole, as alkaloids like quinine have positively charged ions with an affinity for the negative pole, and are repelled from the positive. This electrode is applied to the affected area, and under the influence of the continuous current the quinine is introduced through the skin into the body. The indifferent electrode, resting on a pad soaked in salt solution, is connected with the negative pole, and may be applied to any convenient spot on the same side of the body. The pads with their electrodes should be bound firmly to the body by bandages.

The use of the ordinary battery is not advised, as the break between each cell or group of cells causes unnecessary pain to the patient. A switchboard, connected with the main supply or with accumulators, is preferable. A milliampèremeter should be in the circuit.

The current must be very slowly turned on. Even 3 milliampères will cause a little discomfort at first, but in a few minutes the resistance of the skin will be overcome, and gradually the current may be increased till 50 to 100 milliampères are registered. The treatment lasts for thirty minutes, then the current is reduced to zero as slowly as it was applied. It should be repeated daily, unless the skin is tender. Redness of the skin in contact with the pads is observed, but is soon removed by the use of a dusting powder.

CASE I.—A medical friend, suffering from neuritis of a month's duration, who had taken many drugs, was induced to place himself in my hands, though he was inclined to look on electrical treatment as a species of "quackery." After treatment he readily admitted that he was not only relieved of the pain, but "absolutely cured," and though four years have elapsed since he was subjected to high-frequency currents, he has not experienced the slightest return.

CASE II.—A second member of our profession who had experienced acute suffering for three weeks from neuritis of the left cervical and brachial plexuses, the pain reaching to the fingers, was cured with high-frequency currents in a month, even though his visits were somewhat irregular. Previously

he had tried, without avail, fly and mustard blisters, fomentations, aspirin, sodium salicylate, codeine, and antipyrin. Hypodermic injections of morphine had relieved pain temporarily, but did not cure the neuritis. It is now three years since he was treated. He has lately written to me that he has had repeated minor attacks of his pain lasting for a few days, but nothing like a violent seizure.

CASE III.—A third doctor, no longer young, came to me for treatment on account of neuritis of the right sciatic nerve of four weeks' duration. He required twenty-seven visits. In the end, however, not only was his pain removed by high-frequency currents, but his general condition was greatly improved. Three years afterwards I met him walking briskly uphill, looking several years younger than when he first came to me. He told me that he had had no return of the pain.

CASE IV.—A farmer's wife, suffering from trigeminal neuralgia of the right side for twenty years, was relieved of her pain by high-frequency currents. Six months afterwards, when I last heard of her, there had been no return of any discomfort.

Many similar cases cured by high-frequency currents could be adduced. With regard to ionic medication, I may, perhaps, be allowed to quote my own case.

CASE V.—In November, 1913, I began to suffer pain on the left side of my back, which I considered to be simply lumbago—an easily cured trouble. The renal region was skiaographed, but no shadow of calculus was detected. Dr. Ernest G. Fortune, who attended me, discovered a painful area to the left of the twelfth dorsal vertebra, and traced the pain along the course of the left twelfth dorsal nerve. Only those who have experienced the pain of neuritis can realize the suffering it causes. The pain came on at different times, though chiefly at night in the form of violent spasms, which seemed to be synchronous with the pulse beat. Very hot baths, liniment fomentations, and rest in bed gave considerable relief, but cure was only effected by quinine ionization.

CASE VI.—A young lady was sent to me in March, 1913, by Dr. Stevenson, of Larkhall, suffering from neuritis of the right shoulder, which had lasted intermittently for a period of eight years. The pain was chiefly felt at night. At first high-frequency currents were employed and later on ionization with sodium salicylate. Complete cure resulted after fifteen visits. There has been no return of the pain, though it is two years since treatment was discontinued.

CASE VII.—Her brother came to me a few weeks ago with neuritis of the branch of the left brachial plexus which supplies the infraspinatus muscle. In this case cure was obtained by quinine ionization after seven visits.

CASE VIII.—A lady, aged 22, with neuritis of three weeks' duration, affecting the external cutaneous nerve of the right arm, was completely and, so far, permanently cured after eleven applications of quinine ionization.

CASE IX.—A married lady was sent to me last autumn by Dr. R. O. Adamson and Dr. Ernest G. Fortune. The pain over the left shoulder was intense, but relief was obtained and cure effected by a combined treatment, in twenty-four visits, by high-frequency currents and quinine ionization.

It would prove fatiguing to the reader to prolong the notes of other similar cases, but from these already referred to it may be realized that by electrical methods relief and cure may be successfully obtained even in cases of extreme neuritis.

INTERLOBAR EMPYEMA.*

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INTERLOBAR empyema, that is, an accumulation of pus in the fissure between the lobes of the lung, has not received adequate attention in the textbooks. Dr. West, in his excellent treatise on diseases of the lungs, only gives a brief mention to it, and says that it is difficult of diagnosis. Sir William Broadbent said that he had seen several cases in which he formed the opinion that this condition existed, but only two in which the opportunity had been afforded of verifying the diagnosis by operation. He had not met with an example in the *post-mortem* room during his long connexion with a London hospital.

Empyema in the interlobar fissure would probably make its way into the general pleural cavity. If localized it might make its way to the root of the lung, and as the abscess increased the fluid might tend to split the fissure in that direction, and gain access to the primary divisions of the main bronchus and be discharged. This was what took place in the case recorded below.

If the abscess discharges into the pleural cavity as the fluid accumulates, it causes the lung to shrink, first from the removal of the negative pressure and later from the

* Read at a meeting of the Portadown and co. Down Division.