THE PRESENT STATUS OF THE ELECTRICAL TREATMENT OF FIBROIDS.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-Sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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MONTREAL, CANADA.

At the full flow of the tide of the most successful surgery the world has ever known, one must possess a good deal of courage of his convictions to rise in the presence of such a distinguished audience as this, to ever discuss, far less to advocate the treatment of tumors, even the most benign, by any other method than the surgeon's knife.

Appearing on the program of this meeting, surrounded as this paper and its author are, by papers and surgeons advocating every kind of surgical treatment, from tying the uterine arteries to removing nearly all the pelvic contents, my position is a peculiarly difficult one; the more especially as I have been trained as a surgeon and now occupy a position as surgeon in several hospitals where I am often compelled by circumstances to treat fibroids by surgical procedures.

It is only fair that I should say at the outset that I did not choose this topic for my discourse; it was assigned to me by our esteemed chairman, who, in order to preserve the high reputation for impartiality which has been possessed to an eminent degree by the chairmen of this Section of the Association in the past, no doubt wished that justice should be done to all methods of treatment at present employed. So strong is my own personal taste for surgery, especially of the abdomen, that I might have been tempted to disobey the chairman's command but for one reason, which was that as I reflected upon my work during the past seven years there passed before me the images of some fifty women whom I had treated for fibroids by electricity. First, as they appeared when I saw them with faces anxious with pain and blanched with hemorrhage, and then after their pain had been relieved and their bleeding had been stopped by galvanism and their cheeks had resumed a rosy hue, these fifty women's faces encourage me to do justice, though the heavens may fall, to the treatment which has cured them.

Then there pass before me the dying faces of *ten* women who were treated by total extirpation, at two of which operations I was the executioner; at six of which I was first or second assistant, and at two of which I was only a spectator.

True the majority of the ten operations were performed in the pre-antiseptic days, though by a great master in this department of our art; but four of them were performed within the last few years under the most rigorous aseptic precautions by men who have a low mortality in general for abdominal surgery.

The memory of these fifty women who have been cured by electricity, many of whom I could find, if required, and many of whom to this day stop me in the street to thank me and it for their rosy cheeks; and the memory of those ten women who are now no more, all tell me that I would be a traitor to the cause of truth if I remained silent, not only out of season, but in the very hour when it most needed to be spoken.

True, I can quiet my conscience when circumstances compel me to operate, by the reflection that one woman died while under electrical treatment, not through electricity but through an error of diagnosis for mistaking a tense impacted liquid tumor for a fibroid, which would not have been made if the abdomen had been opened, or, in other words, if the treatment had been surgical instead of electrical. This is the one and only case in which as far as my experience goes, I have ever had to seriously regret the use of electricity.

I can still further soothe my conscience when I am compelled to operate, by remembering that I have operated on ten women, seven by abdominal hysterectomy, treating the stump by leaving it transfixed at the lower angle of the incision; and on three by removal of the appendages, tying the ovarian arteries low down; and several others treated in the latter manner, at which I was first assistant, all of whom recovered and are now in good health.

When I visit the City of Brotherly Love where the surgeons have declared war to the knife upon the electrode, I am often placed in an awkward predicament. When I tell my friend, Dr. Joseph Price, that I am going to spend a few hours at the electrical clinic with Dr. Massey, he is surprised that a man of my intelligence can waste his time in such fiddle faddling nonsense, and it is useless for me to assure him that I can show him many women in Canada, from Manitoba in the west to New Brunswick in the east, who are pictures of health, and who have been cured by electricity.

On the other hand, when I tell my friend, Dr. Massey, that I am going to spend the morning with Dr. Joseph Price, extirpating fibroids, he looks with pity on my bloodthirsty taste and misguided energy.

In vain I tell him life is too short to treat all my fibroid cases by such means.

In this somewhat peculiar position which I occupy, I have one consolation, and that is or at least I hope that it will be so, that the conclusions which I shall presently lay before you, are those of one who is entirely unbiased and non-partisan, and are consequently to be accepted as far as they go, in good faith.

My own opinion on the present status of electricity in the treatment of fibroids is fully made up, and I shall now endeavor to lay it plainly and honestly before you.

During the last year especially, although it has been growing gradually for several years, the conclusion has become evident that electricity is not suitable for every kind of case nor for every kind of doctor.

But it is as true to-day, as it ever was, that for the cure of pain in, and bleeding from, the uterus, the application of the positive pole of the galvanic current properly applied and of sufficient strength to the uterine mucous membrane, is in the majority of cases effective. The percentage of successes is greatest in those cases in which the fibroid growth is interstitial; not quite so great in the cases of submucous growths, although in several of these cases a few applications have been followed by the expulsion of the tumor from the uterine cavity. The earlier the cases come under treatment the more surely they are cured; many patients with small interstitial tumors in the anterior wall having been completely cured by me, and still more under the care of others. So that

the plea for the early treatment of fibroid tumors by electricity is quite as just a one as is the early plea for operative treatment. Indeed, it is even more so. For while we can truthfully say that the electrical treatment, when undertaken early and with a correct diagnosis is at the present day entirely devoid of danger, no one can truthfully say the same of the treatment by operation. In fact, I am sorry to say that no one knows what is the death rate of the latter treatment. Three of the ten deaths which I have above mentioned have never been reported, and six of them were only reported at my urgent solicitation.

May there not be many other similar cases? When a woman comes to a doctor for menorrhagia and he discovers a small fibroid, is he to urge her to submit to an operation, when he knows with the greatest skill and care she runs the risk of dying from the operation, and if left alone, the death rate is more than 1 per cent., while with electrical treatment the risk is absolutely nothing?

When she tells me that she will not submit to an operation, shall I assure her that I can do nothing for her, when I carry in my pocket the record of fifty similar or worse cases which have been cured by electricity? Surely, that were dishonest. And yet the temptation to operate, in spite of the danger of surgical and the safety of electrical treatment is very great, too great in some cases for us to resist.

Ours is a busy life, and there is not one of us here who has not often felt that life was far too short to accomplish all the good that we would wish to do, and for the want of a few more hours in the day, much work of value to our fellow beings must go undone. With this feeling strong within us, a poor woman applies at the out-patient department of our hospital with a small interstitial fibroid which has, however, doubled or trebled the bleeding surface of the uterine mucous membrane. We believe that we could cure her by a long and tedious course of treatment with electricity, from ten to fifty applications; if there are no facilities at the hospital, then at our office. If at the hospital, the time required for this case would seriously encroach upon the time allotted to our service there; if at an office there is the same, as well as other objections. And when we have made the sacrifice and cured the woman, what is the reward? Perhaps, but not always, the woman's thanks. Our own feeling of having done well, surely. But when we turn to our brethren, whose esteem is and should be the greatest incentive that we can look for, to good work well and conscientiously performed, what do they say? We have no fresh and bleeding tumor to take to the medical society, (as an Indian waves a white man's scalp), before our admiring brethren as a trophy of our prowess and our skill. I have shown the women over and over again; I have shown their clothing which had to be taken in, as much as seven inches, owing to the decrease in size; the women themselves have offered to state on oath that their bleeding had been arrested, their pain removed, and their general health improved. How were these triumphs of therapeutic skill received? With loud applause, you will say. No, indeed. The praise bestowed upon the exhibitor of even an apparently healthy appendix, the removal of which was followed by the death of the patient, is wild in its enthusiasm, when compared with the manner in which is received the report of a case of cure by electricity. Indeed, a sincere friend and admirer in our society warned me

privately that my reputation was injured every time I showed a woman who had been cured by this means, and he urged me to show no more. But I must continue to cure them by that means as far as my time limit and life limit will allow.

How different when we report an operation, whether the patient lives or dies. Everybody seems pleased and praises us in proportion to the danger to which our patient has been exposed. But if she dies there are two at least who must regret that it was performed; the patient and the doctor; and sometimes there are the husband and the little children to be thought about. But how much easier to take the patient into the hospital and in a few days perform hysterectomy which we can do in a quarter of an hour sometimes. It is, as the French say, "*un mauvais quart d'heure*," but it is soon over and the patient's fate is sealed for weal or woe when we have put in the stitch which closes the peritoneal cavity.

After that the house surgeon and nurses take care of her and an average of three minutes a day for the next twenty days is the very most she requires of us. But with the electrical treatment, what with getting the patient ready, carrying out the asepsis of the vagina, and adjusting the apparatus, I have spent as much as one hundred precious hours on a single fibroid case. But the ovaries remained and many of the women are now the happy mothers of children and others are happy wives, capable of having children, though childless.

I have lately asked several well-known men, men of the highest surgical reputation (you would be astonished if I mentioned their names) whether they had employed the electrical treatment with good results, and they have assured me that they had, although they have never reported them; and when I asked them what was the principal objection to it, they replied, in confidence, that it took too much of their time. And this I admit is a serious objection to it, but not an insurmountable one. There are two ways in which it may be surmounted; one is by having an assistant whose time is less precious than our own, who has been trained to carry out the treatment with accuracy and care when we prescribe it for the disease which our more experienced touch has diagnosed. And the other, is by having several rooms and a nurse to prepare the patient, including the antiseptic vaginal douche and by devoting two afternoons a week, and having these patients come only at that time as many as six treatments an hour might be administered.

Never before has it been so well demonstrated, as it is to-day, that by the division and subdivision of labor the workmen become more and more expert. It does not surprise me therefore that the best results of the electrical treatment of fibroids are obtained by such men as Apostoli and Massey, who employ this treatment alone. They both obtain results which neither I nor any other operating gynecologist can hope for. In every large city we should encourage some one man to establish an electro-therapeutic clinic, where our poor patients, at least, might obtain the benefit of his skill in electrical technique, after having obtained the benefit of our experienced diagnosis; in time, his reputation would reach the ears of the rich, and he would then have some substantial reward.

The present status of electricity is suffering as did the status of abdominal surgery a few years ago, because it has been tried by men without sufficient

experience, and has as a consequence been found wanting. The electrical treatment of fibroids requires knowledge of the pelvic contents as well as the electrician's knowledge of the power he is wielding.

I must trespass on your time yet a little more while I refer to two points. One, a claim which has recently been made by Apostoli for the electrical treatment, which I can hardly indorse; and the other an objection which has been made to it, which I can as heartily deny.

Apostoli has discovered that the very failures of electricity can be turned to advantage in the following manner: it has been found that in those cases where the electrical treatment has been badly borne and has been followed by febrile reaction, so that the patients have been turned over to the surgeon for operation, the presence of pus tubes and pelvic peritonitis has been discovered. Apostoli has pointed out that electricity may be employed as a diagnostic agent for the purpose of detecting diseased appendages.

A remarkable instance of this came under my notice a little over a year ago. A young woman who had been employed in a restaurant in a New England town, gradually lost her health, with pain and hemorrhage. She suffered agony with her periods which came too often and lasted long, so that her face was blanched and haggard. There was no difficulty about the diagnosis as the tumor was large, round, symmetrical, in the median line extending up to the umbilicus and could be easily seen and felt, bulging up the abdominal wall. Several physicians in the United States, her family physician in Montreal, as well as myself, all agreed that it was a fibroid. One of them had tried electricity several times, but always with bad results, and so did I. As she was laid up in bed for several days each time, I concluded that the appendages were diseased, and after three applications I decided to stop and to perform celiotomy. On opening the abdomen the tumor was at once seen surrounded by adherent intestines, but it still appeared a symmetrically pear-shaped fibroid. I could not, however, find the ovaries and tubes, and while digging around for them, I made a line of cleavage which being followed up I was able to dissect out of a portion of the tumor which proved to be a sausage-shaped pus tube; this was delivered intact, tied and cut off. Then followed a large cystic ovary; then the other tube which broke and inundated the field with pus, and then the other ovary, by which time the supposed fibroid was gone and only a moderate sized uterus remained. The pelvis was carefully washed out and drained, the patient made a rapid recovery and is now at work and enjoying perfect health. So that in this case Apostoli's dictum, that when the application of his method causes febrile reaction the tubes are badly diseased, was fully borne out.

Now the objection to electricity which has so often been made to it, especially by one of my most esteemed friends in Philadelphia, that it causes adhesions is not true. I maintain that one has no right to bring that charge: 1, if fibroids which have never been treated by electricity do have adhesions; and 2, if fibroids which have been treated by electricity can be proved not to have become adherent.

Now I am in a position to prove both of these facts. When in Baltimore I saw the abdomen opened for fibroid but it was so adherent to everything, intestine and abdominal walls, that the operator, one of the

ablest in the world, did not consider it possible even to get the ovaries out, and the abdomen was sewed up. Now this case, the most covered with adhesions I have ever seen, you will say had received many applications of electricity, and so I thought judging from these statements, must have been the case. But careful inquiry elicited the fact that she had never received a single application of electricity. But that is only negative evidence. Let us see about some positive evidence.

Three or four years ago I treated a lady, head mistress of a large public school a thousand miles away, for hemorrhage and pain, by means of intra-uterine positive galvanism. She had received one year's leave of absence from her important duties and the commissioners had advanced her one year's salary in order to regain her health, she being utterly incapacitated for work. You may imagine that she was peculiarly anxious to get well and therefore submitted to a very rigorous application of the treatment three times a week with great fortitude, as high as 200 milliampères being frequently given at a time. And this was not for one or a dozen applications but for fifty times. By this time the bleeding and pain were nearly, if not entirely arrested, and I advised her to complete the cure by a few months rest at her old home down by the sea in New Brunswick. This she did and came back to me in July with rosy cheeks and sparkling eyes. She and I would have been perfectly satisfied with the result, and I should have reported her among my cures, had it not been for one thing, and that was that she asked me the question: "Can you promise me that the awful hemorrhages will not return after I have gone to my far away home in the West?" This I could not answer her affirmatively.

Her next question was: "Is there any other treatment by which you can guarantee that result?" My reply was "yes, one only, and that is hysterectomy." Although the operation was not required by her then present condition, yet owing to her financial situation which would preclude her ever coming to Montreal again, at her urgent request I removed her uterus.

Now if the charges against electricity have a vestige of truth in them I must have found the tumor covered with adhesions; in fact, the tumor and appendages must have been one agglutinated mass requiring some hours of patient toil to detach them, and for this I was prepared. But what was my astonishment, on opening the abdomen and screwing a cork-screw into the tumor to be able to lift it out smooth and shining as the top of a bald man's head; the transfixing of it with pins and circling it with the *serre-nœud* was the work of a few moments and in a minute more the tumor was off. She ran her 5 or 10 per cent. of risk of death safely and made a splendid recovery and was at the head of her school once more on September 1.

One such case carries more weight than a thousand assertions that electricity causes adhesions.

But I can duplicate it. A young lady who is now a trusted nurse in a New York hospital came to me the first year I used this treatment, for hemorrhage and pressure symptoms caused by a large fibroid. She improved so much that I decided that she ought to go home by the time she had received fifty applications. But after the last application she began to flow before the time, and I asked her to wait until it stopped. It lasted seventeen days, a steady little

stream of dark red blood. I became momentarily discouraged and advised operation which was accepted, but I handed her over to a more experienced operator than I was, at that time. I assisted at the operation and the tumor came out without the slightest difficulty, and was removed in the same way as the case mentioned above. I examined it most carefully and the only trace of an adhesion to be found was a spot about the size of a silver 5 cent piece, where the tumor had rubbed upon the brim of the pelvis on the right side and where she often complained of pain before coming to me. But there was not a sign of adhesion in the track of the electric current nor anywhere else except this one spot. The hemorrhage was due to a tiny opening in a sinus by the end of the electrode.

I dislike electricity, personally, because it takes up my precious time, but I want it to get fair play and not be blamed for sins that are not its own.

There is one charge, however, which was frequently brought against the electrical treatment of fibroids or rather against a method of applying it, in the past, and which was well deserved but no longer applicable, because no longer employed. I refer to the method of galvanic puncture.

The greatest claim for the electrical treatment of fibroids that can be made is that it has no mortality, that it is absolutely safe. If it is not safer than any other treatment, or, in fact, unless it is absolutely free from danger there remains only one advantage in its favor, namely, the saving of the ovaries. But galvanic puncture no matter how performed, whether by the vagina or through the abdominal wall, must ever be a procedure fraught with danger and is to-day practically abandoned. If any one still uses it, in the cause of electrical treatment of fibroids, I beseech him to use it no more. The positive pole of the galvanic current gently introduced into the uterus will accomplish our object by unseen but no less certain means. It dries up the juicy, bleeding mucous membrane and by its tonic action upon the muscular tissue through which must pass the vessels carrying nourishment to the tumor, its blood supply is cut off just as surely as though we tied the ovarian arteries which supply the body of the uterus. The action of the electric current as applied to fibroids is three-fold. The first is not mysterious; it is but the arrest of circulation in dilated capillaries by an electric-chemic cautery. The second is no more difficult to understand than the action of ergot or strychnin; it not only tones up the vasomotor system making the caliber of the arteries less, but it calls into play the special and remarkable power which the uterus possesses of controlling its own circulation when it has the strength to contract. The third effect of the current, its electrolytic action is, I admit, as mysterious as it has ever been, but not more so than the invariable absorption of syphilitic gummatous deposits following the administration of iodid of potassium. Whether what we call electrolysis means the actual breaking up of an organic tissue into inorganic atoms, or whether it means, as seems more likely to me, that the growth deprived of its blood supply undergoes fatty degeneration and is partly eaten up by phagocytosis, stimulated to greater activity by the trophic nerves; no one with a large experience with this subtle fluid can deny that a uterus infiltrated with and enlarged by the deposit of fibrous tissue, whether localized in the form of fibroids

or diffused as in areolar hyperplasia, so that the sound will enter four or five inches, will invariably diminish in depth by means of electrical treatment.

Then again, what is the enormously enlarged uterus after delivery but a bleeding myoma? Does it not stop bleeding when the arteries which supply it with blood are squeezed by its contracting walls? Does it not rapidly get smaller when, for the want of blood and exercise, that immense mass of tissue silently undergoes fatty degeneration and returns to the blood from whence it came?

Wonderful and almost incredible as the total disappearance of a fibroid or myoma may seem to some, it is no more mysterious than this wonderful process of nature which we call involution. Have those who doubt and even worse, deny the power of electricity to work a change in fibroids, never reduced the size and weight of a uterus which nature had failed to involute? Has Emmett never reduced its size by repairing a lacerated cervix? Have Churchill and Athill and ten thousand others with honored names never reduced the quantity of tissue in the uterus by the application of iodine? Have not a hundred thousand others ever reduced the weight of blood and muscle and areolar tissue in the heavy uterus by means of glycerin and hot water and other therapeutic measures?

Then why in the name of reason and justice, will you deny that an agent which we can see blanching tissues before our eyes, and making muscles of every kind of contact, why will you deny, I say, that it can diminish the blood supply to, and favor the fatty degeneration and absorption of, the fibrous or myomatous uterus?

The electrical treatment of fibroids, reduced to the above simple equation and stripped of all the extravagant claims which were at first made for it, stands to-day upon a foundation so strong and true, that it will find an honorable place in the treatment of fibroids as long as women shall dread to die by the surgeon's knife, which I believe will be as long as the world shall last.

LIGATION OF THE BROAD LIGAMENTS FOR UTERINE FIBRO-MYOMATA—REPORT OF TWO CASES.

Read in the Section on Obstetrics and Diseases of Women, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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The various forms of treatment and the varied surgical operations for the removal of fibroid tumors of the uterus has, in the past decade, been one of the most prolific subject of discussion in medical circles and the end is not yet.

Abdominal hysterectomy—supravaginal amputation, with or without the clamp, or extirpation through the vagina by morcellement, each have their advocates; while other operators of note advise women with uterine fibroids which are giving no special distress to leave them alone.

A certain proportion of uterine myo-fibromas produce symptoms which necessitate some operative procedure for their relief. Often the distress is occasioned by the association of a pus tube or an ovarian abscess, the diseased appendages, not the tumor, being the cause of pain and ill health. Should an