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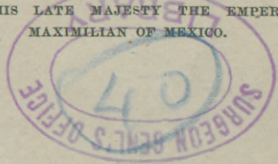
ON THE TREATMENT
OF
OVARIAN CYSTS

*U. S. A.
republically
Semeleder*

ELECTROLYSIS.

BY
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UNIVERSITIES OF VIENNA AND MEXICO; FELLOW OF THE I. R. SOCIETY OF PHYSICIANS
OF VIENNA, OF THE SOCIÉTÉ MÉDICALE DU PANTHÉON OF PARIS, AND OF
THE ACADEMY OF MEDICINE OF MEXICO; OWNER OF THE I. R. AUSTRIAN
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LADY OF GUADALOUPE; OFFICER OF THE R. BELGIAN
ORDER OF LEOPOLD; PHYSICIAN IN ORDINARY
TO HIS LATE MAJESTY THE EMPEROR
MAXIMILIAN OF MEXICO.



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ON THE TREATMENT OF OVARIAN TUMORS BY ELECTROLYSIS.

IN the last number of the *Wiener medizinische Presse* of 1875, I published a short pamphlet on the cure of ovarian cysts by electrolysis. Since then several American and English papers have given short extracts from it; the French and German papers have only to a very limited extent been accessible to me, and so I am not able to say whether they thought proper to take notice of my memoir. The title of my essay, "No more Ovariectomy," I am free to admit, sounded rather bold and extravagant. I shall now give, however, not a mere translation, but a revised and enlarged edition of my pamphlet, which, I hope, has not yet lost its substantial interest.

Before entering into the subject itself, I must try to dispose at once of the question of priority, a matter in which I do not wish to be involved again, as it happened to me at the beginning of my scientific career, when laryngoscopy sprang into life. I wish to state here again that I do not pretend to pass for the inventor of the treatment of ovarian cysts by electrolysis; what I claim is, to have introduced it in the New World, and to have brought it before the profession in an effectual way.

Various treatises on electro-therapeutics that I have been able to examine, devote a few lines to electrolysis and electro-

katalysis, recommending that treatment for tumors of different classes, even cancerous ones, collections of serous fluids, especially hydrocele, hydatids (echinococcus), varices, aneurisma, stricture, exudation, and ulcers, etc., and some of them make special mention of ovarian cysts. But they do not write from personal observation or actual experience. What they give looks rather like a proposition without any support or confirmation; as it seems nobody had practically tried it, or had obtained any encouraging results, and, in fact, the profession in this country only knew the new method by hearsay, mostly through my pamphlet above alluded to, and did not seem to put much faith in the innovation. Only lately, while in New York, the new edition of Benedikt's "Nervenpathologie und Elektrotherapie" (Leipsic, 1874) fell into my hands, and I learned by an additional remark that Fromhold, in a book published in 1874, in Pesth, reported two cases of ovarian tumors successfully treated by electrolysis; and only since my arrival in New York have I known that Dr. E. Cutter, of Cambridge, Mass., claimed to have successfully applied electrolysis to a certain number of fibroid tumors of the uterus (*Boston Medical and Surgical Journal*, February, 1876).

It was two years ago that I first heard of a case of ovarian cyst cured by electrolysis. A young lady friend of mine had gone to Dresden to seek for her trouble that relief which she could not obtain in Vienna. This bewildered me a little. I learned afterward from Dr. Hesser, of Vienna (May 28, 1874), that the disease in question had been an ovarian cyst, and that the cure had been effected by acupuncture. No more information could be obtained from Dr. Hesser. But that was enough to suggest to me the importance of the fact, and I at once determined to try that remedy in the first case that should come under my care. I wrote at the same time to my learned friend Dr. Fred. Fieber, in Vienna, who had treated the above-mentioned lady up to her complete recovery after she had returned from Dresden in a highly-improved state of health. In June last year (1875), I received from Dr. Fieber a pamphlet published in the *Wiener Allgemeine medizinische Zeitung*, 1874, "Mittheilungen über 16,000

Fälle von Nerven-, Brust- und Kehlkopf-Krankheiten," etc., where, on page 19, are mentioned two cases of ovarian cyst cured by electrolysis (in my memoir in German I wrote, by mistake, "one case"). These two cases seemed to me too interesting and too important to be published in such a way, hidden in a corner behind sixteen thousand cases of diseases of the nerves, of the chest and throat (the sign of exclamation in the German edition was not in my manuscript), and, indeed, they had been so admirably concealed that they completely escaped observation. On July 3, 1875, I had a very polite letter from Dr. Fieber, in answer to mine, with some remarks on his application of electrolysis, his experience, etc. In the mean time, however, the long-looked-for opportunity had come to try the new method.

CASE I.—On the 23d of April a young lady was sent to me from Puebla, with an ovarian cyst. The patient was eighteen years old; for several years past she had noticed a swelling of the abdomen, which began in the lower part, on the left side, and had increased gradually. Latterly the increase had been rapid. The menstruation had begun very early (cases of girls menstruating at eleven years are frequent in Mexico), and had been regular for a short time only. Then intermissions of several months had been alternating with violent hæmorrhages. My patient complained of pains in her back, a dragging sensation in her left leg, and all the symptoms naturally occasioned by a large tumor in the abdomen. The natural excretions were not particularly disturbed; there was no œdema of the lower limbs. When the treatment began, 29th of April, the lower part of the abdomen was occupied by a tumor extending a little more to the left side than to the right, and reaching three centimetres above the navel. The percussion over the whole tumor gave a dull sound; the tumor had apparently thin walls, but it was very tense, and fluctuation consequently not very observable. The greatest circumference, two inches below the navel, was ninety-six centimetres; the sexual organs in a virginal state. The treatment continued nearly daily, even during the time of menstruation. On the 26th of July, when the patient left the city of Mexico, the abdomen measured, in

the same line as above, ninety-two centimetres. The treatment was continued in Puebla, and over two months more were required to make the cure complete.

CASE II.—On the 20th of May, 1875, a young lady came to see me; she was twenty-four years old, married, had two children, and had for two years past observed a tumor in the left side of her abdomen. The tumor grew slowly, and had reached the size of the head of a child of ten years. It was quite soft. At the beginning of the year several physicians of the capital had seen her. The diagnosis of an ovarian cyst had been established, and ovariectomy was proposed. But the young lady and her family could not make up their minds to it. On hearing that I had undertaken the treatment of a similar case without operation, she came to know my opinion. The treatment began on the 27th of May, and on the 5th of July she was perfectly well and returned to her home. The cyst had been reduced to the size of an orange and was quite solid.

CASE III.—In the beginning of June, 1875, a woman forty years of age came under my treatment, with a cystic tumor of the left ovary. The patient had never been pregnant; her menstruation had been regular, and she had nothing to complain of. The tumor extended on the right side to the navel, and a hand's width over the median line; the left side of the abdomen was nearly all filled by the tumor, which extended upward to the ribs. The tumor was divided by an oblique furrow into two parts, one inferior and the other external and superior, and was quite soft. It was not possible to ascertain how rapid the development of the tumor had been, or how long it might have existed. After a daily treatment of six weeks the tumor was so much reduced that it seemed unnecessary to continue it.

So much for my first communication. Since then another patient was cured, after eight weeks' treatment.

CASE IV.—She was thirty-eight years old, married, had never been pregnant, and never noticed any irregularity of menstruation; for some time past she had been growing very stout; for some trouble of the digestive and urinary organs (constipation, flatulence, frequent micturition), she happened to be examined more carefully by her physician, and a flue-

tuating, soft tumor, with thin walls, was detected, occupying the left side of the lower abdomen, extending to midway between the median line to the anterior superior spinous process of the ilium and upward two fingers distant from the umbilicus. The treatment offered no remarkable incident. When the cure was complete the cyst was likewise reduced to a small solid mass, which, without previous data, would hardly have been recognized as being the remains of an ovarian cyst.

When I left Mexico, I placed under the care of my distinguished friend Dr. Schmittlein three patients. I have not been notified since of their condition, but in two of them sufficient improvement had already taken place to make their cases interesting.

CASE V.—A lady came to me toward the end of November last. She was twenty-eight years old, married, had five children; never experienced any trouble or considered herself sick. Since her last confinement, a year and a half ago, she had noticed that her abdomen remained extraordinarily enlarged, and finally detected a tumor. She had heard of similar cases successfully treated by electricity, and when I saw her her general health was satisfactory. Yet she noticed that of late some emaciation had taken place, and she was unusually pale. The left side, principally, of the abdomen, was occupied by a very soft, fluctuating tumor, with apparently very thin walls, extending three inches beyond the median line, to the right, and one inch above the navel, while on the left side it extended still a little higher. On pressure, three hard masses could be discovered in the tumor, two small ones in the lower part close to the posterior wall, and one, of the size of a small orange, close above the left side of the navel. Treatment was begun at once, and continued until my departure (15th of February), being suspended only during the time of menstruation, for five days per month. When I left Mexico the liquid had been resorbed so far that the upper limit of the tumor was at the level of the umbilicus; the hard lumps had apparently undergone no change, except that the larger one had become quite free, so that it could be brought downward and to both sides more than a hand's width; it was hard, like cartilage, and presented a completely smooth surface. I believe

there is every reason to suppose that the liquid will continue to be resorbed, and it will be interesting to know what will become of the hard lumps.

CASE VI.—In October I was called to see a lady fifty-two years of age. She was very young when she first menstruated. Menstruation had been pretty regular, and rather profuse, for many years. Sexual intercourse had always been unpleasant to her, and she only submitted to it because she thought it was her duty. She had always been barren. For more than twenty-three years she had suffered from various complaints which were considered hysterical; she complained of constipation, frequent micturition, heaviness, dragging pains in the back and legs, principally during menstruation or when walking or kneeling down; her stomach grew larger, but very slowly. Two years ago, when she had once more changed her medical attendant, she was examined (because some liver-complaint was then suspected), and was found to have a large, heavy, hard tumor in her stomach. The tumor was pronounced to be ovarian, and she was cautioned not to have it operated on. Hearing that I had cured ovarian tumors without operation, she sent for me. I found a tumor on the right side, and extending more than one inch above the umbilicus, and still higher on the right side, protruding considerably, giving the abdomen an unsymmetrical shape. It could not be moved upward or downward, but lateral movement was possible. The tumor was uneven on its surface, of the consistency of cartilage; in three places distinctly fluctuating parts were distinguishable, two smaller ones on the right side, and a larger one, apparently seven to eight inches long and half as wide, on the left side, its longitudinal direction being parallel to the median line. The tumor was tender to the touch, principally around the prominent navel, and at the menstrual period; the abdominal wall very thin, as the patient was generally fleshless; no œdema of the lower limbs; abdominal veins not enlarged. An examination through the vagina proved a failure. The womb was moved together with the tumor, but the uterine sound could not be used; the cervix was very thin, soft, and elongated, and formed an angular curvature with the body of the uterus, its orifice being directed toward the rectum; gen-

eral state of health good. Weighing all these circumstances, I considered the tumor a uterine fibroma, with cysts. I declared to the patient that I had never applied electricity to such a case, and that I did not consider hers a favorable one for that method; still, if she liked, and only as an interesting experiment for both of us, I would try it. She consented. Treatment was begun at once, and interrupted one week out of every four during the catemenial period. In January the liquid contents of all the cysts had disappeared, and the tumor was consequently reduced in size. The treatment continued all the same, and, when I left, both my patient and myself were under the impression that the tumor continued decreasing, though slowly.

CASE VII.—Toward the end of November a lady applied to me for advice. She was forty-five years old, had had a child some twenty-four years before; never was pregnant again; had suffered from certain hysterical symptoms; the catamenia had been pretty regular, only lately had taken the character of metrorrhagia, coming too often, lasting too long, and being too abundant. She had felt swelling and pain in the breast, and nausea when getting up in the morning; general state of health very good. On examining her stomach her physician found out that she had a tumor on the left side of the abdomen, quite low down in the pelvis, of the size of a cocoanut, perhaps a little larger; the tumor caused pain when pressed, did not adhere to the womb, seemed to press little on the crucial nerve and artery, was dense but not hard, and gave to the hand a feeling of obscure fluctuation. It gave me the impression of a cyst with thick walls and thickish contents; in fact, it was not possible to make a positive diagnosis, and I would have preferred to leave that tumor alone until some other symptoms developed, but the lady felt quite uneasy and nervous, since she knew that something was wrong with her, and insisted on having treatment. I applied electricity, as in the other cases, but when I left Mexico I was not able to notice any effect.

I have, perhaps, been a little prolix; all these particulars may not be as interesting to your readers as they seem to me, but I think it was necessary to give these facts, to make

more intelligible what I have still to say. In all my cases I was never obliged to stop treatment for any unfavorable incident, nor did I hear of any relapse.

Whenever two needles connected with the poles of a battery are introduced into a solution of salts, into any liquid that contains albumen, into a blood-vessel, into a tumor filled with a liquid, or into any animal tissue, a decomposition takes place. At the positive pole oxygen is eliminated, acids are formed, albumen and fibrine collect, coagulation occurs; the parts in the vicinity are rendered tough and hard, and at last gangrene occurs; while hydrogen, watery extracts, alkaline bases, iron, coloring-matters, go to the negative pole, where also ammonia and hydro-sulphuric acid are developed, the surrounding parts are shrunken, and in the last degree sphacelus supervenes. All substances which contain water are good *electrolytes*, i. e., are liable to be decomposed by electricity, and the quantity of water and soluble salts they contain gauges their conductivity and capacity for electric decomposition.

The same process may be effected by introducing but one pole into the liquid, and closing the circuit by placing the other pole on the surface of the body, whereby different indications may be fulfilled, according to the quality of the pole introduced. Nay, even when neither of the poles is introduced, but both are applied to the surface of the body, electrolytic effects may be obtained, provided the parts between the two poles be tolerably good conductors of the current; that is the "percutan method." I believe that under electrolysis in the ovarian cyst something must take place like that which results in an albuminous fluid by the introduction of both poles. Not only is the liquid resorbed, but the very wall of the cyst undergoes such a change that further secretion of liquid is brought to a standstill; and here it is proper to state that this must be due to an alteration of the liquid itself, as only a comparatively small part of the wall of the cyst comes in contact with the poles. A *post-mortem* examination of a cyst cured by electrolysis would be of the greatest interest; happily no opportunity for one has occurred so far.

Electrolysis is always a slow process, and, when performed in the manner first described, by introducing both poles and the application of a strong current, it is a very painful method as well; so much so that it is always performed under chloroform, the narcosis being rendered more thorough and lasting by hypodermic injection of morphia. That is the way in which Dr. E. Cutter applies electrolysis in fibroid tumors of the uterus. Benedikt says plainly that any patient will prefer to be operated upon with the knife.

For my purposes I always use mild currents, and so does Dr. F. Fieber. Neither his patients nor mine have ever experienced any inconvenience worthy of notice; they have not been put under chloroform or confined to bed. I always tried to avoid galvano caustic effects, though I did not invariably succeed. I have used carbon and zinc batteries, and copper and zinc batteries, and have in all my cases applied the constant current. Dr. Fromhold, in Pesth, has cured an ovarian tumor by the faradaic current.

In Cases I., II., III., IV., V., I introduced both needles sometimes, but generally only one; the applications were made daily, and lasted from five to ten minutes.

In Case I., they were not even suspended during menstruation. Dr. Fieber uses acupuncture one day and percutan faradaism the next. In the sixth case I never introduced a needle for fear of hæmorrhage, and because of the hardness of the tumor; but now I believe it might be done without much risk, as the coagulating effect of the current itself may be sufficient to stop bleeding. I applied both electrodes on the skin of the abdomen; but generally one electrode was introduced in the vagina and carried to the cervix uteri, while the other electrode was applied externally to the skin of the abdomen. In Case VII. I ran a needle several times into the tumor, but afterward, as the nature of the tumor was so very obscure and it was so low down in the pelvis, I limited myself to percutan application. It is still questionable, and to be determined by further experience, which battery, and the introduction of which pole, in a particular case will give the best results, as well as which class of tumors is most favorable for electrolytic treatment, and how much

each session may be prolonged without inconvenience to the patient.

When I began the treatment of my first case I felt somewhat doubtful about its success, and, bearing in mind that some day we might be obliged to resort to ovariectomy, I asked myself whether electrolysis would not produce adhesion, and consequently be prejudicial in case ovariectomy should be required. I tried to keep my punctures close together, so as to produce only limited adhesions, if any; but when I saw that no inflammatory reaction followed, and when necessity compelled me, I extended my punctures freely all over the tumor; and I am able to state that electrolysis produces no adhesions, and may be safely tried, because, if a patient were not relieved, she would not find herself in a less favorable condition for ovariectomy. It has been objected that polycysts would not be successfully treated by electrolysis; but I do not see the difficulty. Dr. Fieber proposes, in such a case, to thrust the needles through as many cysts as possible. It has likewise been said that dermoid cysts might not be fair objects for the method. I do not wish to discuss how far Case V. may be considered a dermoid cyst; but the question can only be solved by experiment, and, as the experiment is harmless, it will be made as soon as an opportunity presents itself; the advantage of safety with electrolysis will repay for the loss of a couple of weeks.

Dr. Althaus, of London, has lately published cases of *atheroma* cured by electrolysis.

I feel quite sure that adhesions, spontaneous or after previous tapping, constitute no contra-indication to electrolysis.

Up to the present time no relapse has been noticed, and I believe that any such case might be explained by the supposition that, when the electrolytic cure was effected, some small cyst was already in progress of development, and had escaped the needles. The number of cases is not yet large enough to have completely exhausted all the resources of the new method. It is yet to be seen with what other methods (tapping, injection, etc.) electrolysis might advantageously be combined, and under what circumstances. Dr. Fieber pro-

poses, in cases of very large cysts, to perform puncture and let out a quantity of liquid; and I am of his opinion.

In cases of uterine fibroma I suggest, as a modification of Dr. Cutter's method of proceeding, to apply mild, constant currents, for a couple of hours or more every day, by the introduction of one pole into the womb (if possible), or to the cervix uteri, and the other into the tumor; and even percutan electrolysis might be tried, before any painful application is resorted to. It may, perhaps, take more time, but, as such a treatment causes no pain nor serious inconvenience, and carries with it no danger, it might be tried.

After all I have said, does it still seem so Utopian that I should hope to abolish ovariectomy? Dr. Peaslee, in his most valuable work on ovarian tumors, page 60, says: "Of all forms of ovarian tumors, the fibroma constitutes decidedly less than one per cent., and may be stated at one-half per cent.; the true monocyst constituted three per cent. in Dr. Keith's cases; the dermoid cyst may be estimated as one and a half to two per cent.; the oligocyst at thirty-eight per cent., and the polycyst at fifty-seven; carcinoma being about as frequent as fibroma."

Carcinoma may be left out of the question as far as any curative proceeding is concerned; fibroma of the ovary may be considered just as curable by electrolysis as uterine fibroma is; and even if we believe successful treatment by electrolysis of dermoid cysts doubtful, there remain, at all events, the oligocysts and polycysts, or ninety-five per cent. of ovarian tumors, as offering a fair chance for cure by electrolysis. If any of my cases may be claimed as having been dermoid cysts, the proportion is still more astonishing, and my title of "No more Ovariectomy" may not sound so startling as at first.

Quite lately I had a letter of my friend Dr. Schmittlein in Mexico, under whose care I had left some of my patients. He gives the following statement about the cases of ovarian cysts.

CASE V.—Remarkable reduction of the tumor *by absorption of the liquid part*. The movable citron-shaped body tightly enclosed in the remainders of the cyst, for the last five or eight times the introduction of the needle had been quite

difficult because of the considerable reduction of the size of the tumor. No molestation complained of actually. Time of treatment forty sessions.

CASE VII.—Beautiful result, *the liquid completely resorbed*. Catamenia regular without pains, the cyst reduced to a hard lump of the size of an egg. Time of treatment four weeks.

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