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TUMORS OF THE UTERUS.

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## THE SURGICAL TREATMENT OF FIBROID TUMORS OF THE UTERUS.<sup>1</sup>

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IN what I have to say in regard to the treatment of fibroids, I shall not attempt to mention all the names of the very eminent operators who have written on the subject. I doubt if one man could read in a day the communications published during twenty-four hours on this operation. You can read them for yourselves in the *American Journal of Obstetrics* and in the various other journals and medical magazines published at home and abroad. My remarks will be drawn from my own experience, and, such as I have to make, would be confused and uninteresting if mixed up with references to others' writings, so I will not try to mention all those I would like to, because I think it would lessen your interest in the subject and make my paper too long. Let me say at the beginning that my remarks will have no reference to fibroids presenting themselves at the uterine or vaginal outlets. For such the proper treatment is removal per vaginam, and this has always been successfully done by me in all cases where the patient had not become septic; this last condition being common where a large fibroid of many pounds' weight has begun to protrude after labor, the condition not being recognized by the attending physician for some days, until sloughing fibroid, uterus, and the patient herself have become thoroughly septic. So much for fibroids extruding or

<sup>1</sup> Read before the Boston Society for Medical Improvement, January 7, 1895.



being expelled from the uterus. What I have to say will be limited to the surgical treatment of fibroids after the abdominal cavity has been opened. The dealing with fibroids by abdominal ablation is becoming more common as we become more certainly successful in our methods of operating, and feel confident that we can remove a non-adherent fibroid tumor in a fairly healthy woman without much violence and with almost sure promise of success.

Fibroids do not always cease to grow at the menopause; many of them do, but in many cases they grow and give rise to hemorrhage and other serious symptoms. They also sometimes become cancerous. This condition I have seen twice. Wisdom is shown in choosing the cases requiring operation.

The reasons which lead me to remove a fibroid by abdominal section are: (1) If it actually causes much discomfort. (2) If it threatens death by hemorrhage (and it does sometimes not only threaten, but causes it as suddenly as a pulmonary hemorrhage does). (3) Because it may increase and become too burdensome to allow life to be worth living. (4) Because it may develop a cancerous character. (5) Because by its pressure on the abdominal organs it may destroy life. (6) Because it may become cystic and thoroughly adherent. Such a tumor I have never successfully removed. I do not mean fibroids with dilated lymph-spaces, but fibroids with cysts as clear and distinct as those in ovarian tumors. (7) Because it may be an ever-present anxiety. (8) Because it may cause edema of one or of both extremities and phlebitis, to be followed perhaps by the passage of an embolus into the circulation, causing death by renal or hepatic disease. (9) Because they sometimes are twisted with the uterus as a pedicle and must be removed at once to save life. I have seen this once. (10) Be-

cause a very sensitive single woman, in good health, and active, demands its removal on account of the disfigurement it causes. (11) Because the operation, to-day, in experienced hands, is almost uniformly successful. The mortality from all cases, promising and unpromising, probably varies between three and ten per cent. The reasons for not operating are: (1) When the tumor gives no trouble, uneasiness or disturbance and the patient does not desire its removal. (2) When it is not accompanied by hemorrhages. (3) Because no one can positively say that it may not remain stationary or even retrograde. Without being omniscient, we cannot tell the future course of a fibroid. I have watched some tumors twenty years and more, and then removed them because they have grown and become annoying, and I have watched others grow smaller; but I operate more frequently than I used to. I have seen about 650 fibroids, and I have operated on but 93. I should have done well to have operated upon a greater proportion of them.

Some years ago, in 1887, I think, my friend Dr. Keith, then of Edinburgh, now of London, wrote me that I must lay down my knife from fibroids and that they could be treated successfully, that is, made bearable, by electrolysis, *à la* Apostoli. To this treatment I gave a thorough trial for nearly three years, and then abandoned it as a routine method, as uncertain, unsatisfactory and tiresome in the extreme; but I still use it in certain cases of hemorrhage and pain in a patient otherwise strong and whose tumor is quiescent. I published all my electrolysis cases, results, and conclusions in the Boston *Medical and Surgical Journal* for March 12, 1891. The cure of fibroids by removal of the ovaries and tubes is uncertain. Perhaps the ligature of the ovarian artery by cutting off a portion of the blood-supply to the uterus has much to do with

the success which sometimes attends this procedure. I have seen a fibroid the size of a cricket-ball entirely disappear at the end of four weeks after removal of the ovaries and tubes, and I have seen some continue to grow, and one to be extruded from the os uteri two years after removal of the ovaries and tubes, the tumor having become a large polypoid growth, and the woman had lost her ovaries unnecessarily two years before. I think we may dismiss this plan of treating fibroids by removal of the ovaries and tubes as uncertain and unreliable. As I have said before, it does not seem necessary to enumerate all the surgeons who have contributed to the literature of the treatment of fibroid tumors. In the United States Martin, Dudley, Gordon, Baer, Baldy, Byford, Kelley, Edebohls, Polk, Price, Krug and others have reported excellent work and intelligent practical measures. In Germany, besides Schröder, Hager, Kaltenbach and many others have written on this subject. The method which I have gradually, and independently, come to use is nearly like the operation called the Schroeder-Hoffmeier method, but it removes more of the uterus and is more simple in the application of the sutures. So far as I am concerned, it is the outcome of my work and experience during the past thirteen years, and I am satisfied with it, though I hope to improve upon it.

There are four principal methods of removing the tumor and treating the pedicle. The intra-peritoneal, first described by Schroeder; the extra-peritoneal, Koeberle and Pean; complete removal of all uterine tissue, first, I think, described by Eastman; and the method of vaginal fixation described by Byford. The method of treating these tumors by ligature of the uterine arteries from the vagina, recently proposed by Franklin H. Martin, must not be omitted, and bids

fair to be useful. I have long ago given up the extra-peritoneal treatment by means of the wire and *écraseur*. It has always seemed to me unsurgical and clumsy. Indeed, in many cases it would be impossible to get the wire around the tumor until it had been enucleated, and by that time it would have been so nearly removed that one had better tie the uterine arteries than compress them by the wire, and then cut off the tumor, sewing the peritoneum together over the stump.

Such a case I lately operated on in a woman fifty-eight years old. Her physician, Dr. A. D. Sinclair, had known of the presence of the tumor for eleven years, and she was sure it had increased in size rapidly during the past four months. The abdominal walls were thick with fat, and the tumor felt very elastic, more like an ovarian than like a uterine tumor. On opening the peritoneum the tumor was seen to be uterine, and could not be lifted out of the abdomen. It had grown from the posterior part of the neck and body of the uterus and the intestines were incorporated with the peritoneum on its under surface and its upper end; that is, they lay in the peritoneum, which formed the capsule. There was no other way to get this tumor out but to make an incision through its peritoneal covering at its upper side and peel the peritoneum, with the intestines, back. In doing this the left ureter was laid bare for a large part of its length, and was carefully dissected from the tumor. If I had pinched up the tumor in the wire of an *écraseur*, I should either have enucleated it unintentionally or I should have included some part of the bowel or of the tortuous ureter in the noose. Or suppose that I had carefully enucleated the tumor before the application of the wire, I should only have had the neck left to be constricted; and how much more surgical, neat and dexterous to divide this, after ligature of the uterine

arteries, and turn it out and cover the back of the stump with peritoneum, making the treatment of the stump extra-peritoneal, than to encircle it with a wire noose and transfix it with a long pin and straddle the abdominal wound with the pin, leaving the stump and the neck to slough away in two or three weeks, instead of having an abdominal wound with no break in its continuity. The convalescence is surprisingly rapid in many of these intra-peritoneal cases. In one case it was difficult to persuade a patient to remain more than two weeks after the operation. I am sure that the treatment by the wire *écraseur* will soon be wholly abandoned.

I prefer the intra-peritoneal treatment, so called, though it is really extra-peritoneal. The method which I follow in removing a fibroid tumor is the following: The patient is placed on a liquid and farinaceous diet for thirty-six hours before operation; the pubes are shaved; the abdominal walls are rendered aseptic by means of a hot bath, soap and water, ether and bichloride solution, and are covered with a bichloride-of-mercury dressing at least twelve hours before the expected time of operation, and this is changed immediately before the operation; the vagina is thoroughly douched with sublimate solution, after being mopped over with soap and water to get rid of the grease. The bowels are opened and the rectum thoroughly emptied. Everything to be used in contact with the patient or the operator and his assistants is thoroughly sterilized, and the patient is wrapped in a sterilized flannel suit made out of a large, thick blanket, either in one piece or in two pieces like pajamas. This was suggested to me by my first assistant, Dr. Edward A. Pease, and is one of the causes of success. It prevents any lowering of the patient's temperature, and keeps her warm during the operation and afterwards.

I regard this as one of the important procedures in these cases. The legs and arms of the wrap are sewed up at the ends, and the abdominal portions can be tied together with tapes, and loosened and separated for the purpose of making the incision in the anterior abdominal parieties. There is no place for the external air to get in, except while the abdomen is open. As I have said before, this flannel garment has been sterilized, and so have the sheets, towels, ligatures, instruments, etc., used in the operation. The patient is placed in the Trendelenberg position. Indeed, without this position the intra-peritoneal removal of fibroids in a satisfactory manner would be almost impossible. The incision is now made of the required length and the tumor is delivered at once, if free from adhesions, by means of the corkscrew, or by any method of traction which seems most easy. A piece of gauze spread over the tumor is found very convenient in preventing it from slipping away from the hands of the operator. A large piece of gauze is now put in the abdomen over the intestines, and the sides of the incision above the tumor are often fastened together by catch-forceps or by a temporary stitch to prevent the intestines from protruding and to keep them clean and warm. The tendency of the bowels to protrude varies in different patients. In most cases the intestines lie still and quiet. In others they seem to leap out of the abdominal cavity whenever they get a chance. If in the process of lifting the tumor out of the abdomen adhesions are discovered, it is best to secure them in some way or to pass an elastic ligature around the neck of the tumor or of the uterus to prevent hemorrhage. This last procedure is rarely necessary, and I have never done it for this purpose.

When the broad ligaments are seen, I usually tie the left one first, passing the ligature low down and

close to the uterus by means of Cleveland's needle, being most careful not to perforate the bladder; then I tie another ligature about an inch further away from the first towards the ovary and beyond the tube, or beyond the ovary and the tube, and divide between them. The tube, if left intact on the uterine side, prevents infection from a source to which the patient would be exposed if the tubes were opened. I leave the broad ligaments as long as possible, so that my seam over the stump when the operation is finished will be a short one. I do not care whether the ovary is tied off or not, nor do I necessarily remove it, for it is well supplied with blood from the ovarian artery, and will not slough when its uterine connections are cut off, and in fact, may be well enough nourished by adhesions; besides, if it remains, perhaps the physiological symptoms, which are often annoying after removal of the ovaries and uterus, the so-called "heat flashes," etc., may not occur if the ovaries are left. For the ovaries are the reigning powers in the generative organs. The expression should be, "The ovaries and their appendages," not "the uterus and its appendages." The uterus and vagina are simply channels for the nourishment and passage of the ovum and fetus, the product of the ovary, and serve to expel the infant into the world. The vagina may be wanting or the uterus may be wanting, but their absence does not imply that of the ovaries. If the latter, however, are wanting, the other organs, I believe, always are.

I now go through the same process on the right side, and then make a circular incision through the peritoneal covering of the uterus in front about two inches above the outline of the bladder wall, which can usually be plainly made out by sight without passing a sound into the bladder, and the same distance above

the rectum behind, the two incisions meeting on either side where the broad ligaments are tied, exactly as one would make a circular incision for an amputation of the thigh. These peritoneal flaps I then turn back, by the aid of this little spade-shaped instrument, which is a copy of a periosteum retractor in our case of instruments for cerebral surgery at the Massachusetts General Hospital, or else I use a duckbill-shaped blunt dissector, or my fingers. By not getting beneath the peritoneum into the muscular tissues of the uterus the separation is easy and bloodless, but if at all deep it is difficult and hemorrhagic. The uterus above the internal os is now denuded of its peritoneum and is ready to be divided. I then feel for the pulsation of the uterine arteries; and if I find them easily (and they are quite superficial), I tie them by passing a ligature of silk around them with an aneurism needle, each one separately; but if I do not feel them easily, or if there is a hemorrhage going on, from my flaps having been made too thick, I encircle the uterus at the denuded point with a strong, small, solid cord of rubber, and having tied it securely, I cut the tumor and uterus away, and later secure the uterine arteries at my leisure.

I now trim away the uterine tissue by a slanting cut in front and behind, the apex being at about the level at which the uterine arteries have been tied. I cauterize very thoroughly the uterine cervical canal at once, as soon as it is opened, with Paquelin's cautery. I always pass the point through the mouth of the uterus well into the vagina and allow it to remain there several seconds. A cauterization must be so thorough that the opening remaining will be large enough to act as a drain for the sloughing which always follows a hot iron, otherwise the external os may get occluded by the swelling (which naturally follows any injury to

living tissues); and infection from the sloughing mucous membrane, might work its way back and contaminate the stitches by which the abdominal end of the stump is closed, and perhaps also the space lying between the stump and the peritoneum. One of the advantages of the closing of the peritoneum is that even if this blind space does get infected and an abscess is formed, the peritoneal cavity is not infected, and only a localized collection of pus is formed which may open spontaneously or be opened from Douglas's cul-de-sac. This I have never been obliged to do, though nature opened such an abscess for me once. There was good drainage, however, and with hot vaginal douches the trouble soon ceased.

Next I sew the muscular walls of the neck together by a continuous suture of silk over the cervical canal, so as to shut out the neck from the abdominal cavity. In sewing the sides of the stump together, it is important that the silk be put through healthy tissue and not allowed to pass through the tissue which has been cauterized, as this must slough away, and in this way the silk may get infected and cause an abscess or a discharge from the ligatures.

I then sew the peritoneal flaps together by a light continuous suture over the stump. I always use fine English braided silk, No. 4, for this suture I do not dare trust to the aseptic qualities of catgut. You will see that although this method is called *intra-peritoneal* it is really *extra-peritoneal*, even more so than the plan by which the neck is constricted by the wire and held outside the skin of the abdomen by a pin across the abdominal wound. I next turn my attention to the ovarian and round ligament stumps and tie the ovarian artery again separately. If the ovaries have been removed in whole or in part, I decide whether to remove them more completely or to leave them. There

is now a sutured line running across the lower part of the pelvis, and, if there is no oozing, the abdomen is emptied of the sponges and pieces of gauze which have been put into it, the patient is lowered into a horizontal position, and the intestines descend to their normal place; the omentum is, if possible, spread over them and the abdominal wound is closed with silk-worm-gut without drainage.

The flannel suit is left upon the patient for twenty-four hours or more, according as seems best and most favorable. The convalescence is like that after simple ovariectomy. The patient is generally up and about on the fourteenth day, and goes home by the end of the third week. This rapidity of convalescence is a great contrast to that following the treatment of the pedicle by the clamp. In the latter case convalescence is slow. The wire comes away sometimes as late as the third or fourth week, and the slough beyond the wire a week or two later; the abdominal wound is left with a depression at its lower part, which gradually, in the course of a month, fills up with granulations and rises more or less to the level of the surrounding skin. Something of the depression remains permanently, and this spot where the stump has come away, frequently becomes the seat of hernia.

I do not believe that there is much difference in the mortality between the extra- and intra-peritoneal (so-called) methods, success depending more on asepsis than on method; but if there is any difference, it would seem to be in favor of the so-called intra-peritoneal treatment. The whole success of these operations depends upon perfect asepsis combined with experience in abdominal surgery, a kind of surgery which cannot be taught, but must be learned.

During the last eighteen months I have removed 26 fibroid tumors by this method in my private practice.

There has not been a single case of septicemia. One patient died twelve hours after operation, of shock, loss of blood from separated adhesions and diffuse nephritis (Whitney), the method of the operation having nothing to do with the result. All of the others (25 in number) recovered.



