Thomas (T. G.)

CLINICAL CONTRIBUTION

TO THE

SUBJECT OF REMOVAL OF THE UTERUS IN WHOLE OR IN PART FOR THE EXTIRPATION OF TUMORS CONNECTED WITH THAT ORGAN.

BY

T. GAILLARD THOMAS, M.D.,

NEW YORK.

EXTRACTED FROM THE

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA:

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The exigencies of modern surgery are very great; and instead of diminishing in number as unexplored fields are invaded and fresh positions conquered, they appear to develop new proportions. In our day we have seen paracentesis of the gall-bladder, the membranes of the brain and the pericardium; extirpation of the larynx and rectum; and ablation of the kidney and spleen, placed upon enduring bases as operative procedures; and gradually even the most conservative are yielding to the conviction that it has become essential that the uterus should be rendered amenable to complete removal.

There are three circumstances under which complete extirpation of the uterus may now be regarded as a legitimate and often a necessary procedure: first, where it is, after Freund's method, removed on account of malignant disease; second, where, as an addendum to the Cæsarean section, it is practised after Porro's plan; and third, where it is extirpated to render practicable the removal of tumors, either of solid or cystic character, which take their origin in its tissues, or, arising in the ovaries, form attachments to it too firm to be broken.

It is with the third and last of these indications that I propose to deal to-day.

I have said that the most conservative must gradually yield to the demand of modern surgery for the removal of the entire uterus by laparotomy; it is in this class of cases that they must first do so. It should not, however, be supposed that even here a conservatism, the honesty of which we must all respect, although sometimes boldly dissenting from its deductions, has yet been

fully satisfied. That this is by no means the case the following quotations from some of our best authorities will prove.

Barnes, writing so lately as two years ago, declares that "the time has not yet come for forming a confident opinion upon the practice of laparotomy for the removal of uterine fibroids, either alone or with the uterus. At present there is little ground for enthusiastic advocacy of the practice. The case may best be summed up by stating that the question is *ad hoc sub judice*. We must for a while be content with the divided opinions expressed in the Academy of Medicine on the occasion of a report presented by Demarquay on memoirs by Kœberlé, who advocates the proceeding, and by Boinet, who condemns it. Boinet showed that the operation had for the most part been performed accidentally in cases mistaken for enlarged ovary; that it could not be defended on the same grounds as ovariotomy; that it should always be rejected when the tumor was not pedunculated, and especially when it involves the entire or partial removal of the uterus. Demarquay agreed with Boinet. On the other hand, Richet cautioned the Academy against pronouncing any summary condemnation of an operation which at present is dreaded as ovariotomy once was." For myself, let me say that it is truly a sad spectacle for the world of surgery to behold the Academy of Medicine of Paris, the great deeds of whose founders have in times past electrified their contemporaries by their originality and brilliancy, to-day restrained by the warning voice of one man, Richet, from condemning a procedure which is as sure to be demanded by the surgery of the future as ovariotomy was by that of the past!

Emmet, in the second edition of a treatise upon gynæcology, of which all his countrymen feel justly proud, says: "To remove the uterus when enormously enlarged from a fibrous growth, is unquestionably one of the most formidable operations a surgeon can be called upon to undertake. The degree of success which has so far attended the operation offers but little encouragement for the future. M. Péan, of Paris, presented, in 1873, seven recoveries out of nine cases where he removed the uterus for fibrous growths. As this success has not been equalled by any other operator, we must suppose it to have been accidental, and that subsequently he himself has not been so fortunate, as already six years have elapsed since his last report."

I could go on quoting to this effect for any length of time,

but I lack incentive to do so; all my hearers know that the prevailing opinion goes with the eminent authors whom I have just quoted, and that I am to-day giving evidence in favor of a young and feeble cause.

An honest conservatism is the bulwark of scientific surgery, but there is no virtue so likely to run to dangerous extremes as this very one whose merits we are lauding. Let us remember how many life-saving procedures have been condemned in times past which to-day command our highest esteem, and let us be cautious how in a laudable effort to avoid recklessness, we repeat the errors of our forefathers in attempting to suppress what time has now, set its seal upon as valuable contributions to our art. Fifty years ago the operation of laparotomy for the removal of ovarian cysts was almost universally condemned as a surgical temerity for which it was very questionable whether the perpetrators ought not to be held amenable to the law. No epithets were regarded as too vile to be hurled as anathemas against the men who were regarded as so reckless as to peril human life by its performance, and it required a good deal of moral courage for one to be willing even to sanction by his presence a procedure about the surgical impropriety of which there was so unanimous a verdict. And let us not forget that results seemed for a long time to uphold the view of the majority. Many died of those operated upon, and few recovered; women suffering from obesity, tympanites, or pregnancy were, through errors of diagnosis, exposed to the great and uncalled for dangers of laparotomy; and even in simple cases intestines were torn, large bloodvessels severed, or sponges and instruments sewed up in the devoted bodies of the victims of reckless surgery often enough to give powerful arguments to the opposition.

Fifty years have passed away, and what is now the position of this "opprobrium chirurgiæ?" What the fate of the men who bore in its infancy the ignominy of sustaining it? McDowell, its discoverer, has just had a monument erected to his honored memory, and the names of Atlee, Peaslee, Wells, Keith, Kœberlé, Dunlap, and Kimball stand high in the annals of surgery. It has become rather a favorite mathematical exploit for anniversary orators to calculate how many centuries of life have been given to woman by the establishment of the operation of ovariotomy upon an enduring basis. We learn of twenty, thirty, forty, seventy successive operations without a single death; and

we hear one of the most eminent of ovariotomists declaring it to be "the safest of all the great surgical operations!"

It is with the desire to put upon record further testimony from which may be drawn reliable deductions as to the propriety of removing solid or cystic tumors by laparotomy, when such removal involves the necessity of ablation of the uterus, that this clinical contribution is made.

Case I.—Dora G., single, aged forty-three, entered the Woman's Hospital in May, 1874. Six years previous to that time she had noticed an abdominal enlargement, which went on steadily increasing for three years, when she was told by a physician that it was a solid tumor of the womb. Two years before admission she was attacked by severe pain, which, from her description, was probably due to peritonitis. At the time of admission the patient was found to be very much emaciated, and the abdomen large and hard. She suffered greatly from constipation and from frequent micturition, and could sleep only in the sitting posture. The respiration was eighteen to the minute, pulse ninety-two, and large veins were found on the surface of the abdomen. The uterus could not be touched upon digital examination. The largest circumference of the abdomen was found to be fifty-two inches; measurement from pubes to umbilicus fourteen inches, and from ensiform cartilage to umbilicus thirteen inches.

The diagnosis of large fibrous tumor of the uterus was made, and upon consultation with Drs. Peaslee, Emmet, Metcalfe, Markoe, and Peters, operation was decided upon, and performed on the 18th of May.

An incision four inches in length was made from the pubes upwards, and the hand being introduced, the tumor was found everywhere adherent to the abdominal walls and intestines, which were firmly attached to its lateral and upper surfaces. The incision was now extended upwards, the adhesions broken, many vessels tied, and the tumor lifted from its position in the abdomen by two assistants. A temporary clamp was applied at the very lowest portion of the cervix, ligatures passed below it at right angles to each other, the pedicle securely tied, the clamp removed, and the stump kept between the lips of the wound by a long knitting-needle. A drainage tube was then introduced, the wound closed by silver suture, and the patient put to bed and quieted by opium.

The tumor was found to weigh exactly fifty pounds, and was a good specimen of uterine myoma.

In thirty hours after the operation it became evident that the patient was sinking from internal hemorrhage, and I opened the abdomen, removed a considerable amount of coagulated blood, and tied a large, bleeding vessel. As she did not rally, I transfused into her median basilic vein eight ounces of blood. After this she rallied and seemed much better. But oozing from large numbers of bleeding adhesions was evidently going on, and within the next twenty hours she sank rapidly. At the end of that time transfusion was again performed, and on the evening of the second day, that is, about fifty-one hours after the operation, she died.

The following is a transcript of a report of the autopsy by Dr. John N. Beekman, pathologist of the hospital. Autopsy made twenty two hours after death:—

"Body exsanguined, patient having died from hemorrhage. Decomposition commenced. No single point of hemorrhage could be discovered, but there seems to have been an oozing where adhesions had been torn through. On examining the kidneys the pelvis of the left was found distended with urine, and on following the ureter towards the bladder it was found sacculated at two places, and was finally discovered to be included in the pedicle, though it had escaped ligation. Both kidneys were fatty and very much softened. Their surrounding cellular tissue was infiltrated with blood."

Case II.—This case has already appeared in print. I cite it here merely to make my experience complete at a glance. Mrs. C., a multipara, aged thirty-nine, of spare habit, had enjoyed good health until 1876, when, after being violently kicked in the lower portion of the abdomen by a child two years of age, she suffered severe pain for several hours, which was accompanied by a profuse leucorrhœal discharge for a few days. Four months after this she felt in the hypogastrium a hard mass about as large as a walnut. For this she consulted a physician of Middletown, who regarded the case as one of anteversion, and treated it by replacement twice a week by the uterine sound. Great nervous disorder and menorrhagia soon developed, and the little mass rapidly grew. A consultation now being held, it was thought that pregnancy existed, and an

attempt at the production of abortion was made. At that time the tumor was as large as a three months' pregnant uterus, was movable, and not painful, though tender upon pressure. Another physician was consulted, who made the diagnosis of uterine fibroid, but thought that little or nothing could be done in the way of treatment. Dr. Mathewson, the present attendant, was then employed. Two years after this time pregnancy occurred, and advanced to a happy issue. During lactation, after this, the tumor could not be felt, but on the recurrence of menstruation the mass appeared as large as a three months' pregnant uterus, and, after a ride over a rough road, February 19, 1878, she suffered for some time from severe pains like those of colic. The tumor increased in size steadily, and abdominal dropsy supervened, which by July, 1878, became so marked, and so decidedly interfered with respiration, that she consulted a physician of Boston with reference to the practice of electrolysis. He removed the abdominal fluid by aspiration, lessening the patient's weight thirty-two pounds. From this time to November 20, she was tapped or aspirated seven times, and one hundred and ninety-five pounds of fluid were thus removed, the physician from Boston preferring this course to operation, which he thought would prove almost necessarily fatal. Soon after this time Mrs. C., acting under the advice of Dr. R. W. Mathewson, determined to visit New York and place herself under my care. I saw her on the 8th of December, and found her in the following condition: The abdomen was somewhat larger than it usually is at the end of the ninth month of utero-gestation, and upon palpation a large amount of abdominal effusion could readily be detected, together with the existence of a hard, rotund mass rolling about within it. Conjoined manipulation showed this mass to be connected with the uterus, and I decided that it was a round fibroid, of subserous character, growing, probably, from the fundus. The depth of the uterine cavity I do not remember.

Although Mrs. C. was much emaciated, and greatly enfeebled by repeated losses of serum from tapping, I advised in favor of laparotomy, upon the following grounds. First, a solid uterine tumor existed, which was beyond the reach of medicine, and which, having fully established ascites, would in all probability perpetuate this until death closed the scene. Second, the discomfort resulting from abdominal accumulation would surely require repeated tappings, and it needed no power of prophecy

to tell what would be the end of such a course; and, third, the remainder of her life would be necessarily an existence of suffering, while laparotomy might possibly result in complete recovery. These considerations being laid before Mrs. C., she unhesitatingly decided in favor of making one effort for life, even although it appeared to be a desperate one. As for myself, I never for an instant doubted what the line of duty was, where all looked so dark if operation was not decided upon, nor would an untoward issue have shaken my conclusion in the least.

On the 16th of December, at 3 P. M., laparotomy was performed, with the assistance of Drs. Hunter, Ward, Jones, Walker, and E. Mathewson. An incision about six inches in length was carried through the median line from a point below the umbilicus to one a little above the symphysis pubis. As this passed through the peritoneum, a very large amount of fluid escaped, and at once a large, round tumor presented itself to view. The surface of this presented a very peculiar appearance. Instead of looking like an ordinary fibroid, it was covered over thickly by a network of bloodvessels as large as the radial artery. These vessels did not belong to the tumor itself, but draped over it, and were slightly attached to its upper surface. They extended from the pelvic cavity upwards towards the omentum. I was at a loss to account for them, and can only offer, by way of explanation, the suggestion that they developed in some false membranous expansion, which, being absorbed, had left them in the position just described. These vessels were tied with silk ligatures, not separately, but three or four together, on each side of the tumor, and then they were cut in two. The tumor was then lifted up by my assistants, and was found to be attached to the whole fundus uteri; indeed, it seemed to be an expansion upwards of the uterus.

Estimating as well as I could the point at which the tumor began, and the uterus ended—for of this I could not be certain—I passed a large mattress needle through, and left it in place. Then passing a double ligature of twisted silk through, just above this, I tied the two halves of the penetrated uterine fundus very firmly, and cut the tumor off. How much of the uterine tissue was cut away I cannot say, but my impression is that as much was removed as could be taken, without opening into the uterine cavity. The abdominal wound was then closed by silver suture; the uterus, which was penetrated by the large

needle, being held as a pedicle between the lips of the wound, and an antiseptic dressing was applied. All pain was quieted by morphia, the patient ordered milk diet, and perfect quietude enjoined. At 7 P. M., on the day of the operation, hemorrhage occurred from the stump, but tightening the ligatures readily controlled this, and the patient went on to rapid and complete recovery. The operation being performed on December 16, on the 3d of January the patient was sitting up out of bed. At the end of a month she went to her home in Connecticut. Dr. Mathewson, writing on May 7, says, "Mrs. C. remains well." The tumor was a good specimen of the uterine fibroid, or myoma. It was as large as the head of a child of two years of age, and weighed three and a half pounds. Its tissue was not very dense, but no cystic formations existed in it.

Case III.—E. A., aged thirty-four, married fifteen years, and mother of three children, the youngest of which was ten years old, had nine years previously suffered from certain irregularities of menstruation, which led to the belief that she was pregnant. This opinion proved to be erroneous, however, and it soon became evident that the abdominal enlargement, attributed to utero-gestation, was due to a tumor in the lower part of the abdomen, a little to the right of the median line. When first noticed, this was as large as a child's head at birth, of which size it remained for four years; then it commenced to increase gradually until one year previous to admission to the hospital, when it developed very rapidly.

Three years previous she was confined to bed for five weeks by a violent attack of peritonitis. Until three weeks before entering the hospital, she had suffered but little pain; since that time she had experienced a great deal, and had been much annoyed by pressure of the tumor against the stomach and diaphragm, which caused indigestion and dyspnœa. During this time she had become rapidly emaciated, suffered greatly from night-sweats, and was unable to bear even the slightest exertion.

The measurements of the tumor were the following:—

Largest circumference	45 inches.
Pubes to umbilicus	13 "
Ensiform cartilage to umbilicus	11 "

Some doubt existed as to whether the tumor was uterine or ovarian; but gradually I became convinced that it was of the

former variety, and that its removal would involve ablation of a part or the whole of the uterus.

The patient's condition soon became so wretched that I thought that very little hope would attend operation, and I delayed a resort to surgical interference during January, February, March, and half of April. By that time her condition had somewhat improved from rest, the most nutritious diet, malt, and vegetable and mineral tonics; and as the only hope of saving her life evidently existed in the removal of the tumor, I operated.

An incision, four inches in length, was made from the pubes upwards, and a hard, solid tumor was found to occupy the abdominal cavity. In the hope of diminishing the size of this by the evacuation of fluid contents, I passed a long, slender trocar and canula into it, but without result. The incision was, therefore, prolonged upwards, so as to admit of the escape of the growth. On the right side very powerful adhesions were found to connect the tumor with the brim of the pelvis, which had to be broken very cautiously, as they were very vascular, and contained many arteries of considerable size, requiring ligation. In spite of every precaution, a good deal of blood was lost. On the same side the small intestines were very firmly adherent to the tumor, and were separated with considerable difficulty.

The tumor and the uterus, from which it grew, were now lifted well out of the pelvis, and a steel clamp, nine inches in length, was fixed around the uterus, at the internal os. The tumor was cut away, the stump thoroughly charred with the actual cautery, a glass drainage-tube passed down into Douglas's pouch, and the abdominal cavity, after having been thoroughly cleansed, was closed by silver suture. The operation, which was performed under the antiseptic method, lasted fifty-two minutes, and the tumor was found to weigh twenty-four pounds.

The patient was put upon the usual sustaining treatment adopted after ovariotomy, the temperature was kept at about 100° by affusion practised after Kibbee's method, but the pulse, which at the termination of the operation was 140, never came down to the normal standard, and on the third day became very rapid and feeble, and the patient died.

Case IV.—S. D., aged twenty-four, single, entered the Woman's Hospital, January, 1879. Three years before admission the patient had noticed an abdominal enlargement, which had gone

on slowly increasing until three months previous, when the increase became very rapid, and she sent for a physician, who told her that she had an abdominal tumor.

During these three years the patient had suffered little pain, but within the last year had steadily emaciated, so that on admission the arms, legs, and neck were greatly attenuated, the expression of her face anxious, and the complexion sallow and unhealthy.

At this time the abdominal measurements were the following:—

Greatest circumference	37½ inches.
Pubes to umbilicus	9½ "
Ensiform cartilage to umbilicus	9 "
Right anterior superior spinous process to umbilicus	9½ "
Left " " " " "	9½ "

Up to two weeks before admission to the hospital the patient had been comparatively well, but at that time she had slipped in going down stairs, had struck violently upon the buttocks, and had since suffered from general malaise, feverishness, and pain over the whole abdomen. Upon examination the tumor, which was recognized as a uterine fibroid, was found to be exquisitely tender over its whole surface. The temperature of the patient was found to vary from 102° to 103°; and the pulse to range from 110 to 120. Some years ago I saw, in consultation with Dr. Noeggerath, the wife of an eminent physician of this city, who presented a history very similar to that just given. The patient had suffered for ten years from a large uterine fibroid, and felt comparatively well until one day she slipped upon the ice and fell heavily upon the buttocks. After this uterine hemorrhage came on, septicæmic symptoms developed themselves, and the patient died. Autopsy revealed the existence of a clot of blood as large as a cocoanut in the centre of the tumor. It was a true hematocele, which had taken place in the tumor in consequence of the rupture of a blood-vessel produced by the fall, and had given rise to septicæmia. Dr. Noeggerath very cleverly made a diagnosis of this previous to death.

I ventured to make a similar diagnosis in the patient whose case I am now relating, and on account of it hastened operation.

The tumor was removed by abdominal incision, and a large clamp placed around the uterus about its middle. The operation was performed under the antiseptic method, lasted thirty-

seven minutes, and the tumor weighed twenty pounds. An incision through the centre of this revealed the existence of a mass of grumous blood about equal in size to a cocoanut. This had evidently been the focus from which septicæmia had taken its origin.

The patient was sustained after the operation by nutritious enemata, hypodermic injections of brandy, and small amounts of food and stimulants by the mouth. Pain was quieted by opiates used by rectum and hypodermically, and the temperature, which showed a marked tendency to rise, kept at about 100° by affusion after Kibbee's method; but the pulse steadily increased in rapidity and diminished in force, and on the fifth day the patient died.

Autopsy showed a small amount of peritonitis only.

Thus far my experience in removing tumors involving removal of the uterus had been by no means flattering. Out of four cases three had died and one had recovered! But I was encouraged to persevere by the facts that I saw several points in which I could improve my patients' chances, and that I had thus far operated solely upon cases in which the only possible chance which could be offered the patient was a resort to surgery. I felt conscientiously that to deprive the patients of this, even although it were not a very bright one, when the alternative was certain death, was not in accord either with the dictates of true surgery or of enlightened humanity.

Case V.—Mrs. E., aged fifty-four, native of Dover Plains, New York, the mother of one child twenty-seven years of age, was admitted to the Woman's Hospital, December 18, 1879. The patient had noticed a hard lump fourteen years before, and twelve years previous to admission had consulted Dr. Emmet, who pronounced it a fibrous tumor. Since that time it had steadily increased until it had reached very large dimensions.

During the patient's stay in the hospital prior to operation, she suffered very much from indigestion, constipation, and dyspnœa. Her expression was anxious and her limbs much emaciated. Upon physical examination the uterus could nowhere be touched, so completely was it drawn up out of the pelvis.

On the 3d of January the tumor was removed. An incision four inches long being made from the pubes upwards in the median line, a very large tumor was exposed, which was half

solid and half fluid in character, and which was fortunately found but slightly adherent to the abdominal walls. The fluid portions of the tumor, constituting probably a little more than half of its bulk, were evacuated by a long, slender trocar, and the incision being then prolonged the solid portions of the tumor within reach were removed from the abdominal cavity. It was found that the tumor had drawn the uterus high up out of the pelvis, and that that organ was so thoroughly united to it, that uterus, ovaries, and tumor would have to be removed together. The bladder was stripped away from its attachment to the anterior wall of the cervix, the vagina just below the os externum was transfixed by Peaslee's needle, a strong, double carbolized silk ligature was drawn into position, the mass cut away removed, and the abdominal cavity, after having been thoroughly cleansed, closed by silver suture.

The patient was put upon the customary treatment after ovariotomy, all pain quieted by opium, nutrition kept up by enemata, and the temperature kept at about 100° by Kibbee's method.

On the 29th of March, eighty-five days after operation, the patient returned to her home well.

I have heard from her within the past month, and she tells me that she has entirely recovered.

The tumor was carefully examined by Dr. W. H. Welch, pathologist of the hospital, and was at first thought by him to be a uterine fibro-cyst. Upon more careful examination, however, he found it to be an ovarian tumor of composite form, which had developed between the layers of the broad ligament and forced the uterus out of the pelvic cavity.

The tumor and uterus were upon his examination found to be entirely inseparable.

Case VI.—Mrs. J. E., aged fifty-nine, the mother of six children, was admitted to the Woman's Hospital, January 26, 1880. Three years ago she noticed a small tumor in the right side of the abdomen. For two years this had grown slowly, but during the last year had developed very rapidly indeed. During that time she had become very much emaciated, and upon my first examination had an anxious facies, a reddish tongue, and slight œdema of the feet. Physical examination revealed a very large abdominal tumor, the uterus much elevated in the pelvis, sur-

face of tumor irregular, and the growth evidently consisting of a mixture of solid and fluid elements.

The following was the result of abdominal measurements:—

Greatest circumference	44	inches.
Pubes to umbilicus	9	"
Ensiform cartilage to umbilicus	9	"
Right anterior superior spinous process to umbilicus	11	"
Left " " " " "	12½	"

On the 22d of February I removed the tumor through an incision in the median line five inches in length. By means of a trocar I evacuated a large number of cysts, and by powerful traction drew out the solid masses of the tumor, to which I found the uterus so firmly attached that its separation was out of the question. A portion of the sac dipped into the pelvis behind the uterus, and was so adherent there that it was impossible to remove it. Drawing this up as far as possible, I surrounded it, the remaining portion of the sac, and the uterine neck at as low a point as I could without compressing the bladder with a large clamp, and cut away uterus and sac. I then cauterized the stump thoroughly with a hot iron.

The patient was put upon the usual treatment, and the sac syringed out with carbolized water every fifth hour. A day to day record of the progress of the case would be as unnecessary as it would be wearisome. It suffices to say that the patient entirely recovered, and was discharged from the hospital on the 19th of May, three months after the operation.

The portion of uterus within and below the clamp, which was removed on the fourteenth day, entirely sloughed out; the opening which was left by its removal being slowly filled up by granulations.

The tumor examined by Dr. Welch was found to be a composite ovarian cyst, very similar to that last described.

Case VII.—Mrs. E. B., age uncertain, but probably about forty, a native of Oldtown, Maine, married eight years, and mother of one child seven years old, entered the hospital in February, 1880.

Two years ago patient noticed a hard lump in the left iliac fossa. This continued to grow for a year, when it suddenly disappeared with great pain and prostration, and her physicians declared that the tumor had burst. After a month, however,

it reappeared, and for the past year has increased very rapidly. She suffered from occasional pain through the pelvis and a sense of weight and pressure from the tumor.

The abdominal measurements were the following:—

Greatest circumference	34½ inches.
Pubes to umbilicus	8 "
Ensiform cartilage to umbilicus	8 "
Right anterior superior spinous process to umbilicus	9 "
Left " " " " "	8 "

On the 23d of March the tumor was removed through an incision five inches in length through the median line. By means of a trocar a large amount of thick, bloody fluid was evacuated, but on the right side there was a hard mass the size of a seven-year old child's head, which had to be dragged through the opening. To this the uterus was firmly adherent.

The lower portion of the sac, that within the pelvis, was so completely adherent to large folds of small intestines, that separation could not be thought of. Lifting the uterus, solid mass, and liberated portion of the sac high out of the pelvis, I now applied my large steel clamp as low down on the cervix anteriorly as the vesical attachment would permit, and as low down posteriorly as the point at which the intestines were attached, I inserted a drainage tube, tightened the clamp around the whole, and cut away the uterus and the tumor.

The pedicle was then prevented from slipping by being transfixed just above the clamp by four knitting-needles, passed at right angles to each other, the stump was thoroughly seared by the actual cautery, the abdominal cavity cleansed and the wound closed by silver suture.

The operation was performed under the antiseptic method, and lasted forty minutes. The tumor weighed twenty pounds and a half.

The patient was put upon the usual treatment after ovariotomy, and the retained sac syringed out with carbolized water every five hours.

The patient developed no bad symptoms and went on to complete recovery, being discharged May 17th, a little less than two months after the operation.

The portion of the uterus in and below the clamp entirely sloughed out; the cavity which was left healing by granulations, so that no trace of the organ remained.

Dr. Welch, who pronounced the tumor to be a very peculiar form of uterine fibro-cyst, or cysto-myoma, has very kindly handed me a very elaborate report of it, which I here append.

Dr. Welch's report of Mrs. B.'s case.

"CYSTIC MYOMA.

In connection with the part of the tumor extirpated, there were removed both ovaries, the fundus and upper part of corpus uteri, the left Fallopian tube entire, a part of the right tube, the left parovarium, and portions of the broad ligaments.

The portion of the cyst wall removed (apparently its upper and anterior portion) measures 24 centimetres in breadth (laterally), and 18 centimetres in height (vertically). Its median surface is in close apposition with the portion of uterus removed, but is separated from it by a little lax connective tissue. The cyst wall is furthermore adherent to fundus uteri by old fibrous adhesions. The portion of uterus removed measures 6 centimetres in breadth at fundus, 4 centimetres in length, and 3 centimetres in antero-posterior diameter. A probe passes 2½ centimetres into the uterine cavity. The left Fallopian tube, with its fimbriated extremity, has been removed entire. It measures 11 centimetres in length, is pervious, and appears normal. It is separated from the outer surface of the tumor by the upper portion of the broad ligament (mesentericus tubal), in which can be distinctly seen the normal contours of the parovarian tubules. The right Fallopian tube has been severed close to the uterus; but a detached portion, measuring 10 centimetres in length, and not including the fimbriated extremity, has been removed, and remains attached to the tumor by a short mesenterium tubal. With this exception, none of the right broad ligament was removed, it having been cut close to the uterine wall.

The right ovary was removed, and is present in a separate piece. It is of normal dimensions and appearance. It contains two corpora lutea, one small and yellow, the other large, with gray convoluted walls and bloody contents. (These were proven to be corpora lutea by microscopic examination.) The left ovary has also been removed, and lies at the line of junction of left mesenterium tubal, with cyst walls. Although preserving the

contours of a normal ovary, it is much flattened out by the pressure of the tumor. It measures 5 by 4 centimetres. It presented under the microscope the normal ovarian stroma, containing even ova, but no large Graafian follicles, and showed clearly the parenchymatous and vascular zones. The left ovarian ligament is very much thickened, and for a portion of its extent is incorporated with the cyst wall. The right ovarian ligament was cut off close to the uterus. With the exception of a subserous myoma, about the size of an almond, near the left cornu, the uterus appears essentially normal. The tumor, as far as can be judged from the portion removed, is a unilocular cyst. Its external surface is smooth and glistening, and presents numerous fibrous adhesions. The peritoneum passes continuously from the uterus and the upper portion of the broad ligament upon the outer surface of the tumor. The tumor seems to have grown between the layers of the lower part of the left broad ligament, and into the pelvic and surrounding connective tissue, displacing the uterus forwards and upwards, and contracting adhesions with the right ovary and Fallopian tube. The wall of the cyst varies considerably in thickness in different parts. Its average is 4–6 millimetres in thickness; but in some places it is very thin, measuring only 1 millimetre; in others very thick, 4–5 centimetres. The thickest part of the wall corresponds to an ill-defined myomatous growth, in its anterior wall. There are several smaller myomatous nodules in the cyst wall, some distinctly circumscribed. In most places, two layers can be distinguished, of about equal thickness, in the wall, firmly united, an outer, laxer and paler, and inner firm and gray.

The microscopical examination shows the chief constituent of the cyst wall to be smooth muscular tissue, in the form of interlacing bundles and fibres. These muscular fibres have no more regularity in their arrangement than in an ordinary uterine myoma, appearing now as longitudinal, and now as transverse or oblique sections. The smooth muscular tissue is mixed with a considerable amount of connective tissue, which in many places, especially in the outer wall, is distinctly mucoid in structure. The inner layers are in many places rich in round and flat cells, and contain considerable yellowish blood pigment. There is no epithelial lining to the cyst, although the inner surface is comparatively smooth; in many places quite as smooth as

in ordinary parovarian cysts. Careful search was made both upon the fresh and hardened specimens for an epithelial lining. In most places the smooth muscle-fibres closely compacted, and in parallel arrangement, constitute the inner lining. In some places the inner border is hyaline and structureless. There are numerous lymph-spaces (interstices) in the cyst wall, but they are of microscopic dimensions, and not notably dilated. It is not apparent in what way the cyst-cavity was formed, or what metamorphosis the muscular tissue has undergone in its development.

The fluid contained in the cyst is thin, dark-brown in color, neutral in reaction, and of a specific gravity of 1012. It contains mucin in small amount, and also gives the reactions of alkali-albumen, with acetic acid and its alcoholic precipitate (so-called paralbuminous reactions). It contains a large amount of serum-albumen. It has no tendency to coagulate spontaneously. A considerable sediment settles at the bottom, consisting in greatest part of red blood-corpuscles (to which the fluid owes its color), some white blood-corpuscles, and granular corpuscles, most of which contain a nucleus. There are in addition some free fat molecules, brownish pigment, and a few corpora amylacea."

It will be seen that this paper embodies the results of seven cases, in one of which the whole fundus, in one the whole body, and in five the entire uterus were removed. Four of the tumors demanding the operation were large solid fibroids, with no cystic elements; one was a fibro-cyst, partly solid, and partly fluid; and two were peculiar ovarian tumors, which, developing between the layers of the broad ligaments, lifted the uterus entirely out of the pelvis, and made it a mere addendum to their walls.

Out of the seven cases four recovered, and three died. The three fatal cases were all operated on for large solid tumors. Of the four successful ones, one was a case of solid uterine fibroid, one a case of large fibro-cyst, and two were cases of ovarian cysts, with large amounts of solid material in their walls. In recognizing this fact, it must be borne in mind that a tumor susceptible of diminution of size by tapping does not render the operation of laparotomy as dangerous as one which, being entirely solid, involves the necessity for a long abdominal incision.

As far as my knowledge extends, no one in our country has

had so large an experience in this formidable operation as our distinguished Fellow, Dr. Gilman Kimball, of Massachusetts. He informs me that he has removed the uterus fourteen times, nine times for solid, and five times for fibro-cystic tumors, with the excellent result of six recoveries and eight deaths. In some of his cases the whole, in others a part only, of the uterus was removed.

Let us hope that the next decade will give us even better results than these, and that an operation *ad hoc sub judice* may by the end of that time have achieved for itself a firm and enduring position.