Abdominal and Pelvic Surgery

EXTRACTS FROM CLINICAL LECTURES AND SOCIETY TRANSACTIONS.

BY

WM. H. WATHEN, A.M., M.D., LL.D.

Professor of Obstetrics, Abdominal Surgery, and Gynecology in the Kentucky School of Medicine, Fellow of the American Gynecological and of the Southern Surgical and Gynecological Societies; Gynecologist to the Kentucky School of Medicine Hospital and the Louisville City Hospital, etc.

Reported by C. C. Mapes.

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LIST OF PAPERS.

SUPRAPUBIC HYSTERECTOMY FOR MULTIPLE INTRALIGAMENTOUS MYOMATA.*

GENTLEMEN: The patient upon whom I have just operated, removing these myomatous tumors and the uterus, is aged forty years. The history of the case is about as follows: She has no children; she is large and apparently in good health; she has had a tumor connected with the uterus for many years, which was diagnosticated three years ago as a myoma. I did not see her until a few days ago. She then told me that the tumor had been causing trouble for five or six years; that it was the source of serious inconvenience from pressure in the pelvis, upon the bladder, and upon the rectum, and she wanted it removed.

I diagnosticated an intraligamentous myoma upon the left side, with a pedunculated myoma arising from the upper part of the tumor or the fundus of the uterus.

You have heard me say that in removing intraligamentous and retroperitoneal tumors of the uterus, or its adnexa, that the correct way to make the incision through the capsule is in a longitudinal direction, because a transverse incision may divide the ureter which may have gotten into this abnormal position; but in this instance a longitudinal incision was contra-indicated, and I made a transverse incision, though not exceeding two inches in length, examining carefully to determine if the ureter occupied the anterior position. Having divided the capsule, you saw me dissect with my fingers close to the tumor until I exposed a surface the size of a dollar; then my assistant, with a vulsellum forceps, made traction upon the tumor toward the abdominal wound. I continued dissection around the tumor, catching the bleeding vessels, as encountered, with forceps. Finally, getting deeper through the tough tissues, I discovered that, instead of the intraligamentous enlargement being one tumor, it was composed of many tumors. I then enucleated one after another until I removed seven before reaching the base of the broad ligament; after which I ligated and removed the thickened tissues of the capsule.

This woman was taken from the operating-room with a pulse of 75, and no shock. This case is another illustration of what I have often called your attention to, namely: That every surgeon who opens the abdominal cavity should be prepared to treat any condition that may be encountered; that we never know the difficulties we will have to contend with, though we may have had a broad experience; and we will often find the greatest difficulties where we had expected smooth sailing. In this case I expected

*Clinical Lecture delivered at the Kentucky School of Medicine Hospital.

difficulties because of my belief that this was an intraligamentous myoma, but I did not expect to be forced to deal with a condition so complicated. When the incision was made, in an examination of all the pelvic structures connected with the tumor, and its surroundings, by the sense of touch and of sight, I could not say whether this enlargement was the result of a single myomatous growth or a number of such tumors held together in one general capsule.

The dangers of this operation are: First, wounding important structures; the ureter is occasionally displaced and in front of the myoma, and may be so situated that you can not detect its abnormal position. Instances have been reported where the ureter has been found running between myomata in the broad ligament, and consequently could not have been detected until it was torn, and possibly not even then.

Second, of hemorrhage, because of large vessels that course over and through the capsule surrounding these tumors. These are sometimes huge sinuses with fragile walls that break through readily when you use the ordinary sharp-edged forceps. In this case the patient lost but little blood, because as soon as bleeding occurred forceps were applied, and if necessary a ligature. I would call your attention to the fact that the forceps I use have relatively smooth surfaces upon the bites, and are more rounding on the edges than are the ordinary forceps, hence they do not cut through the fragile walls of large vessels.

In our efforts to enucleate these tumors from the base of the broad ligament, extending as deep as they did in this case, there is danger of tearing into the deep pelvic vessels, and possibly causing the death of the patient. I injured no vessels, and by the timely application of forceps and ligatures prevented hemorrhage, though the tumor extended up under the sigmoid flexure of the colon, having unfolded its mesentery.

There are three ways of treating the neck of the uterus in hysterectomy for the removal of myomatous tumors. First, extraperitoneally by throwing around it a *nœud* or gum ligature, and running through the neck fixation pins to hold the pedicle in position. This is the original method of Keith adopted by Bantock, who has been one of the most successful hysterectomists and abdominal surgeons in London.

Another method, practiced by Professor August Martin, of Berlin, and other gynecologists, is total extirpation of the neck, severing it from the bladder and from the vagina, closing the vaginal vault and the peritoneal cavity after removal of the organ. In other words, bringing the edges of the vagina together, mucosa to mucosa, serosa to serosa, even picking up the connective tissue between the vagina and the peritoneal edges above, and uniting it, closing the abdomen entirely and using no drainage. But in intraligamentous tumors Martin has drained through the vagina.

He sometimes, after removing the tumor, sutures the incision in the sac, thus shutting off the peritoneal cavity, connecting all the raw surfaces from which the tumor has been removed with the vagina.

Another method, known as the intra-abdominal but extra-peritoneal method, is done after the same fashion that all supra-pubic hysterectomies are performed until you get down to the base of the broad ligament; you then ligate the uterine arteries on each side, carefully avoiding the ureters, cut the uterus off near the vagina, and sew together the peritoneal covering in front and behind. By this means the neck of the uterus is thrown entirely outside the peritoneum, and it drains, if necessary, through the neck of the womb into the vagina. This operation has been frequently adopted by Dr. Baer, of Philadelphia, and by many other operators in this country and in Europe.

Now, which method of treating the pedicle should be adopted? That depends upon two things: First, upon the conditions with which we have to deal. In one case we can more easily treat the pedicle by the extraperitoneal method; in another we can do better by the intra-abdominal but extraperitoneal method; and finally we can best treat it by total extirpation. And second, it depends upon the operator himself. One man may be peculiarly fitted for the treatment by one method because of his experience; another has had more experience in the treatment of the pedicle by another method. So that if three men were to operate upon the same case, one would probably have better results, as does Bantock, by the extraperitoneal method; another would have better results, as does Martin, by total extirpation; another would have better results, as does Baer, by the intra-abdominal but extraperitoneal method.

ADDENDA.—(The vaginal method in performing hysterectomy for cancer, pelvic abscesses, and in nearly all cases of uterine myomata not larger than a fetal head is now an accepted treatment in all civilized countries, and I am doing this work with relatively few immediate or subsequent bad results. The larger myomatous uteri are removed by morcellation, and the patients often want to get out of bed in one week. In very large myomatous uteri I operate by the suprapubic or vagino-abdominal method. The evolution in hysterectomy has been so fruitful in results since the above lecture was published that surgeons who treat the pedicle extraperitoneally by the *nœud* as an elective method must recognize that they are doing *obsolete* surgery.)

—(*International Clinics.*)

SUPRAPUBIC HYSTERECTOMY FOR INTRALIGAMENTOUS SARCOMA WITH INTRALIGAMENTOUS CYSTOMA—VAGINAL HYSTERECTOMY FOR CARCINOMA UTERI AND PELVIC ABSCESSES—CELIOTOMY FOR APPENDICITIS.*

Case 1. This specimen was removed two weeks ago from a woman about thirty-eight years of age, married, and the mother of several children. She was strong and stout, having none of the appearances of malignant disease; but there was a tumor connected with the uterus that filled the pelvic cavity and caused the uterus to be nearly immovable. It was diagnosticated a myomatous tumor with possibly some cystic formation connected with the myoma or immediately adjacent.

Her abdomen was opened, and the mass filled the pelvis so completely that I could not by the most careful examination detect the tubes or ovaries. I could not see where the tubes were located, so that it was impossible to treat the case after the ordinary fashion of hysterectomy, as the broad ligaments did not exist and I could not discover the ovarian arteries. There was a small myo-fibroma protruding posteriorly, which was enucleated. A cystic tumor as large as a turkey's egg was connected with this tumor. When the incision was made through the capsule of the tumor it was discovered that no well-defined myomatous or fibromatous tumor could be enucleated. The macroscopic appearance did not justify the diagnosis of a fibromatous or myomatous tumor. The mass which I show you, with other parts which have been destroyed, was cut and torn out of the pelvis, and hemorrhage controlled as I proceeded with the operation. About the time the tumor was two thirds delivered, I entered a broad ligament cyst which was wedged down to the right of the pelvis and behind, holding about a pint of liquid. The operation was exceedingly difficult, because the tumors could not be removed by enucleation. I do not know the etiology or the pathology of the mass, but think it malignant, as I have never seen a myoma or a fibroma presenting the characteristics which we find here, but no microscopical examination has been made.

Case 2. The next specimen is a uterus removed this morning from a patient aged thirty-five years, the operation being done *per vaginam*. When the vagina was separated from the uterus it was found that all the lower part of the uterus, including the neck and part of the body, was so diseased that I was not positive that a hysterectomy was indicated. In attempting to enucleate in front, I went down into the cavity of the uterus just above the

*Reported to the Louisville Clinical Society.

internal os. However, as I had begun the operation, and the uterus could be removed without hemorrhage, I proceeded to take the organ entirely away, and I do not believe I left any of the cancerous disease in either broad ligament. I believe, however, that there may be some involvement of the bladder wall, and because of that fact I expect the disease will return.

After one week this patient got out of bed, dressed and walked about the halls of the hospital during several hours, and returned home the next day. While this was done against the advice of the house surgeon and nurse, she had no trouble from the imprudence.

Cases 3 and 4. I present two other specimens to show that the uteri were bisected. Bisecting the uterus in removing the organ for cancer or for pus-tubes is an operation that has been made conspicuous by Segónd, and no one appreciates the ease with which certain difficulties may be overcome by this bisecting process until he has seen it done. When you have bisected the uterus, you can deliver each half outside the vulva and clamp the broad ligament from above, having clamped the lower part of it from below. If there are adhesions, such as we have in pus cases, we can nearly always separate them and enucleate each half of the uterus, usually seeing each step of the operation, which destroys the force of the argument against vaginal hysterectomy made by some *inexperienced operators*, "that it is an operation where we can not see what we are doing, and where we are more apt to wound the intestines than in the operation from above." With this bisecting process you can see more of the structures that are being enucleated than you can from above, because when you operate from above you can, in many instances, see but little of what you are doing; you must often judge entirely from the sense of touch. When the vagina has been separated and clamps applied on each uterine artery, the uterus can be bisected and removed with the loss of very little blood.

Case 5. Here is an appendix that was removed last Thursday afternoon from a young man twenty-five years of age, who consulted me on Wednesday at ten o'clock, saying that he was suffering severely in the right side of the abdomen, that his suffering began about eight o'clock the previous night, and had continued to grow worse. His bowels had been moving frequently for two or three days. The symptoms pointed so directly to appendicitis that I told him to go home and lie down immediately and take a seidlitz powder. He did so, and about three o'clock Thursday morning I was telephoned that he was suffering intensely, temperature 101° F, pulse 100, and that he must obtain relief. At eight o'clock that morning I saw him and diagnosticated a well-marked case of appendicitis. At three o'clock in the afternoon, less than forty-eight hours after he felt the first symptom, he was operated upon and the appendix removed. You will observe a

little fecal concretion in its central portion, and at one place it is gangrenous and on the point of rupture. There were no well-formed adhesions. The appendix was surrounded with about an ounce af sero-purulent material. The cavity about the appendix was sponged and the wound closed, with a small gauze drain inserted. He had no trouble following the operation, and the next morning his pulse and temperature were normal and have remained so. This evening his pulse is 70, and there is no elevation of temperature.

This case was operated upon timely, and I believe if we had waited until the next day there would have been great difficulty in successfully treating the conditions. This is another case that shows the necessity of timely work, and is an argument against those gentlemen who believe we ought never operate except as a last resort, or between the attacks.

I believe we should operate upon nearly every case of appendicitis as early as possible after it has been diagnosticated, and if this plan were carried out we would not have over fifty per cent of the mortality that now results from this disease, because if we find that there is pus in the appendix, or there is an appendix that is ready to rupture, or there is a gangrenous condition at any point, then we know the operation was necessary and the patient would probably have died without it. If we find an accumulation of pus about the appendix we know the chances are that the patient would have died had we not operated. If we find there is no pus, but a catarrhal condition of the appendix, then if we remove it our patient will recover and will be out of all future danger from this source, because as a rule where a patient has one attack of appendicitis he will have another.

In a wide experience in operating for appendicitis I have had but one death. However, some cases, if not operated on timely, can not be cured by any kind of treatment, hence the evil of delay.

—(*International Journal of Surgery.*)

CELIOTOMY FOR INTRALIGAMENTOUS CYSTOMA.*

GENTLEMEN: The patient upon whom I have just performed a celiotomy has suffered for two years with pressure in the pelvis, gradually increasing until it became very severe, interfering especially with menstruation and with urination. She has been examined by a physician, who believed from the subjective and objective history of the case that she had a pyosalpinx associated with extensive adhesions to adjacent structures. In the examination I made before the operation I could not say whether it was a large pelvic abscess or some kind of tumor. It is well to remember that diffi-

*Clinical Lecture delivered at the Kentucky School of Medicine Hospital.

culty may sometimes be experienced in diagnosticating tumors in the pelvic or in the abdominal cavity, so that you may not be embarrassed when you are unable to make a diagnosis. Abdominal surgeons who have had much experience in diagnosticating and operating upon such cases know best that we are often unable to arrive at a correct conclusion as to the nature of the tumor prior to operation.

In my earlier abdominal work nearly every patient had a degree of tympanites, even though they otherwise recovered without trouble. I now seldom have any disturbance from tympanites, the abdomen remaining flat after the operation; and I do not anticipate any distension in this case, though the operation has been a very severe one. Tympanites is usually due to sepsis because of uncleanliness, or, where there is no sepsis, because of failure to thoroughly cleanse the bowels by purgation before the operation.

You observed that the tumor was not a pyosalpinx, but an intraligamentous cyst—or rather cysts—holding over a quart of dark, grumous liquid. It had no pedicle, and when the extensive adhesions of the omentum were separated from the capsule and from the abdominal walls, there was a broad base deep in the pelvic cavity upon the left side where the cysts had unfolded the layers of the broad ligament to its base, and to the left wall of the uterus. The cysts were surrounded by a capsule composed of the peritoneum and muscular and fibrous tissue, and firmly adherent to the uterus; and the union of the walls of the cysts to the capsule wall was so intimate that there was nearly a continuity of structure. You observed how carefully I separated these cysts to prevent tearing an opening in the capsule, which should always be avoided, if possible.

I first aspirated the tumor. This was for a double purpose: First, to get rid of the liquid, as the cysts might during manipulation rupture into the peritoneal cavity and cause infection, because this liquid is sometimes very septic, and when not immediately septic it may be secondarily poisonous; frequent instances have been recorded where leakage into the peritoneal cavity has within a few months caused the death of the patient by the development of universal papillomatous growths. Second, it is necessary to first aspirate such tumors, because you can then enucleate them better, and when the capsule has collapsed the blood-vessels are contracted and hemorrhage is not so profuse. These are peculiar tumors, and it requires great tact and the observance of certain fixed rules to enable us to remove them.

Until about twenty years ago no surgeon knew the technique for the removal of these cysts, and when the abdomen was opened the tumor was torn to pieces, leaving the patient to die, or the abdomen was closed without removing the tumor. Now we can remove them, with few exceptions, with almost

universally successful results. First, incise the capsule that surrounds the cyst or cysts; and I would suggest that the incision be made in a vertical direction, for the reason that you might, if you followed the advice of text-books and incise in a transverse direction, divide the ureter, which may have gotten in front of the tumor and can not be seen. This has occurred in several instances. But if you make an incision in a vertical direction you will generally avoid injuring the ureter, if it happen to lie in front. Make your incision through the capsule at a point nearest the abdominal incision, because it may be that you will be compelled, as we were in this case, to stitch the sac cavity to the abdominal wound and treat it afterward extraperitoneally. So if you make the incision at some foreign point, you may not be able to bring the sac opening into the abdominal wound. In enucleating be careful to get close to the cyst-wall, and avoid injuring, if possible, the capsule-wall, otherwise you can not bring the opening in the sac up into the abdominal wound. Watch for bleeding vessels, and as soon as one begins to bleed, catch it with forceps, and if necessary throw around it a sterilized silk or catgut ligature. Hemorrhage is one of the great dangers in this operation, and you must always be prepared to control it. Be careful when you come in the neighborhood of the bladder, because these tumors often separate the peritoneum and come directly in contact with the wall of the bladder, as evidently the tumor did in this case, and the union may be so intimate that unless your dissection is perfect you may open the bladder. If the tumor has gone under the bowel, separating the mesorectum or mesocolon, or the mesentery of the ileum, or under the cecum, you must be very careful when you get into these localities, otherwise the intimate relation of the cyst-wall to the surface of the intestine may cause you to destroy the integrity of the bowel, and your patient may die as a result.

In a case operated on yesterday it was necessary to stitch the capsule-wall to the abdominal wound. This was done by first including the lower part of the capsule-wall in the lowest suture with which the wound was closed. The lateral parts of the capsule were brought in contact with the peritoneum of the abdominal incision upon each side by carrying the sutures through the abdominal walls, including the capsule, after a fashion that pursed the sac when the sutures were tied. These three sutures fastened the sac firmly into the abdominal wound, except at the upper part, which was included in a suture that was introduced to close the wound above, thus shutting off the cavity of the sac from the abdominal cavity. The sac cavity was packed with a Mikulicz iodoform gauze drain. By this method none of the gauze except the first piece introduced came in contact with the surface of the sac cavity, the strips afterward pressed in lying in the sac formed by the first piece. The tampon was introduced

for two purposes: First, to control hemorrhage, which would probably have been considerable if this precaution had not been observed, or if we had introduced the ordinary glass drainage-tube; second, iodoform gauze may have the power of preventing the multiplication of pathogenic bacteria, if perchance any are left in the sac. The patient left the operating-table with no shock, and with a pulse of 70. I expect no untoward symptoms, and hope to present her to you very soon, entirely recovered from the operation and cured of the tumor.

When I remove the gauze, within three or four days, I will substitute a glass drainage-tube, and it is probable that I may then find pus. I will wash out the cavity daily with hot sterilized water and with an antiseptic solution. I prefer sulphurous acid, one part to water eight or ten parts, as this has served my purpose better in bringing about a healthy condition of pus-secreting surfaces, and in destroying the odor, than any thing I have used.

I might, in conclusion, call your attention briefly to the pathology of intraligamentous cysts. An intraligamentous cyst means a tumor that develops between the layers of the broad ligament and unfolds these layers to the Fallopian tube above, and down to the base of the broad ligament, to where the ureters pass to the bladder and the vessels to the uterus, and then may finally separate the peritoneum anteriorly from the bladder and from the anterior abdominal wall, lying between the peritoneum behind and the abdominal wall in front; or the tumor, after separating the layers of the broad ligament, may separate the peritoneum from Douglas' pouch, and, extending upward, open the meso-rectum, the mesocolon, or the mesentery of the small intestines, or pass under the cecum and ascending colon. Sometimes, as I have seen in several cases, the tumor may extend behind the peritoneum up to the kidney. Intraligamentous cysts usually arise in the paroöphoron, but we may have an intraligamentous cyst, particularly in its earlier stages, that arises in the cecal tubules of the parovarium. Intraligamentous tumors that arise in the parovarium are usually so feebly connected with the capsule that they can be enucleated without trouble, and most of the tumors that arise in the parovarium, after they have developed to considerable size, become pedunculated, and are the easiest of all tumors to remove, and the mortality is low. But those arising in the paroöphoron are all intraligamentous, are buried deep in the pelvic cavity, and have the intricate attachments that I have spoken of. They are attached to the bladder, the uterus, the ureters, the Fallopian tubes, the pelvic vessels, the bowels, and to every thing with which they come in contact, and the attachment is often so intimate that it is a continuity instead of a contiguity of structure; hence some of them become, even with our present knowledge of the technique for their removal, the most difficult operations in surgery, and

patients may die upon the operating-table as the result of hemorrhage and surgical shock, or they may afterward die because of sepsis, even in the practice of the most experienced and careful surgeons. —(*International Clinics.*)

CELIOTOMY FOR CYSTIC TUMORS ARISING IN THE UTERINE ADNEXA.*

GENTLEMEN: I bring before you to-day two illustrative cases of very large cystic tumors that have their origin in the ovaries or the parovarium. The first patient is very much emaciated and in a feeble condition, and has a tumor that will probably weigh fifty pounds. You will notice that the abdominal walls are thin, and wave motions are manifest; all the symptoms indicate a parovarian cyst, as does the history of the case. About twenty years ago a tumor began to develop in the lower part of the abdomen, which continued to increase in size for five years, when it had grown to dimensions greater than you now see. Suddenly water in great quantity was voided from the bladder, and within a few weeks the enlargement of the abdomen had entirely disappeared. I suspect that the tumor was parovarian, and had ruptured into the abdominal cavity, and the bland and unirritating liquid had been absorbed into the system and carried off largely through the kidneys. For a little while there was no return of the tumor, but within six months the abdomen again enlarged, and continued to increase in size over a period of fifteen years, until it has attained its present proportions.

She is prepared for a celiotomy, and to-morrow the tumor will be removed; but while I am nearly positive that it is a thin-walled parovarian cyst, there is a possibility of error in the diagnosis, for the most experienced celiotomists often find at the time of operation that they have made an incorrect diagnosis in what appeared to be a simple case. While this woman is in a feeble condition of health, I can find no organic lesion of the kidneys or any vital organ of the body, and she ought to make an uninterrupted recovery from the operation, as this is nearly the universal result of these operations in the practice of careful operators.

In the next case the abdomen is much larger, and the tumor will probably weigh seventy-five pounds. It did not begin to develop perceptibly until two years ago, but has recently grown rapidly, and if not removed this woman can not live long. I can find no organic lesion of the kidneys or heart, and there is no sugar in the urine; and when I operate upon her, two days hence, I also expect her to make an uninterrupted recovery. While she has not suffered with the tumor so long as the other case, the con-

*Clinical Lecture delivered at the Kentucky School of Medicine Hospital.

ditions are less favorable, because the indications are that this is an ovarian cyst, and is extensively adherent, as she gives the history of several severe attacks of localized peritonitis. You will notice that the wave motions are less perfect, and that there is some irregularity or nodular condition over the surface of the abdomen—all of which is diagnostic of a multilocular ovarian cystoma.

It is seldom that we now meet with cases of abdominal cysts as large as these, for such patients are generally sent to the gynecologists when the tumors are small, and then an operation is more easily performed and the results are less dangerous; but as neither of these cases has been tapped or aspirated, the prognosis is therefore favorable. All cases of cysts of the uterine adnexa, unless the patient is in such a feeble state of health that she can not stand the shock of the operation, are entitled to the benefit of it, and there are but few positive contra-indications. While I much prefer there should be no well-marked organic trouble in any of the important organs of the body, still I would not hesitate, in some cases, to operate where the heart was diseased, or the urine loaded with albumen and tube-casts, or where there was well-developed tuberculosis. It is best, if possible, never to operate in well-marked cases of diabetes, for these cases generally do badly. If there is albumen in the urine, or decided disturbance of the functions of the kidneys, it is best to give chloroform, for ether does not always act well, and I have had one or two deaths from suppression of urine following the use of ether.

No one should attempt to operate upon cases like these unless he is thoroughly prepared, theoretically and practically, to treat successfully the various complications that may be encountered, for while we are usually able to diagnosticate the pathological conditions that indicate the necessity for a celiotomy, we can not tell until the abdomen is opened just what complications are to be treated in order to complete the operation and save the life of the patient, and even then it is sometimes difficult to do so. It is the exception that we find just what we had expected. We anticipate complications that may jeopardize the life of the patient, but the operation proves to be a simple affair. Again, we open the abdomen, expecting to complete the operation without difficulty; but conditions are encountered that make the procedure a dangerous one, seriously taxing the ingenuity of the most experienced celiotomist. If the operator knows how to treat correctly every abnormal condition in the abdomen or pelvis that surgery can remove, his failure to make a correct diagnosis is of no material consequence. Every detail before and during the operation must be scrupulously attended to by the operator, or by some one in whose ability and honesty he has confidence, otherwise the results will not be good.

That you may appreciate the operative procedures and all the conditions to be seen in the removal of these two tumors, I will

briefly give you the etiology and pathology of most of the cysts that arise in the uterine adnexa. They arise in the oöphoron, paroöphoron, and the parovarium. Oöphoritic cysts arise from the follicles in the egg-bearing segment of the oöphoron; paroöphoritic cysts arise from the remnants of the mesonephros in the paroöphoron, and parovarian cysts from vertical cecal tubules in the parovarium. Until recently it was believed that these cysts were identical in their etiology, but now their distinctive features have been thoroughly studied, notably by Alban Doran and J. Bland Sutton. Oöphoritic cysts arise in the Graafian follicles undergoing retrograde processes of development, are nearly always multilocular, and generally have intracystic glandular growths. When very small they are lined by the membrana granulosa, afterward by stratified epithelium, which, as the tumor grows, disappears by absorption caused by liquid pressure, and finally the cyst wall is entirely fibrous. This disappearance of epithelium is universal when the cyst is unilocular, but in mutilocular cysts even of long standing abundant epithelium may be found lining some of the loculi. Because of ignorance of the etiology of these cysts, older writers taught that many of them were unilocular, and, while I recognize that oöphoritic cysts are occasionally unilocular, I believe that they are generally primarily or at some stage of their existence multilocular, the partitions or walls of small cysts having been destroyed.

Oöphoritic cysts may be divided into simple multilocular cysts, adenomata, and multilocular dermoids. Ovarian adenomata are always multilocular, and have a lobulated surface caused by the loculi projecting under the fibrous capsule. Some loculi are very small, others are the size of a large melon. They are filled with viscid fluid, identical in physical character with mucus. Dermoid cysts contain skin or mucous membrane, and sometimes both. The skin may cover the entire surface of a large cyst, or may be restricted to a small area, or confined to a loculus in a multilocular cyst. One or several, and sometimes all, of the following cutaneous appendages may be found in ovarian dermoids —namely: bone, teeth, hair, sweat-glands, sebaceous glands, horn, mammæ, unstripped muscle, and tissue histologically identical with brain matter; but those most frequent and most abundant are hair, teeth, and bones. The teeth may be few or many in number, developed on the same plan as teeth in the normal situation, and are usually found embedded in loose bone resembling the alveolus. No well-defined bone, or any part of the human body, is ever developed in a dermoid growth, and those instances reported of the humerus, or maxillary bone, etc., probably refer to cases of extra-uterine pregnancy, as do reports of cases where bones of the entire body were found.

Oöphoritic cysts are nearly always pedunculated, and, if not too firmly adherent to the abdominal walls and viscera, are easily

removed. Oöphoritic dermoids are less frequently pedunculated, and are sometimes found deeply embedded or adherent to the pelvic structures; but they can generally be easily enucleated and removed without greatly endangering the life of the patient.

Parovarian cysts are necessarily, in the early stages of their development, without a pedicle, and while they sometimes unfold the deeper layers of the broad ligament, and become what is commonly known as intraligamentous, they usually rise out of the pelvic cavity, and when of considerable size become pedunculated, and they may then be more easily removed than the oöphoritic cysts. Even parovarian cysts that grow large and remain intraligamentous may be easily removed, because the peritoneal capsule is so feebly connected with the cyst wall that it may be separated without difficulty and without danger.

LATER.—Diagnosis correct, and both cases recovered promptly.

—(*International Clinics.*)

CELIOTOMY FOR OVARIAN ADENOMATA WITH EXTENSIVE ADHESIONS.*

This morning I removed this specimen—ovarian adenomata—from a lady from Indiana, aged thirty-three years, the mother of two children; she has had one abortion. The last child was delivered two years ago, and after its delivery the abdomen remained too large. The woman was examined and an ovarian tumor diagnosticated. Nothing was done until the following April, when the attending physician, in a town of about twelve thousand people, tapped the tumor and drew off several gallons of fluid, which rapidly reaccumulated, and the tumor became larger than before tapping. She was quite feeble, pulse 110, very anemic, and much emaciated. Otherwise there was nothing abnormal in her condition except the tumor.

The abdomen was opened and the tumor found adherent to the abdominal wall, and all the contents except what was contained in the honey-combed adenomatous enlargements was discharged without opening the peritoneal cavity. The cyst was adherent to the abdominal wall and other structures over a surface fifteen or twenty inches in diameter. The tumor and its contents weighed about fifty pounds. Oozing was very great, and for a while I was fearful that I could not control it, but after enlarging the incision I tied most of the bleeding points, and the points that could not be located were well up in the region of the spleen and the left lobe of the liver, which I finally tamponed with the Mikulicz gauze, practically controlling all hemorrhage. A drainage-tube was placed in the lower angle of the wound. There has been no further hemorrhage, and the patient is in a much better condition this evening.

* Reported to the Louisville Clinical Society.

We had all thought that intelligent physicians had discontinued tapping cases of ovarian tumors, especially in cities of ten to twelve thousand people, but this case shows that they have not, and the condition is unusual because of the extent of the adhesions. Two of these adenomatous masses present internally, but show no evidence of their existence externally, and have grown very dark in color. It is possible that this color indicates malignant degeneration. This specimen is similar to one shown in J. Bland Sutton's work on the ovaries and tubes, illustrating a typical ovarian adenoma.

In ovarian adenomata the tumors often grow very large, probably many of the cysts breaking down into a single cyst, but you will nearly always find more or less intra-cystic growths of this kind, some of them protruding externally, having apparently gone through the fibrous wall of the large cyst.

—(*American Therapist.*)

VAGINAL HYSTERECTOMY FOR UTERINE MYOMATA, BY MORCELLATION.*

GENTLEMEN: Yesterday afternoon you saw me perform a vaginal hysterectomy for uterine myomata upon a woman about thirty-five years of age, who is the mother of five children, the last of which was born seven years ago. She weighed about two hundred pounds, but her vagina was very small. The depth of the uterus was over five inches, and the organ was correspondingly enlarged. The operation was prolonged because of the difficulty in removing the uterine myomata *per vaginam* in so large a woman with a small vagina. Had this woman weighed about one hundred and ten pounds, with a large vagina, I could have removed the uterus and the tumors in half the time, because there would have been a better field in which to work; the larger the vagina the more easily you can work in doing a vaginal hysterectomy, and the danger of injuring vital structures is thereby lessened; and in cases of uterine myomata in thin women an assistant may bear down from above the pubes, forcing the tumor low in the pelvis, which aids the operator very much. While vaginal hysterectomy is, I am sure, the best operation that can be performed in uterine myomata, where the uterus and the tumors can be removed by bisection or morcellation, it requires an extensive knowledge of surgical work, and particularly the surgical technique applied to this operation, and the best instruments that are used in performing it.

You should not attempt vaginal hysterectomy for uterine myomata until you have at your command every instrument and

*Clinical Lecture delivered at the Kentucky School of Medicine Hospital.

every facility that is necessary for the completion of the most perfect work.

Dr. Charles Jacobs, of Brussels, uses the thermo-cautery to divide the vagina from the cervix. I have tried this method and find that the hemorrhage is about as great after using this means of dividing the vagina as after using scissors or the knife.

When the field of the operation is thoroughly cleansed and brought into view, you should proceed to divide the vagina from the cervix; in doing this hold the cervix firmly with Péan fixation forceps, pulling the uterus down as far as you can and then separating the vagina posteriorly or anteriorly first, as may be indicated by the conditions present. In one instance you will find that you can proceed to better advantage by first incising the vagina posteriorly, then going in front and incising the vagina anteriorly just below the bladder, and *vice versa*. If the uterus is large because of the myomatous tumors, it is well to divide the vagina about half an inch on each side of the cervix below and behind the base of the broad ligaments, so as to give more space when operating, for if you divide the vagina closely around the cervix, unless the cervix be very large, the opening will be so small that you will have difficulty in performing morcellation. Having the cervix held firmly with the forceps, having with scissors or the knife separated the vagina from the cervix, having incised the vagina on each side and just behind the base of the broad ligaments, you may proceed to enucleate structures, both posteriorly and anteriorly, from the neck of the uterus. You can usually do this better with your fingers, always hugging the uterus or tumor, because you can do no injury by such enucleation, and you may do serious injury to the bladder, the ureters, or possibly to the rectum if you enucleate in a direction away from the uterus. If you find that you can not enucleate well with the fingers, and that apparently the tissues are separating too much in the direction of the bladder, take your scissors and cut down next to the uterus and push away the tissues connected with the uterus so as to get nearer to this organ and further away from the bladder. Sometimes the tissues are so tough that you can not push them up until you have cut extensively into the structures with the scissors, but you may then dissect with your finger under the bladder and continue enucleation, remembering that the fingers are the best guides, cutting just as little as you can. Separate the tissues above as high as you can; also enucleate out toward the broad ligaments, pressing the tissues away from the uterus as far as possible in front and behind, until, finally, you have enucleated the uterus posteriorly and anteriorly as far as you can reach. You have possibly entered the peritoneal cavity through Douglas' pouch posteriorly, or have incised the peritoneum through the utero-vesical pouch anteriorly. As the blood-vessels enter the uterus upon the sides through the broad ligaments,

remember that here is where we have to control hemorrhage. Before you attempt to clamp the broad ligaments and include the uterine arteries push the ureter far enough away upon each side to prevent its being included in the clamp. Remember that the ureter comes at this point within half to three fourths of an inch of the uterus, and goes directly under the uterine artery, so that by a little carelessness you may include it with the artery; but to show that this can be avoided in nearly every instance it is only necessary to say that in the experience of the surgeons who have done much of this class of work the ureter has been very seldom injured, and I have never injured it. Having clamped both sides as high as you can, then with the scissors divide the broad ligaments between your clamps and the uterus, but close to the uterus. When operating for malignant disease you should get as far away from the uterus in making the vaginal incision and in dividing the broad ligaments as possible without wounding the ureters. You may now pull down more firmly, bringing the uterus nearer the vulva; then you may enucleate higher, and if needed put on a second clamp above the first, reaching far up upon the broad ligament. After you have applied the first clamp, which includes the uterine artery, and have divided the tissues between the uterus and the clamp, a second clamp will not injure the ureters; but you must watch the intestines to avoid including a loop in your clamp. Finally you have pulled the uterus down, you have separated it from its attachments as far as it is possible, but the organ is so large that it will come no farther, and you can not enucleate it in its entirety and take it away as you have often seen me do for malignant disease where the organ was not much enlarged; then you must avail yourselves of means that will lessen the size of the uterus so that it may be brought through the vulva.

There are a variety of operative measures that may now be adopted, all in a degree similar, but different in detail. You may, where the uterus is not large and the vagina capacious, bisect the uterus, just as you saw me attempt and nearly complete yesterday. This may be done by placing a Péan forceps upon each side of the cervix, pulling firmly downward, and with scissors dividing the cervix antero-posteriorly until you reach the body; then divide with scissors or with the knife the anterior wall of the uterus, then the posterior wall, so that finally you have divided the uterus and the tumors into two halves, either one of which may then be pulled out of the vulva, so that you may clamp the broad ligament from above outside the ovaries and tubes, including the ovarian artery; then you may cut that half of the uterus from its attachments, between the uterus and the clamps, and proceed upon the opposite side in the same manner. After having clamped the uterine artery there will be but little hemorrhage in bisecting the uterus if your assistants pull firmly upon the uterus by means of forceps.

In the case operated upon yesterday bisection could not be made complete because the uterus was so large and extended so high up that we could not pull it down sufficiently to bisect it. In cutting with scissors or with the knife, protect the intestines or bladder by the sense of touch and by sight; and when you are bisecting near the fundus, so high that you can not see or feel whether there are coils of intestine adherent or lying directly over it, you must bisect no farther until you have brought the uterus lower in the pelvis and can be certain that no intestine is injured. In this case, after the uterus had been bisected about two thirds of the way up the body, I proceeded to cut out sections from the anterior wall, getting hold of some of the myomatous growths and pulling them away, so that gradually the uterus was lessened in size until it came lower, and was finally brought out through the utero-vesical opening; then it was entirely bisected, the left side clamped and removed, and the right treated similarly. Had these tumors been larger, I would have proceeded practically after the same fashion, bisecting first as far as I could, dividing the anterior uterine wall, finally reaching the tumors and catching hold of them with forceps and corkscrews, and with scissors or knife cutting out parts of the uterus and myomatous tissue, gradually getting higher and higher until the uterus could have been pulled down and out of the vulva. But in morcellation be careful not to lose your hold upon the uterus or tumor; take a traction forceps and get hold of a portion of the tissue high up and pull it down and cut it away with the knife or with scissors, but before that part is entirely separated, with another forceps go higher and get hold of the uterus, otherwise, when you have cut away the portion pulled down, the uterus at once recedes out of your reach. When a myomatous uterus is low in the pelvis, so that you can cut it away piece by piece, never let it get out of your grasp, and here is where you will need several fixation forceps, because, while you have one on each side of the uterus, you will have another pulling down the part that you are cutting away, and still another to get hold of tissue above the one that holds the piece cut away.

By this means, watching carefully the bladder, the ureters, the bowels, so as to avoid injury to any of these structures, working persistently and determinedly, you will finally be able to remove through the vagina uterine myomata as large as a fetal head or larger, provided the vagina is of average size. You can not, however, in all cases remove tumors of this size where the vagina is small, and where the woman is stout. With such patients you will lose the valuable aid of pressure from above that is so easily applied in women who are small and who have thin abdominal walls. After you have separated, enucleated, and cut away the uterus and all the tumors, you must look carefully to see that there are no important vessels that are bleeding. Oozing from the

vaginal surface or from the connective-tissue surface may be controlled by tamponing with gauze; but if there is a bleeding artery you must not depend upon pressure from a gauze packing alone, because it will not succeed, and your patient may bleed to death. Search carefully until you get hold of the bleeding vessel, and then control hemorrhage by the application of forceps or by a ligature. When this has been done, and you have cleansed the vagina of blood, etc., apply the dressing. Place strips of gauze over the upper ends of the clamps to prevent injury to coils of intestine that might otherwise be damaged. When you have covered the upper ends of the clamps, press some gauze into the vagina between the cut surfaces. In the mean time you will be surprised to see how rapidly the opening that you have made, and through which you have removed the large myomatous uterus, will contract, apparently trying to shut off the abdominal cavity from the external world. Having placed gauze between the clamps until you have covered the raw surfaces, if you have, or fear that you will have, much oozing, you must put in more gauze, pressing it down a little more firmly; finally take hold of every piece of gauze, and be sure that no piece can get beyond your reach when it is necessary to remove it. Then wrap gauze around the clamps and between them, shutting off the interior from the external parts, so as to prevent pathogenic germs going through the vagina to the peritoneal cavity. Cover the handles of the clamps with several layers of sterilized gauze, and put the patient in bed on her back, and under the clamps put gauze, or cotton covered with gauze; and it is well to put under this a water-bag with a clean towel over it, for this gives the clamps a support which prevents suffering and injury to the structures by the weight of the instruments. The woman should be kept in bed and the urine drawn, or a self-retaining catheter introduced. In thirty-two to forty-eight hours the clamps may be removed and most of the gauze, but not the strips that extend over the bites of the clamps. In removing the gauze do so gently, with a light reflected into the vagina so that you may watch every thing, and finally, when you unclasp the clamps, have the field exposed so that you can see if there is any bleeding. Gradually pull the clamp open, watching carefully, and if there is no bleeding, take it away, and then one after another until they are all removed. If bleeding is discovered, at once close the clamps and leave them intact until the following day. By this time the wound has contracted so nearly together that the surfaces press upon the gauze, and the peritoneal cavity is very soon absolutely shut off from the vagina. In removing the gauze from above, you may pull down a coil of intestine or some of the omentum, as I have done on one or two occasions. If you will leave the gauze from three to five days, nature will have thrown out a protecting layer of lymph above so that the intestines and omentum are shut off.

The vagina should now be irrigated every day with boiled water, not going too deeply with your nozzle. While these patients usually feel able to sit up after one week, it is best not to allow them to do so until the end of the second week; in two or three days more they may begin to walk, and in three weeks leave the hospital and return to their homes.

In my next lecture I will show you cases that I have operated upon here, and will complete the subject of vaginal hysterectomy of every variety for the relief of troubles for which the operation is indicated. I have already performed before you this year operations in vaginal hysterectomy for nearly every condition for which the operation is indicated, and I believe the best way to impress upon you the practical significance of this subject, so that you may understand it more easily, is by taking up the different cases operated on and lecturing upon them.

(I now seldom use more than one retractor, and sometimes no retractor, even in morcellation of a myoma extending nearly to the umbilicus.)

—(*International Clinics.*)

NEPHRECTOMY FOR LARGE CYSTIC KIDNEY—VAGINAL HYSTERECTOMY FOR UTERINE MYOMATA.*

Case 1. About three weeks ago a maiden lady from Corydon, Ind., aged fifty-two years, passed the change of life, consulted me for a tumor in her right side which had been diagnosticated by the attending physician as an ovarian tumor. It was easily outlined and found to be connected with the kidney, and about as large as a fetal head. The urine contained no albumen, nor was it in any way abnormal. The heart-beats were irregular, and the radial pulse was intermittent. She had grown quite thin, and was poorly nourished, doubtless because of this tumor.

On the following day an incision was made over the kidney in the right linea semilunaris, and the enlargement was found to be cystic and so movable that it was evidently not malignant. The left kidney was examined by pushing the hand over through the opening in the right side, and the ureter traced down to the bladder to see that the kidney and its ureter were not diseased. Then the cyst was aspirated, all the liquid removed, and the kidney enucleated, the vessels being ligated after the kidney had been brought into the wound. The woman passed within three days more urine than is usual after celiotomy or hysterectomy where both kidneys are in a healthy condition. I was particular to insist upon no opium being given under any circumstances. She has made an uninterrupted recovery; at no time has she had any elevation of temperature or acceleration of pulse.

*Reported to the Louisville Clinical Society.

Case 2. Two days afterward a woman consulted me for what had been diagnosticated diseased ovary. I found that the uterus contained some small myomatous growths in its walls. The woman was large, aged twenty-six years, married, but was never pregnant. Pain in the pelvis because of these tumors was such as to necessitate large doses of morphine; I think she was taking three grains at a dose several times a day. The vagina was small, but I considered the preferable method for operation to be *per vaginam*. The vagina was separated from the uterus, and after clamping off the uterine arteries and separating that part of the broad ligaments from the uterus, I bisected the organ and then had no difficulty in pulling each side containing the tumors external to the vulva and applying another clamp. This woman had been taking, as I have said, three grains of morphine at a time, probably several times daily, and I thought it would be unwise to attempt to withdraw it abruptly, although patients upon whom you have operated should not use morphine if it can be avoided. Therefore she was given enough to keep her quiet, and at no time did she have any trouble from it. I have never seen a patient do better after such an operation. The pulse was never accelerated over ten beats to the minute above the normal, and she has had not exceeding one degree elevation of temperature, and the nurse, when she left the infirmary, had reduced the morphine to one grain during the twenty-four hours, and there will be no trouble in continuing to reduce the quantity until she takes none at all, provided she is placed under proper control.

—(*Medical Times.*)

NEPHRORRHAPHY FOR THREE CASES OF MOVABLE KIDNEY.*

Case 1. Two weeks ago a lady from an interior town of the State was referred to me for a tumor in her right side. She was forty years of age. Emaciation had been progressive for the last year, and she had constantly suffered from the effect of the tumor, particularly in her digestive functions and in her nutrition. Upon examination it was decided that there was a movable kidney which was enlarged. It could be felt just under the edge of the ribs, behind the liver. The next day I operated by nephrorrhaphy, fastening the kidney to the wound in the loin. When the kidney was caught with bullet forceps the capsule tore readily, causing hemorrhage, but the operation was completed without trouble, the kidney being fixed with kangaroo tendon, and the incision closed with silkworm gut. Within three days the wound had suppurated, and I removed two of the sutures and made an opening to the bottom of the incision. There was some elevation of tempera-

* Reported to the Louisville Clinical Society.

ture and acceleration of pulse, and a discharge of pus. The pulse and temperature finally became normal, but there is still a little pus discharging from the opening, and I am inclined to believe that the kidney is tuberculous.

Case 2. Three days ago a lady consulted me for a movable kidney. She was twenty-eight years old, the mother of three children, and had been an invalid, most of the time confined to her bed, for a year. Her trouble began six months after the birth of her last child. She had lost flesh, and was decidedly anemic, and suffered from all the local and reflex symptoms characteristic of movable kidney. The kidney was enlarged, and with the woman in the erect posture it could be readily found and would slip between the examiner's fingers. Yesterday when she was put upon the operating-table on the left side it was with great difficulty that the kidney could be found. After turning her in the dorsal position I succeeded in pressing the kidney down from under the ribs, and proceeded to make an oblique incision. The kidney was readily pulled into the wound, the capsule exposed, and with three large catgut sutures was anchored; a small drain of silkworm gut was placed at the bottom of the incision, and the wound closed.

Case 3. A young lady consulted me recently for a movable kidney, apparently identical with the one operated upon yesterday. I will operate upon her to-morrow. When in the horizontal position the kidney can hardly be detected, but when she assumes the erect or semi-erect posture, especially bending forward, it can be brought into position where it can be easily detected. She has suffered for a year with local pain and reflex troubles from the movable kidney, has lost much in flesh, is very nervous, and is determined to have an operation performed.

I do not believe in operating upon movable kidneys where we can by general treatment improve the nutrition of the patient and bring about a restoration of the fat by diet and medicines, or where we can arrest the local or reflex pains and keep the kidney in place by the adjustment of a proper support; but where we find such treatment has failed to do good, and emaciation is continuing, local pain increasing as well as the reflex trouble, I believe the best thing is to fix the kidney in the loin.

—(*Medical Times.*)

VAGINAL INCISION FOR EXTRA-UTERINE PREGNANCY.*

Three weeks ago a doctor consulted me about a patient, and after telling me the symptoms I said to him, "Doctor, your patient has an extra-uterine pregnancy, and you had better have her go to the Infirmary as soon as you can." She had been married six

*Reported to the Louisville Clinical Society.

years, had never been pregnant, although a healthy woman so far as her general appearance indicated and so far as the history of the case was concerned.

I detected upon the right side an enlargement in the region of the ovary and tube. She had missed a period, the first in her life, for about one or two weeks, when she began suffering, and had bleeding from the uterus. This recurred in small quantities every day until I operated, a week after the first symptom of which she complained appeared. I made an opening into Douglas' pouch and removed about a pint of blood. The tube and ovary were in a softened condition, as were also the surrounding structures, and the uterus was enlarged and soft; adhesions had formed binding the ovary and tube, but the adhesions being soft were easily separated.

By pulling the diseased ovary and tube through the wound into the vagina it was discovered that rupture had occurred in the outer third of the tube, into the peritoneal cavity, but it had bled not exceeding one pint, and there was no bleeding at the time of the operation. After the application of a clamp, the ovary and tube, much torn, were removed within half an inch of the uterus.

She had no trouble from the operation, and no elevation of temperature during convalescence. The clamp was removed after forty-eight hours, and within three or four days she wanted to be allowed to sit up and get out of bed, but she was kept in bed about ten days, then allowed to get up, and at the end of two weeks she left the Infirmary.

This is the second case operated upon recently where rupture had occurred into the peritoneal cavity; still there was no dangerous hemorrhage in either case.

I want to emphasize the importance of doing this work *per vaginam*, for nearly every case that has not gone beyond three months, whether rupture has or has not occurred, can be operated upon through the vagina with less danger, immediate and subsequent, and with more speedy convalescence.

For nearly three years I have been operating *per vaginam* for extra-uterine pregnancy, and I made my first report about two years ago, before the American Gynecological Society at the Academy of Medicine in New York City. In no case operated upon has there been a dangerous symptom during or after the operation. In this operation, and also in operations for curetting and lacerated cervix, I use no retractor or speculum.

—(*American Journal of Surgery and Gynecology.*)