

NOBLE (C.P.)

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A CONSIDERATION OF SOME  
OF THE  
NEWER PROBLEMS  
IN  
ABDOMINAL AND PELVIC SURGERY  
IN WOMEN.

BY

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*presented by the author* —

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It is my purpose in this paper to discuss briefly some of the newer problems in abdominal and pelvic surgery in women which at this time are attracting so much attention not only among gynecologists but also in the profession at large. I shall report my work at the Kensington Hospital for Women during its past fiscal year, together with the results obtained, and consider whether these results would have been altered for better or for worse had I made use of other methods of treatment than those employed.

Forty patients have had non-operative treatment or the rest cure. Of these one died.<sup>1</sup>

Celiotomy has been performed one hundred and nineteen times for various conditions, with six deaths and one hundred and thirteen recoveries.

ABDOMINAL HYSTERECTOMIES, 37.

For fibromata . . . . . 16.

*Complications.*—Malignant degeneration, 1; ovarian cyst, 1; ovarian cyst with unruptured tubal pregnancy—fetus, 1; parovarian cyst, 1; unilateral hydrosalpinx, 3; bilateral hydrosalpinx, 2; bilateral pyosalpinx, 1; calcareous and cystic degeneration, 1; bilateral salpingitis with dense adhesions, 1.

<sup>1</sup> See seventh death.

|                                                                                                                              |   |
|------------------------------------------------------------------------------------------------------------------------------|---|
| For ovarian tumor, retroflexion of the uterus, and adhesions (the other ovary previously removed for suppurating tumor)..... | 1 |
| For unilateral pyosalpinx, salpingitis, and retroflexion of the uterus, 1                                                    |   |
| For bilateral pyosalpinx.....                                                                                                | 4 |
| For bilateral pyosalpinx and suppurating ovarian tumor.....                                                                  | 1 |
| For bilateral hydrosalpinx.....                                                                                              | 1 |
| For bilateral ovarian tumors.....                                                                                            | 1 |
| For retroflexion of uterus, prolapsed, cystic, and enlarged ovaries, 1                                                       |   |
| For cirrhotic ovary and incurable metrorrhagia (other ovary removed four years before)....                                   | 1 |
| For bilateral hematoma of ovaries, salpingitis, and adhesions. . . .                                                         | 1 |
| For bilateral salpingitis and ovaritis, with retroflexion of the uterus and adhesions.....                                   | 8 |
| For suppurating left intraligamentous ovarian cyst (one gallon) and right hydrosalpinx.....                                  | 1 |

## OVIOTOMIES.

|             |   |
|-------------|---|
| Single..... | 9 |
| Double..... | 2 |

*Complications.*—Resected ovary, 1; pyosalpinx, 1; malignant degeneration, 2; salpingitis and dense adhesions, 1; suppuration in cyst, 1.

In eleven other cases ovarian tumors were removed which are not classed under this head

## TUBAL PREGNANCIES.

|                 |   |
|-----------------|---|
| Unruptured..... | 3 |
| Ruptured.....   | 5 |

*Complications.*—Gangrene of left tube and broad ligament, 1; hydrosalpinx, 1.

## PYOSALPINX.

|                 |   |
|-----------------|---|
| Unilateral..... | 4 |
| Bilateral.....  | 8 |

*Complications.*—Suppurating ovarian tumors, 2; non-suppurating ovarian tumors, 3; suppurating ovaries, 4; intraperitoneal abscesses, 3.

In eight other cases pus tubes were removed which are not classified under this head.

## HYDROSALPINX.

|             |   |
|-------------|---|
| Single..... | 1 |
| Double..... | 1 |

In seven other cases hydrosalpinx was dealt with, not included under this head.

## CHRONIC SALPINGITIS, OVARITIS, AND ADHESIONS, 11.

|                 |   |
|-----------------|---|
| Unilateral..... | 6 |
| Bilateral.....  | 5 |

## HYSTERORRHAPHY, 28.

|                                                                               |    |
|-------------------------------------------------------------------------------|----|
| Simple hysterorrhaphy, no adhesions.....                                      | 1  |
| Combined with plastic operations, no adhesions.....                           | 12 |
| Combined with some other abdominal operations, or when adhesions existed..... | 15 |

## HERNIOTOMY.

|                                             |   |
|---------------------------------------------|---|
| For post-operative ventral hernia.....      | 3 |
| Adventitious cyst, infected pedicles.....   | 3 |
| Appendicitis (one abscess).....             | 7 |
| Abdominal myomectomy.....                   | 3 |
| Parovarian cysts.....                       | 3 |
| Chronic ovaritis, both ovaries removed..... | 2 |
| "    "    one ovary removed.....            | 3 |
| Acute salpingitis and peritonitis... ..     | 1 |
| Pelvic abscess.....                         | 1 |
| Cancer of the omentum .....                 | 1 |
| Cholecystotomy.....                         | 1 |
| Exploratory section.....                    | 1 |

In addition two hundred and thirty-eight other operations have been done, as follows :

|                                          |    |
|------------------------------------------|----|
| Miscellaneous operations.....            | 23 |
| Shortening of the round ligaments.....   | 4  |
| Vaginal hysterectomy.....                | 2  |
| Vaginal myomectomy .....                 | 1  |
| Closing of a vesico-vaginal fistula..... | 1  |
| Ligation of the uterine arteries.....    | 4  |
| Nephrorrhaphy (in two cases double)..... | 5  |
| Dilatation and curetting.....            | 71 |
| Perineorrhaphy .....                     | 62 |
| Trachelorrhaphy.....                     | 27 |
| Amputation of the cervix uteri.....      | 24 |
| Anterior colporrhaphy.....               | 14 |

Of this miscellaneous list of operations (excluding the abdominal sections) it is unnecessary to say much. The mere report of the cases themselves indicates the general character of the work done. All of these cases recovered, and in the plastic operations primary union was obtained in every case. In my opinion the principles upon which the plastic surgery of women should be done have been so thoroughly worked out by Sims and Emmet (with some minor exceptions) that but little is left to their successors except to follow in their footsteps. Improvements in this field must be in minor details.

*Deaths.*—There have been seven deaths in the hospital during the year, six of these following the operation of abdominal section.

The first death was in a case of suppurating hemocele due to a ruptured tubal pregnancy. The patient had general septicemia with a temperature of 104° at the time of the operation, and had gangrene of the ruptured left tube and broad ligament. With irrigation and drainage of the pelvis the local conditions

improved somewhat, but the patient died of general septicemia on the seventh day after the operation. General peritonitis did not develop. This patient died because she was not operated upon sooner. Knowing the conditions in the case, blame does not attach to any one except the patient herself, as operation was suggested earlier by her family attendant but not accepted. Moreover, the progress of this case was very insidious, and it did not appear before the operation that she was in such a desperate condition.

The second death was in a case of appendicitis with abscess and with pelvic peritonitis. This patient had been in bed many weeks, first with an acute appendicitis which apparently had subsided, and second with an attack of pelvic peritonitis resulting in the binding down of the uterus and its appendages. It was not believed that there was an abscess in this case, as the mass which had existed earlier in its history had disappeared. Therefore it was thought possible to cure both the disease of the appendix and the adherent uterus and appendages with one operation. The uterus and appendages were freed from adhesions and a hysterorrhaphy was done. Next the appendix region was investigated through the same incision, when it was found that a small abscess was present behind the cecum. When this was discovered a second incision over the appendix region was made for gauze packing and drainage, but infection had occurred and the patient died of acute septic peritonitis. It is possible that had the pelvic organs not been disturbed, and had the incision been made directly over the cecum, this patient might have recovered.

The third death was in a case of double pyosalpinx and intra-peritoneal abscess in a patient very much broken down from septic absorption and who had had septic fever for weeks. She was decidedly septic at the time of operation. This operation was done rapidly, and the pelvis thoroughly irrigated and drained both with gauze and a glass tube, but she died of septicemia on the fourth day. It was my intention in this case, knowing her prostrated condition and that septicemia was present, to drain if possible by the vagina and to leave the pelvic structures in, to be removed if necessary at some subsequent period. On opening the abdomen, however, the barriers between the pus and general peritoneal cavity were so frail that I thought it extremely doubtful whether the pus could be evacuated without

breaking into the general peritoneal cavity. Moreover, the pus tube on the left side contained several septa, and a portion of this pus tube could not have been drained, as it was attached high up in front of the broad ligament. This patient's life might have been saved had drainage only been employed, but this is a matter of great doubt. This patient died because she was operated upon "too late."

The fourth death was in a case of fibroid tumor in a woman 67 years of age. She had had "womb trouble" for forty years and had known of the existence of the tumor for at least fifteen years. The pelvic portion of the fibroid had undergone calcification, and another part had undergone cystic degeneration. The pressure of the tumor upon the bladder and ureters gave her such torment that she demanded operation in spite of a bad prognosis, which was given partly on account of her age and of her calcified arteries, but more especially because of very defective urinary secretion. The tumor was removed without difficulty, but she died of suppression of urine on the fourth day. No autopsy was permitted, but there was no reason to suspect the ligation of a ureter, as she passed urine freely for the first day.

The fifth death was in a patient having a retroflexed and adherent uterus and adherent appendages (recurrent peritonitis), upon whom a hysterectomy with removal of the appendages was performed. This operation was done May 31st, the first hot weather of this year, and the patient died of heat-stroke on the second day. Two other patients were operated upon the same day, both of whom were affected by the heat in a minor degree, but recovered under the use of ice baths. In the patient who died it was impossible to keep the temperature below 103°, even by ice packs. This is the second patient in my experience who has died from heat-stroke after operation. It is of interest to note that several other patients operated upon in other hospitals in Philadelphia the same day also suffered from heat-stroke.

The sixth death was that of a woman having a suppurating ovarian tumor, who had had septic fever for five weeks before her operation, and who was greatly prostrated and distinctly septic at the time of operation. The tumor contained four quarts of pus. She died of septicemia on the second day. It is unnecessary to point out that the tumor should have been re-

moved so soon as attention was called to it by the septic symptoms.

The seventh death was in a patient suffering from ovarian tumor, who was admitted to the hospital for operation when in the last stages of inanition from this disease. She died shortly after her admission and before an operation was performed. This woman had seen a number of physicians, who differed in their diagnosis and advice. She was recommended at last to consult a surgeon by a woman electrician. It brings up curious reflections upon the efficiency of medical advice, that an ovarian tumor should have been permitted to grow until it caused the death of this patient, and that in 1895 in the city of Philadelphia.

*Trachelorrhaphy versus Amputation of the Cervix.*—Trachelorrhaphy has been performed twenty-seven times, amputation of the cervix uteri twenty-four times, and anterior colporrhaphy fourteen times. The relation of these operations is of interest, as showing that amputation of the cervix has been chosen in preference to trachelorrhaphy about ten times. The other amputations of the cervix have been done for cases of procidentia. It is my practice, whenever the cervix is so thoroughly diseased that the morbid tissue cannot be removed satisfactorily by doing trachelorrhaphy, to perform an amputation of the cervix. In this way I feel sure that better results can be obtained than by attempting to restore the contour of the cervix. I believe that this opinion is shared by the originator of the operation of trachelorrhaphy, Dr. Emmet.

*The Conservative Principle in Abdominal Surgery.*—Of the one hundred and nineteen cases reported, in sixty-four both the uterine appendages, with or without the uterus, were removed; in twenty-three one uterine appendage was removed; and in thirty-two none of the sexual organs were removed. The last group includes cases of hysterorrhaphy, the breaking-up of adhesions, myomectomy, and abdominal operations proper as distinguished from operations on the pelvis. In other words, in fifty-three of the one hundred and nineteen patients the functions of ovulation, menstruation, etc., were not interfered with by the operations. In several cases in which one ovary and tube were removed, and minor disease, such as hematoma or small follicular tumors, existed in the opposite ovary, the diseased part was excised, the wound sutured, and the remaining part of the

ovary dropped back. In all my work the principle has been recognized that the functions proper to women should not be interfered with except for good and sufficient reasons. The nature of this paper prevents a full account of the results obtained in carrying out this principle, more especially in cases in which a certain grade of salpingitis is present, especially when the appendages have been bound down by adhesions. Suffice it to say that the results obtained make it worth while, in my judgment, to carry out the principle in the case of young women in whom maternity is desired or may become possible. On the other hand, there is no doubt that the results in many of these cases are disappointing, and that subsequently the remaining ovary and tube must be removed in order to restore the patient to health.

*Suspensio Uteri versus Shortening of the Round Ligaments.*  
—It will be observed that in four cases the round ligaments were shortened for retroversion or retroflexion of the uterus, whereas suspensio uteri was done twenty-eight times, and of this number in thirteen cases in which adhesions were absent hysterorrhaphy was the only intra-abdominal operation performed. In twelve of the thirteen cases plastic operations were done at the same time. In other words, in the class of cases where either operation could have been done the round ligaments were shortened four times and suspension was done thirteen times. My experience has been very much greater with suspension of the uterus than with shortening of the round ligaments. I like both the operations very much, as the results obtained have been most satisfactory. In all of the cases in which I have shortened the round ligaments the uterus remains in position. This does not include a case in which I attempted the operation and failed to find the ligaments—the first time in which I made the effort. Of the cases in which hysterorrhaphy has been done, so far as I know, not only in these reported tonight but in all the previous cases in which I have operated, the uterus remains forward except in two cases. In one case the patient had a septic peritonitis and it was necessary to reopen the abdomen to wash out the septic material, at which time the sutures through the uterus were removed and not reintroduced. This patient remains well, but her uterus is not attached to the abdominal wall. It was a case of procidentia in which plastic operations were done and then the adherent ovaries and tubes

were removed and a hysterorrhaphy performed. One of the tubes had been transformed into a hydrosalpinx. The second case in which the uterus has not remained attached to the abdominal wall was one in which on the third or fourth day the bladder became over-distended and tore out the sutures from the uterus. This patient was apparently emptying her bladder and deceived her nurses in this way. Attention was called to the over-distention by abdominal pain, which on investigation was found to be due to a bladder sufficiently filled to extend up to the umbilicus.

The relative merits of hysterorrhaphy and shortening of the round ligaments is a question which merits attention. In my judgment the field of suspension of the uterus is very much wider than that of shortening of the round ligaments. The latter operation should be limited to those cases of retroversion or prolapse of the uterus in which the uterus is freely movable and the broad ligaments so flaccid as to assure the examiner that adhesions are absent or of a very trifling character. This last clause is added because adhesions of a very trifling character cannot be recognized by bimanual examination. Really the operation should be limited to cases in which adhesions are absent. On the other hand, suspension is applicable not only to this class of cases, but to cases in which adhesions more or less dense exist as a complication of the retroflexion or prolapse of the uterus. My preference is to shorten the round ligaments in cases having no adhesions, if the patient is young and liable to become pregnant, as I believe that pregnancy and labor are less likely to be interfered with than is the case when the uterus is attached to the abdominal wall. Hysterorrhaphy must be employed whenever there are adhesions, and oftentimes when there are none. For example: Of the twenty-eight hysterorrhaphies reported to-night twelve have been done in cases of procidentia or retroflexion of the uterus in which plastic operations were also performed upon the same patient at the same sitting. In all such cases I prefer hysterorrhaphy because of the much shorter time which is required for its performance. Ten or fifteen minutes suffice for a carefully performed hysterorrhaphy, whereas it requires at least three-quarters of an hour to shorten the round ligaments. The interests of the patient are best subserved by selecting hysterorrhaphy in cases in which it is neces-

sary to do a number of operations upon the same patient on the same day.

In parallel cases, in my judgment, the risks of the two operations are about the same. In a well-conducted clinic the mere opening of the abdominal cavity is in itself a risk so slight as to be scarcely appreciable. Moreover, in shortening the round ligaments not infrequently the peritoneal cavity will be opened, and not only once but twice. I have a number of times torn the peritoneum in both inguinal canals when stripping it off from the round ligaments; therefore even this slight risk is not necessarily avoided in the operation of shortening the round ligaments. In my judgment its advantages are that it is less apt to interfere with pregnancy or labor, and its disadvantages, as compared with suspension of the uterus, consist of the increased length of time necessary for its performance, and the fact that occasionally adhesions are overlooked which may subsequently require an abdominal operation to relieve pain, caused by putting them on the stretch when the uterus is brought forward.

It will be observed that in no case has vaginofixation of the uterus been performed. This operation, of German origin, has not impressed itself favorably upon me. That much can be said in its favor I am prepared to admit, but am too well satisfied with the results obtained by hysterorrhaphy and by shortening of the round ligaments to choose it in preference.

*Suturing the Abdominal Incision. Hernia.*—There have been three post-operative herniotomies for ventral hernia. One of these was in a patient upon whom I had operated for a ruptured tubal pregnancy, using drainage and the through-and-through suture. The second was in a patient upon whom I had operated for a suppurating ovarian tumor communicating with the rectum, the patient being at the time greatly prostrated from long-continued suppuration and septic absorption. At the first operation the suppurating tumor was removed by peeling it out of its bed, and when removed there was no point requiring a ligature. The patient was so profoundly shocked at this time that the opposite appendage was not examined. Gauze and glass drainage was used and the through-and-through suture. Both of these patients belong to the class which are apt to develop hernia. They are prostrated at the time of operation, so that this has to be hurriedly performed; drainage must be used, and the suturing of the abdominal wall done in a very

imperfect manner. Everything has to yield to the necessity for shortening the operation to the utmost possible degree, otherwise the patient dies from shock or sepsis, the latter being very much more apt to develop in a prostrated patient. I always tell such patients that they should feel rather glad that they have a hernia, as had they not recovered from the operation they would not be bothered with it. The third patient had been operated upon in another hospital for adherent appendages, the adhesions having been broken up with the idea that a cure would result. On the contrary, the adhesions reformed and the patient suffered not only from retroflexion of the uterus and adherent and diseased appendages, but from a hernia in addition. At the first operation, I believe, through-and-through suturing was employed. In the second case a thin-walled ovarian tumor was present, and this, together with the retroflexed and adherent uterus, was removed. In the third case the diseased and adherent appendages, together with the retroflexed and adherent uterus, were removed.

These three cases of hernia are reported in order to refer to the method employed in closing the abdominal wall, which is applicable not only to cases of post-operative ventral hernia, but also to the abdominal incision in all cases of celiotomy in which abdominal drainage is not necessary. This method of suturing has been employed for three and a half years in about two hundred cases, with the result that not a single hernia has presented itself.<sup>1</sup>

The method of suturing referred to is to bury a row of silk-worm gut sutures at the level of the aponeurosis, thus closing the peritoneum, subperitoneal fat, recti muscles, and aponeurosis. The edges of the aponeurosis are brought together under the guidance of vision, which I believe is the secret of the success of the method in preventing hernia. The skin and subcutaneous fat are then brought together by superficial sutures in

<sup>1</sup> To be absolutely exact I should report that in a case of tubercular pyosalpinx and tubercular peritonitis in which the method was used the incision became infected and all of the sutures were discharged. In this case a hernia formed about one year after the operation. In a second case an umbilical hernia in a very stout lady was operated upon, and the pillars of the ring were brought together by this method of suturing. About a year after the operation a hernia appeared to the left of the line of suture. It is scarcely necessary to point out that the object of the suturing was defeated by suppuration in the first case, and that the conditions are essentially different in umbilical hernia from those which obtain in abdominal section in general.

troduced down to the aponeurosis, so that dead spaces shall not be left in the abdominal wall. If proper asepsis is maintained suppuration is an extremely rare accident. The method was employed for over two years without a single suppuration, when two patients operated upon the same day suppurated. In other words, on that day somebody's hands were not clean or the suture material was not properly sterilized. My results with this method of closing the abdominal wall have been so satisfactory that I am not tempted to change it. It has been proposed to substitute silver wire for silkworm gut, and this has been done by various operators because of the suppurations which occurred with the silkworm gut. This, however, is purely a question of asepsis, and if this can be maintained there will be no occasion for a variation in the technique. The use of non-absorbable buried sutures, I believe, is original with Schede,<sup>1</sup> of Hamburg, and has been employed more especially by Edebohl and myself in this country. My experience with it is now sufficient to enable me to claim that by it hernias after abdominal section can be reduced practically to the vanishing point.

*Abdominal Hysterectomy.*—Thirty-seven abdominal hysterectomies were performed. Sixteen abdominal hysterectomies were for fibroids. In these sixteen cases the following complications were met with:

In one, malignant degeneration; in one, an ovarian cyst; in one, no ovarian cyst with unruptured tubal pregnancy—fetus; in one, bilateral pyosalpinx; in one, a parovarian cyst; in three, unilateral hydrosalpinx; in two, bilateral hydrosalpinx; in one, calcareous and cystic degeneration; in one, bilateral salpingitis with dense adhesions. Of these patients one died.<sup>2</sup>

The remaining twenty-one abdominal hysterectomies were done for the following conditions:

One, ovarian tumor, retroflexion of the uterus and adhesions; one, unilateral pyosalpinx, salpingitis, and retroflexion of the uterus; four, bilateral pyosalpinx; one, bilateral pyosalpinx and suppurating ovarian tumor; one, bilateral hydrosalpinx; one, bilateral ovarian tumors; one, retroflexion of uterus, prolapsed and cystic enlarged ovaries; one, cirrhotic ovary and incurable

<sup>1</sup> Schede uses buried silver-wire sutures and also "through-and-through" wire sutures.

<sup>2</sup> See fourth death.

<sup>3</sup> The other ovary had been removed for a suppurating tumor. See under ovariectomies.

metrorrhagia<sup>1</sup>; one, bilateral hematoma of ovaries, salpingitis, and adhesions; eight, bilateral salpingitis and ovaritis, with retroflexion of the uterus and adhesions;<sup>2</sup> one, suppurating left intraligamentous ovarian cyst, containing one gallon of pus, and right hydrosalpinx—uterus removed on account of oozing from its ragged surface.<sup>3</sup>

*Hysterectomy versus the Removal of the Uterine Appendages.*—Special attention should be called to the fact that hysterectomy, instead of the usual operation of the removal of the appendages only, was performed in twenty-one cases. In eleven of these the uterus was retroflexed and in ten adherent. Formerly in these cases of "retroflexion and adhesions," after the removal of the uterine appendages and the separation of all adhesions, either a hysterorrhaphy would have been done or the chance would have been taken that the uterus would again become fixed in retroflexion. When the condition of the patient is fairly good I believe it to be better practice to remove the uterus along with its appendages in these cases, rather than to do a hysterorrhaphy or to allow the uterus to drop back in the pelvis. One of the patients so operated upon died (see fifth death), but a study of the case will afford convincing evidence that the death was due to operation upon a hot day, and not to the fact that a hysterectomy rather than the mere removal of the uterine appendages was done. The two chief advantages of hysterectomy in this class of cases are: 1. That in a certain percentage of them drainage, which would otherwise be necessary, can be dispensed with, thus promoting the subsequent comfort of the patient by reducing the risks of hernia. 2. That the uterus is not left attached to the abdominal wall, with its ragged posterior surface to become attached to the bowels and thus to favor subsequent abdominal pain from adhesions.

In the remaining ten cases in which hysterectomy was done instead of the removal of the uterine appendages, in some the uterus was removed in order to permit the ligation of both uterine arteries and thus to control oozing either deep in the pelvis or from the surface of the uterus itself. In other cases the uterus was removed so that the ragged surface behind the broad ligaments could be covered over by the peritoneum dissected from the anterior face of the uterus and the broad ligaments.

<sup>1</sup> This patient had had one ovary removed four years before.

<sup>2</sup> One died. See fifth death.

<sup>3</sup> See sixth death.

In this way drainage can frequently be dispensed with when otherwise it would be necessary.

Hysterectomy was done in this class of cases twenty-one times, and the uterine appendages alone were removed twenty-seven times.

My own experience has been different from that reported by many operators as to the permanent result of the removal of the uterine appendages, especially as to disagreeable sequelæ. It is claimed by many operators that in the large percentage of cases, if the uterus is left behind after the removal of the ovaries and tubes, the patients are not restored to health; that they continue to suffer from pelvic pain, hemorrhages, or other symptoms which render their condition either no better than before their operation or perhaps even worse. About a year ago I investigated the results obtained in my early cases, about eighty in number, who had been operated upon long enough to judge of the ultimate result obtained, and found that in only four of them were unfortunate sequelæ present. This is about five per cent. One of the four had metrorrhagia because a portion of one ovary was not removed. Two suffered from pelvic pain of a similar character to that for which the operation had been done. Both of these patients had been chronic invalids for years, and the operations were undertaken with the expectation of benefiting them by doing away with menstruation, rather than of making a perfect cure. It will not gratify the advocates of hysterectomy to know that at the solicitation of one of these two patients her uterus was removed, and that she continues to suffer exactly the same pain as before. Her general health improved very much after the first operation, and instead of being bedridden she is now able to do the greater part of her domestic duties; but the removal of the uterus did not modify the pain which was left after the removal of the appendages. The other similar case has been lost sight of. The fourth patient had a gonorrheal intraperitoneal abscess with double pus tubes, and still has a gonorrheal endometritis.

While I do not accept the argument as valid that the uterus should be removed with its appendages because if left behind it will almost surely render the patient an invalid, I do believe that in many of these cases it is desirable to remove the uterus along with the ovaries and tubes. From my standpoint, what is gained by hysterectomy in these cases is that oozing can be

much better controlled if both uterine as well as both ovarian arteries are tied, and that a very considerable part of the raw surface left after the separation of adherent appendages can be covered over by the flap of peritoneum dissected off from the front of the uterus and broad ligaments. In this way drainage can be dispensed with in many cases when otherwise it should be employed, and the number of hernias following such operations can be greatly reduced. Post-operative intestinal adhesions also, I feel confident, will be less common than after the older operation; and the reason for this is quite apparent. A gain is made by removing the uterus itself also in cases of long-standing chronic metritis with a large, infiltrated uterus. Such a uterus, when left behind after the removal of the ovaries, can keep up reflex symptoms.

*Abdominal versus Vaginal Hysterectomy.*—Abdominal hysterectomy has been performed thirty-seven times, and the uterine appendages only have been removed twenty-seven times, whereas vaginal hysterectomy has been performed but twice. The advocates of vaginal hysterectomy as an improvement upon abdominal section for the removal not only of cancerous uteri, but also for small fibroids, certain ovarian tumors, and for the inflammatory and suppurative diseases of the uterine appendages, will naturally claim that the interests of these women would have been better subserved had vaginal hysterectomy rather than abdominal section been done upon the great majority of them. They advocate vaginal hysterectomy rather than celiotomy upon the following grounds: (1) that after vaginal hysterectomy there are no ventral hernias; (2) that the primary mortality is less than that after celiotomy; (3) that the ultimate results are better than after celiotomy; (4) that the convalescence is shorter than after celiotomy; (5) they claim also that vaginal hysterectomy is especially indicated in the worst cases of pelvic inflammation and suppuration, because that by it the barrier of adhesions formed by peritonitis, which shuts off the general peritoneal cavity from the pelvis, is not broken down by the operation done from the vagina.

I wish only to point out that, however much truth there may be in the claims now made for vaginal hysterectomy, its advocates have as yet not established their position, and that they have very decidedly overstated its relative merits. They have insisted very strongly upon the great frequency of ventral her-

nia after celiotomy. The results of those who employ non-absorbable buried sutures, as illustrated by my own report tonight, show that, while there is something in this claim, after all it is of small and relative rather than of absolute importance. Moreover, it may be found that the percentage of vaginal hernias which develop after vaginal hysterectomy is not very dissimilar from that of ventral hernia.

The question of primary mortality is largely a personal matter and depends upon the skill of the operator and upon his judgment in the selection of cases for operation. These factors are again influenced by the conditions which he can control in the clinic in which he operates, and also by his selfishness or unselfishness as to whether he considers the good of his patient or merely the piling-up of statistics embracing a low mortality; and even here I believe the advantage lies with celiotomy. This is indicated by contrasting the mortality of vaginal hysterectomy as given by Jacobs,<sup>1</sup> of Brussels, 4.2 per cent, with that of abdominal hysterectomy given by Baldy, 2.7 per cent, and by the known results obtained by Kelly, between 1 and 2 per cent, and that reported by myself.

The claim that the ultimate results obtained after vaginal hysterectomy are better than after celiotomy, is one which I doubt and which has to be proved by time rather than by argument. I wish merely to point out in this connection, that it is admitted that when vaginal hysterectomy is employed it is necessary in many cases to do partial or incomplete operations, leaving behind ovaries or parts of ovaries, pus tubes or parts of pus tubes, and depending upon drainage to effect a cure. This claim and admission will hardly convince those who have been accustomed to remove completely diseased organs by abdominal section, and who have seen the bad results following incomplete operations.

A great deal is said of the advantages of vaginal hysterectomy because after it women can be made to sit up as early as one or two weeks after operation, whereas abdominal surgeons advise their patients to remain in bed from three to four weeks. This argument when investigated is a very weak one, because patients are not well within one or two weeks after vaginal hysterectomy. Their pelvic wounds are not even healed up, and oftentimes even longer after an operation the sloughing processes have not been

<sup>1</sup> American Gynecological and Obstetrical Journal, June, 1895, pp. 744-896.

completed, but give rise to foul, stinking discharges. No surgeon of experience will accept the claim that such patients are well because they can be forced out of bed at this time. One is inclined to suspect that the hygiene of hospital wards makes it desirable that these patients shall be urged to return home at the earliest possible day. When it is recalled that the nutrition of many of these patients is profoundly depraved and that their nervous tone is in a similar condition, it will be admitted that a rest in bed even longer than three or four weeks, under good hygienic conditions and with good food and nursing, is a most valuable factor in restoring them to health.

The final claim that vaginal hysterectomy is especially valuable in the more severe cases of pelvic suppuration, because it does not break down the barrier which shuts off the pelvic disease from the general peritoneal cavity, is unquestionably fallacious. Every abdominal surgeon knows by practical experience that it is extremely rare to meet with a case in which both uterus and appendages are absolutely buried beneath a wall of adhesions. At some point the uterus or the uterine appendages are in relation with the general peritoneal cavity; therefore, whether vaginal or abdominal hysterectomy be done, in these cases the barrier between the pelvic disease and the general peritoneal cavity is broken through. Whatever advantage the method has, it must not be claimed that it permits the removal of the pelvic disease without opening the general peritoneal cavity.

Heretofore in this class of cases I have, with one exception, always operated from above and have removed completely the diseased structures. I have become convinced, however, that it is better surgery to drain these cases by the vagina, by making an incision into Douglas' pouch and breaking up the pus sac with the finger, either making an abdominal section to assist in the manipulations or not, as may be indicated in the particular case. In this way the barrier can be preserved between the pelvic disease and the general peritoneal cavity. Drainage will permit these patients to recover from their septic state, and later they can be operated upon for the removal of diseased structures, if necessary.

I by no means believe that the questions at issue concerning abdominal *versus* vaginal operations have been settled. Like all problems in medicine, they will be settled by the combined

experience of the profession, after sufficient time has elapsed to determine definitely the advantages and disadvantages of both methods. I am not inclined, however, to believe that vaginal hysterectomy has a large field—certainly not unless improvements are made whereby operations attempted by this method can be performed with certainty and the present necessity of doing incomplete operations is overcome. When the vagina is roomy and the adhesions not too dense, undoubtedly the operation is entirely feasible from below. But in this class of cases very many patients require plastic work in the vagina; in such cases the abdominal route offers the advantage that both the plastic and the abdominal operations can be done at the same sitting. When the vagina is narrow and the adhesions dense and perplexing, vaginal hysterectomy is rather a demonstration of how by great perseverance and hard work extreme difficulties can be overcome, than an exhibition of the skill of the surgeon in dealing with the complications encountered, and does not compare at all favorably with operation by the abdominal route. The abdominal route offers great advantages in dealing with cancer of the uterus, inasmuch as in this way very much more of the broad ligaments and other tissues surrounding the uterus can be removed. This is especially true if bougies are placed in the ureters, as this permits the removal of very much more tissue than is otherwise possible without injuring these structures.

In conclusion, I wish to point out that a resort to the vaginal method of operating could not have improved the results in the cases reported in this paper. The second and fourth deaths were in cases in which the vaginal method of operation was not applicable. One was a case of abscess behind the cecum, from appendicitis; the other was a case of fibroid tumor extending far above the level of the umbilicus, in which the pelvic portion had undergone calcification, the upper part being cystic. The first and third deaths occurred in patients having general septicemia at the time when they were operated upon. I can see no ground for the belief that a fatal result would have been averted had the vaginal method been employed. The fifth death occurred from heat-stroke. On the other hand, we do not know how many deaths would have resulted had the vaginal method rather than the abdominal been used. In addition to this aspect of the question, I have no doubt that the remote results will be

very much better than they would have been had the vaginal method been employed. Complete operations have been done in every case, which would not have been the case with the use of the lower method. In addition, I can report that not in a single case were fistulæ of the bladder or bowel caused by operation. In two cases bowel fistulæ were present at the time of operation. In one of these a cure has resulted, and in the other the fistula is gradually closing. This is a decidedly better showing than that obtained by the vaginal method. Finally, there is the certainty that these patients will not suffer from recurrent attacks of peritonitis due to diseased tubes left in at the time of operation, or from tumors or abscesses of ovaries left behind as a result of incomplete work.

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