OBSERVATIONS

ON THE YEAR'S WORK

— IN —

PELVIC SURGERY

BY

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SAN FRANCISCO

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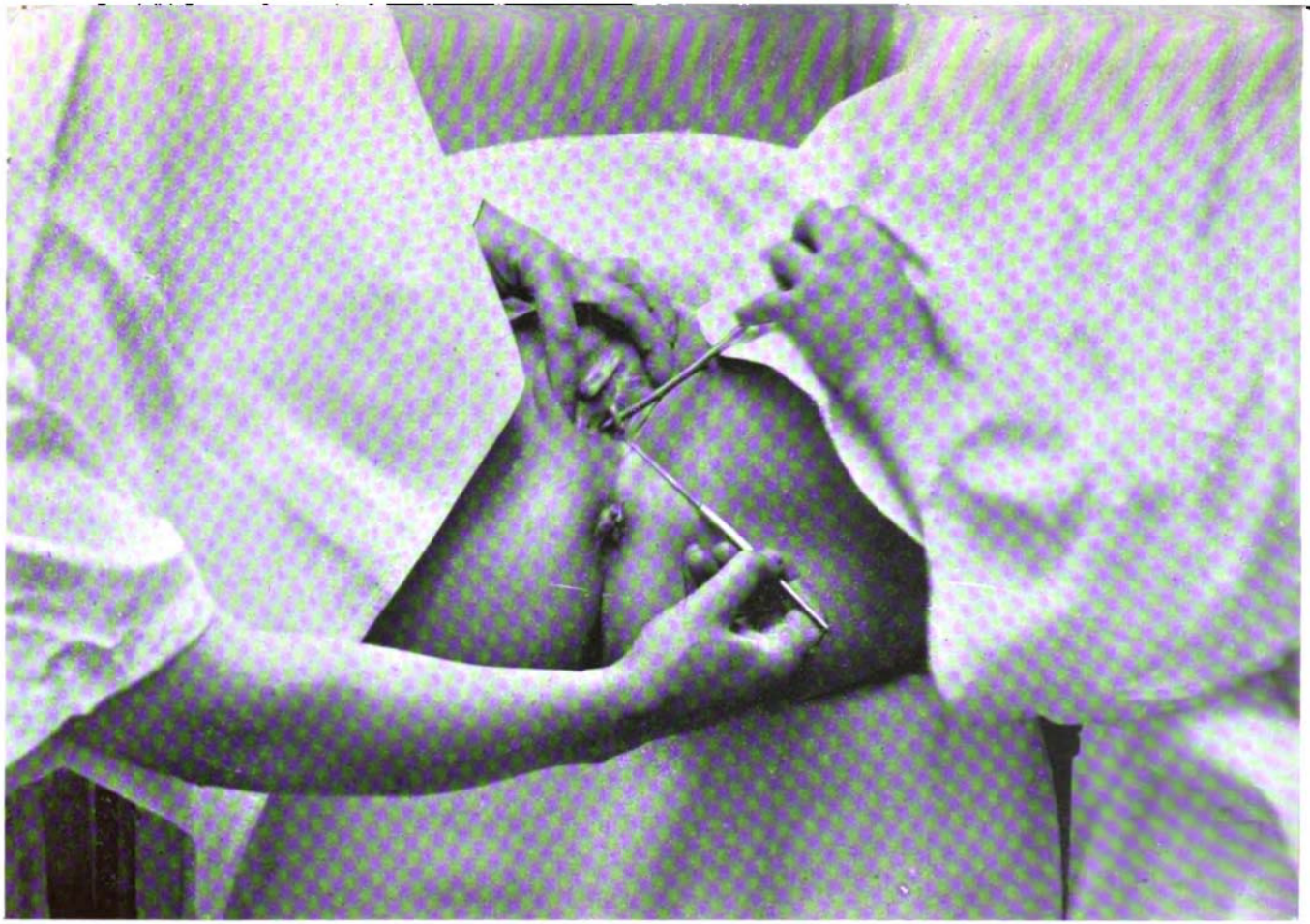


I. PRIMARY CARCINOMA OF THE URETHRA.

Probe passing into the Meatus Urinarius. Showing the Fistula into the Urethra on the right side.

OBSERVATIONS ON THE YEAR'S WORK IN PELVIC SURGERY

By FLORENCE N. WARD, M. D.

This report will include all those cases of women's diseases necessitating surgical intervention for twelve months from April 1, 1902, to May 1, 1903, omitting the month of June, when no surgical work was done.

This series of cases does not include general abdominal operations, kidney or miscellaneous surgery, but strictly lesions of the generative tract, in which class, I consider, a sufficient number of cases have accumulated from which to draw conclusions of definite value. The list includes forty-six capital operations and eighty-six minor operations, making a total of one hundred and thirty-two operations.

MORTALITY RATE. There were no deaths from the operations; all reacted well. Convalescence progressed favorably in all cases with one exception, a Miss S., referred for operation by Dr. Lane, of Santa Rosa. The patient was unmarried, age 77, from whom a large multilocular ovarian cyst, reaching to the diaphragm, had been removed on March 5, 1903. She was taken ill on the fifth day with a violent acute attack of entero-colitis, to which she succumbed on the sixth day. Her history showed that she had been in the habit of taking powerful cathartics for many years to reduce her form, thinking that the enlargement from the tumor was due to tympanitis, until she had become subject to very intense attacks of entero-colitis, from which she had almost died a number of times. The attack that caused her death was undoubtedly a recurrence of her old trouble, as surgically everything had progressed most favorably. Temperature and pulse ran a normal course, nourishment was taken and retained, and there was alto-

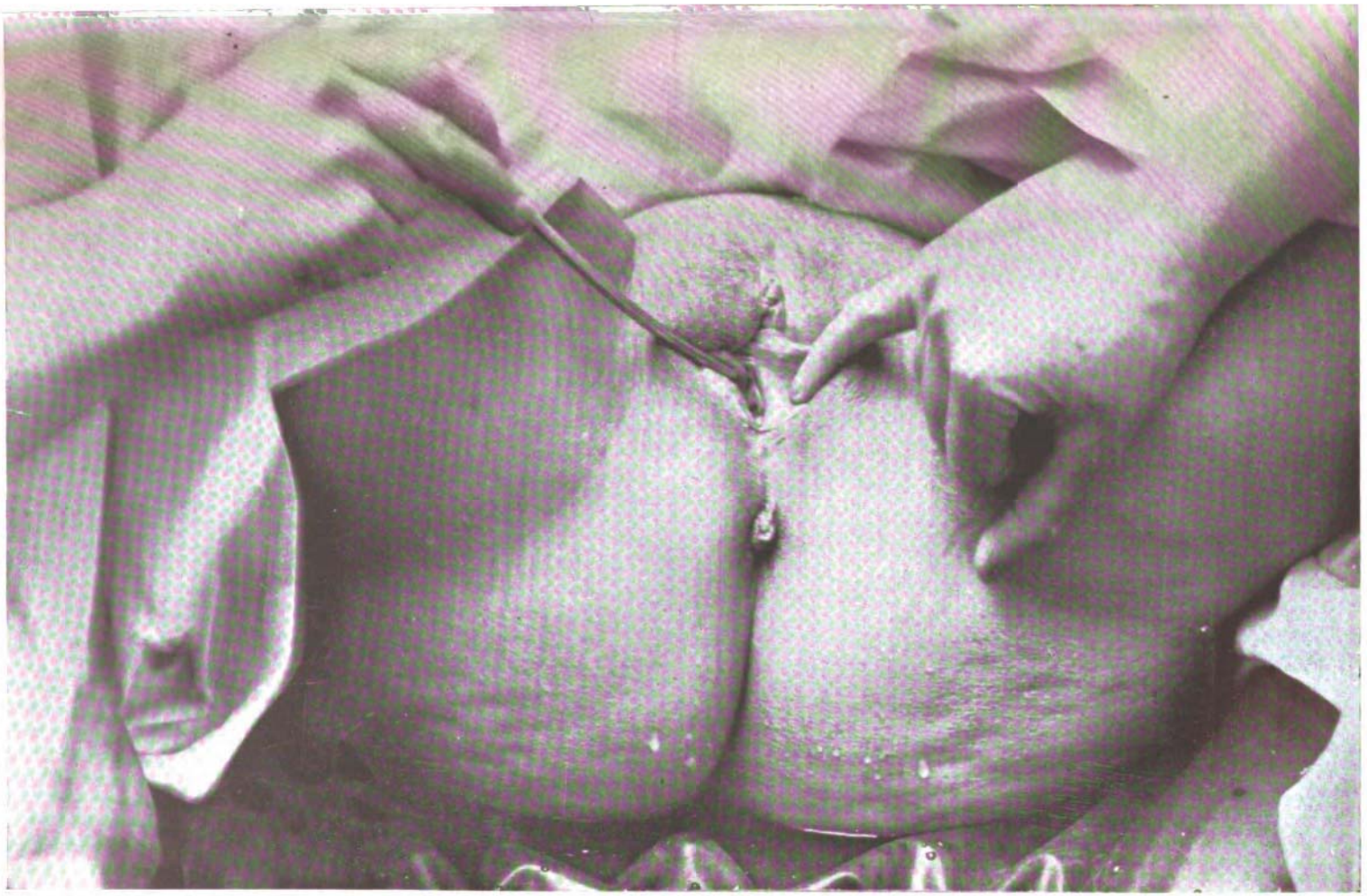
gether an unusually uncomplicated convalescence until the sudden and acute attack intervened. With this exception the mortality rate was zero.

Age of Patients. The oldest patient operated upon was 78 years of age; abdominal hysterorrhaphy with accessory plastic work upon the vagina and perineum was performed August 10, 1902, for an aggravated case of procidentia. The patient had been bedridden from her extreme discomfort. She made a perfect surgical and symptomatic recovery.

The youngest patient was 18 years of age. An abdominal section was made for pelvic and general tubercular peritonitis on August 21, 1902. The patient was married, nulliparа, had had amenorrhœa for three years. The pelvis was filled with great masses, exquisitely sensitive, in which the uterus was imbedded. She had had recurrent attacks of pelvic peritonitis. Abdominal section was made, and the tubercular deposits and adhesions were so universal that no attempt was made further than to flush the abdominal cavity with saline solution and place strips of iodoform gauze in different parts of the peritoneal cavity. A fecal fistula developed on the fourth day, followed by a free discharge of pus. This fistula healed spontaneously and the wound closed rapidly, the patient sitting up on the sixteenth day. She has made a complete restoration to health; has become plump and robust, with entire freedom from her pelvic aches and pains.

The average age of those operated upon was 37 years, the largest number 28, coming between 30 and 40 years of age.

Ætiology. In investigating the reason for the surgical care, all the cases naturally fall into four classes. By far the largest number of cases required surgical treatment, comprising nearly half of the total number were for the lacerations and lesions following child-birth or abortion. The next largest class, closely following in numbers, consisted of those having pathological growths. The next class included those pathological changes which are the result of inflammatory lesions, due to infections, to trauma or to accidental causes, the lesions being so grave in char-



II. VIEW OF THE SAME CASE SIXTEEN DAYS AFTER OPERATION.

Showing the new Meatus Urinarius.

acter as not to yield to medical or local treatment. The last and least numerous were those lesions of the young woman, usually congenital, which included the flexions, stenoses and faulty developmental lesions.

Duration of Operation. The longest operation was one for vesico-vaginal fistula, which took two hours and a half for its completion. The patient was sent for operation by Dr. Ida V. Stambach. Miss W., single, age thirty-seven years, gave the history of having been operated upon six times, two curettements for menorrhagia, and an abdomino-vaginal hysterectomy for uterine fibroids, attended with unusual difficulties and followed by a vesico-vaginal fistula, which had been operated upon unsuccessfully three times.

Upon examination her condition was found to be a most distressing one. The fistulous opening was found high in the vaginal vault, close to the hysterectomy cicatrix and surrounded by a mass of cicatricial tissue. The vagina was excoriated and exquisitely sensitive from the passing of foul urine heavily loaded with mucus and pus.

She was operated upon April 9, 1903. She was placed in the knee-and-chest posture, the post-vaginal wall retracted by a Sim's speculum. It was with extreme difficulty that the field of operation was brought into view; the patient was very stout, the vagina unusually narrow, and the posterior vaginal wall rigidly fixed by a firm cicatrix due to the rectal vaginal septum having been split open to obtain working space in the first operation undertaken for the repair of the fistula. An elliptical denudation was made around the fistula, extending longitudinally in the vagina. Transverse silver wire sutures were introduced, followed by superficial intermediate sutures of fine silkworm gut. At times during the operation it seemed almost impossible to complete the work, owing to the depth of the vagina, the limited working space, and the thinness of the vesical-vaginal septum, which was kept in constant motion as the result of her labored respiration in the unusual posture. The closure completed, the vagina was lightly packed with iodoform gauze and a retaining catheter introduced into

the bladder. She made an uninterrupted recovery, temperature and pulse normal throughout. The sutures were removed on the eleventh day under chloroform anæsthesia. Union perfect throughout. Catheter was removed two days later. The urine cleared rapidly; the patient had no bladder distress, and was discharged cured three weeks from the time of the operation.

The shortest operation was a vaginal hysterectomy in which I removed the uterus and completed the operation in six minutes. The patient, Miss L., also sent by Dr. Ida V. Stambach, was unmarried, age 33, always delicate. She had been bedridden, unable to walk for six years, due to pelvic distress and bearing-down pains. She was anæmic and emaciated to an extreme degree and was sent to the city to take the last desperate chance to get well. The uterus was found sensitive and in a condition of chronic metritis. Vaginal hysterectomy was the operation selected. The operation was performed October 8, 1902. Pulse before operation, 130. Clamps were used, followed by gauze packing. She was put back to bed quickly and reacted well. She made an uninterrupted recovery and we had the pleasure of seeing her *walk* out of the Sanatorium December 3, 1902, free from her old pelvic distress.

Capital Operations.

The capital operations consisted of twenty-nine abdominal cœliotomies, fifteen vaginal cœliotomies and two abdomino-vaginal sections.

ABDOMINAL COELIOTOMIES.

Exploratory incisions	3
Uncomplicated hysterorrhaphies	9
Panhysterectomies	2
Myomectomy	1
Ovariotomy	1
Double salpingo-öophorectomy	1
Extra uterine pregnancy on one side, tubo-ovarian abscess on the other	1
Removal of hydrosalpinx and resection of ovary	1
Single salpingo-öophorectomy and resection of ovary	1
Hysterorrhaphy with myomectomy and salpingo-öophorectomy	2
Hysterorrhaphy with myomectomy and resection of ovary	1
Hysterorrhaphy with resection of ovaries	1
Hysterorrhaphy with single salpingo-öophorectomy	2
Single salpingo-öophorectomies	2
Resection of both ovaries	1
	29

Taking up the abdominal cases in detail, in three cases the operation ended with simply exploratory incision. One was the case of tubercular peritonitis, already referred to, and two were cases of inoperable tumors, one carcinoma of the cæcum and the other fibroid complicating pregnancy. The panhysterectomies were both for fibroids. In both, the uterus and appendages were removed by Howard Kelly's method, leaving the cervix in position. One of the cases—Mrs. D., aged 45 years—showed an interesting anomaly, the congenital absence of the tube and ovary on the left side. A slight thickening in the upper end of the broad ligament extending out about three centimetres from the uterus showed where the tube should have been. There was no evidence of any ovarian stroma upon the broad ligament on that side.

The myomectomy was a very interesting case. The patient, Miss O'K., unmarried, age thirty, had been treated at the clinic a year previously for an acute gonorrhœal vaginitis and endometritis from which she made a good recovery without the involvement of the appendages. On September 16th, 1902, she reported with pelvic distress. She was anæmic, emaciated, very nervous, and had an abdominal enlargement. Examination revealed a growth more pronounced on the right side and rising to 3 c. m. below the umbilicus, semi-solid in character; cervix eroded, soft and patulous. Last period very scanty, morning nausea and vomiting. She entered the Sanatorium for observation.

The weight of evidence was against pregnancy and an abdominal incision was made September 25th, 1902. The enlargement was found to be uterine and the most closely simulating a pregnant uterus of any I have ever seen. The only differential point was that the broad ligaments remained in the pelvis and the growth rose high above the superior margins. The tumor was removed down to the fundus of the uterus and the wedge-shaped incision closed by a double layer of catgut sutures. The pathological report showed it to be a soft fibroid, and not sarcoma, as it appeared clinically.

The ovariotomy case was one of those rare cases that we seldom now see of neglected ovarian cysts. It existed in a woman twenty-three years after the menopause. It had remained stationary for many years, but a fall in which she had struck the lower abdomen one year ago had produced a local peritonitis with adhesions and a rapid increase in the growth. The measurement at the umbilicus was forty-three and a half inches. The case illustrates that ovarian tumors may take on a renewed growth long after the pelvic organs have ceased their functional activity.

In operative work upon the appendages conservative lines were always chosen. There was only one case of a double salpingo-öophorectomy. It was a case of double pyosalpinx of many years' standing, with frequent exacerabations. She was operated upon at the close of an acute attack, and great pus collections filled both sides of the pelvis.

The case of hydro-salpinx was one that had been under observation for many months. The right Fallopian tube would fill and discharge at irregular intervals. At the time of the operation it was 15 c. m. in length, and tense with the collection of fluid.

The hysterorrhaphies were all performed for retroversion with or without accompanying lesions of the appendages, and all yielded most satisfactory results clinically, the patients being permanently relieved of the backache and pelvic weight and soreness previously complained of. The method employed was the suspension method of Howard Kelly, employing either the chromatized buried catgut No. 3, or the silkworm gut through and through sutures, which were removed before the patient left the Sanatorium. The only time fixation of the uterus was performed was in the cases of procidentia in women past the menopause. Then only was the uterus firmly fixed in the abdominal wall and strongly held by several sutures. It acted then simply as a ligament for the relaxed pelvic tissues, its functions as an active organ having ceased.

It is interesting at this point to note the comparison of retrodisplacements with other pathological lesions of the

pelvis. In looking over my records of private and clinic patients out of a total of 1,973 written records, retrodisplacement was present in 185 patients, or the proportion of nearly one out of every ten had retrodisplacement. Considering its frequency, it is no wonder that numerous operations have been devised for its relief. Howard Keely has collected forty-five operations aimed for the cure of the retrodisplaced uterus.

The extra-uterine pregnancy case* presented several unusual points of interest. The patient, Mrs. G., age 32, married seven years, had never been pregnant. Her last menstruation was December 15, 1902. Her period did not appear in January at the expected time. Two weeks later, fearing she was pregnant, she passed a wooden probe into tne uterus. This she repeated ten or twelve times at intervals of several days. She developed a pelvic peritonitis, suffering intensely until March 10, 1903, when she presented herself for care. Her pulse was 120, temperature 102°. Examination revealed the uterus pushed over to the left side and a foul-smelling bloody discharge pouring from it. The pelvis was filled with a mass extending up into the abdomen midway to the umbilicus. She was immediately sent to the Sanatorium, and curettement showed the uterus empty. Temperature rose to 103.6° in the next two days, when it was considered advisable to open the abdomen. Abdominal coeliotomy was performed at 8:25 P. M., March 13, 1903. A ruptured tubal pregnancy was discovered on the right side and the three months' fœtus was found free in the abdominal cavity. After extirpating the tube on that side, a tubo-ovarian abscess, the size of a small cocoanut, on the other was evacuated and removed, followed by a saline flushing and gauze packing to control the oozing. It seemed by the amount of oozing that the whole pelvic peritoneum was denuded. Through abdomino-vaginal gauze, drainage was instituted and the operation rapidly brought to a close. Time of operation 45 minutes. Patient made an uninterrupted recovery.

* Reported in detail at Alumni meeting, April, 1903.

VAGINAL COELIOTOMIES.

Hysterectomies:	
Procidentia	2
Chronic metritis	4
Fibroids	6
Evacuating pelvic abscess	1
Resection of left ovary, shortening of round ligaments for retroversion	1
Shortening of round ligaments for retroversion	1
	15
Vagino-abdominal Coeliotomies	2

In the list of vaginal coeliotomies, hysterectomies lead the list with twelve cases, in which the uterus was removed twice for procidentia, four times for chronic metritis of an extreme type, and six for fibroids. In procidentia either of two methods were chosen. First method, the uterus is fixed to the abdominal wall and the necessary plastic work on the vagina is done. This method is chosen when the uterus is small, the pelvic tissues atrophic or greatly relaxed, such as is often found in senile conditions. The second method is chosen when the uterus is heavy, hypertrophic and by its weight drags down the pelvic tissues. When this condition is present, it is removed. Catgut is used to tie off the broad ligaments and the edges of the vaginal vault are securely stitched to the peritoneal stumps, making a firm cicatrix, followed by the accessory plastic work.

The vaginal route was chosen in all cases whenever it was possible to do the work by that route, for the reason that the shock is less and the convalescence more rapid and freedom from pelvic symptoms more assured afterwards. Clamps were used in all cases except in the cases of the procidentia.

The peritoneal cavity was entered by the vaginal route in three other cases, in one for acute pelvic abscess, following a neglected abortion. The patient, Mrs. H., had a temperature of 103.8°, pulse 125, and intense pain in the left ovarian region. By bi-manual examination a large mass extending from the uterus to the left lateral wall of the pelvis was discovered. Under anæsthesia, the uterus was curetted, the posterior vaginal fornix widely opened into the

peritoneal cavity, the pelvis thoroughly cleansed out and packed with iodoform gauze. Very free drainage ensued and the patient made a good recovery. There is no doubt that this is the ideal method of treating all *acute serous* and *purulent collections* in the pelvis.

In two cases of retroversion, accompanied by prolapsed ovaries and complicated by lacerations and endometritis, I did all the work, both upon the peritoneal surface as well as upon the vaginal, by way of the vaginal route. After curettage and repair of the cervix, the peritoneal cavity was entered by the anterior incision. The uterus and appendages were delivered through the vaginal opening. Such work as was necessary was done upon the tubes and ovaries, after which the round ligaments were doubled upon themselves and stitched by fine silk. The loops thus formed were stitched to the anterior surface of the uterus close to each cornu, thus firmly fixing the uterus in a position of anteversion. The uterus and appendages were then returned to the pelvic cavity, the vaginal incision stitched by running catgut suture, and the perineum finally repaired. In each case the result was perfect. I regard with enthusiasm the many advantages of this route for certain selected cases as compared with the abdominal route. I believe that every surgical worker upon the pelvis will yet have the surgical technique of vaginal coeliotomies as perfectly developed as that of the abdominal route, and in each case will determine which method will best meet the requirements of the individual case. For instance, in sterility, I believe the occlusion is to be found many more times in the tubes or pathological changes in the ovary than in the stenosis of the cervix or morbid conditions of the endometrium, and in treating these cases we shall feel justified in making an exploratory incision through the vaginal route and examining and correcting any lesion that exists with the resulting much more successful treatment of sterility than there is to-day. Another great advantage is that patients will consent to a vaginal exploration when they will not to an abdominal.

In two cases I found it impossible to complete the operation by the vagina and had to resort to the combined method. Both cases were malignant. In one case, operated upon April 24th, 1902, an epithelioma of the cervix, I found the disease had extended up the posterior wall of the uterus and into the Douglas cul-de-sac. I then opened from above, hoping to make a clear dissection of the peritoneal involvement. Recurrence took place, however, within six months, the patient dying last January.

The other case was carcinoma of the body of the uterus in a patient sixty-one years of age. She was brought from Napa by her physician, Dr. Alumbaugh, of Napa. The cervix was not involved, but the uterus was distended to the size of an adult's head by a foul carcinomatous mass. She was operated upon January 4th, 1903. On attempting to make traction upon the cervix the cervical tissue was found to be so thinned and friable that I feared rupture with the infection of surrounding tissues. After carefully stitching up the cervix with catgut, the uterus was removed without difficulty through the abdomen. The patient was septic on her entrance and she passed through a most tedious convalescence, the temperature running as high as 103° and the pulse for days ranging between 120 and 130, but after unceasing care she finally recovered and was discharged. Thus far there has been shown no signs of recurrence.

There were four amputations of the breast, three for carcinoma and one for diffuse adenoma. Most careful axillary dissection was made in each case, and each patient placed under X-ray treatment after the operation to anticipate any recurrence, which has not taken place in any of the cases as yet.

PLASTIC WORK.

Trachelorrhaphies	11
Perineorrhaphies	17
Curettements	34
Amputation of breast	4
Adenoma of breast	1
Fissure in ano	1
Carcinoma of urethra	1

Recto-vaginal fistula	1
Fistula in ano	3
Removal of uterine polypus	1
Cystocele	1
Plastic operation for relief of stenosis	1
Removal of Bartholinian gland	1
Removal of fractured coccyx	1
Hemorrhoids	6
Partial removal of uterus	1
Vesico-vaginal fistula	1
	86

As yet the treatment of stenosis of the cervical canal is far from satisfactory. Dilatation by the passing of sounds is so temporary in its results, and incisions into the cervical canal heal so rapidly, that there is little permanent relief. In extreme cases I have split the cervix beyond the internal os and carried a flap of vaginal mucous membrane beyond the point of stenosis, uniting it to the edges of the incision with fine catgut.

The worst cases and those least amenable to treatment are cicatricial contractions following imperfectly performed trachelorrhaphy. In the clinic we have series of these cases where the patients are much worse after the operations than before. They present not only obstructive symptoms, but the various reflex manifestations of nausea, vomiting, severe occipital headaches and extreme nervousness. On passing the sound, the canal is found to be exquisitely sensitive, with irregular bands of cicatricial tissue and intervening pockets often filled with retained secretion.

These cases are extremely difficult to cure, not only that the patients are disinclined to submit to another operation when the first was productive of so many unfortunate symptoms, but that the cervix has been so mutilated that it is almost impossible to obtain enough tissue to secure a good result. Our teachings must be more positive about the technique in trachelorrhaphies, and our young practitioners must be taught that the repair of a lacerated cervix is not a superficial operation, but that it requires skill and good judgment to make a new cervical canal and a normal cer-

vix that will not only give a good cosmetic effect but a good functionating organ.

In the perineorrhaphies, for the child-bearing women, the effort has been to make an elastic, though strong, muscular pelvic floor. By deep dissection the retracted ends of the levator ani are exposed, brought together and sutured, thereby restoring its function of lifting the posterior vaginal wall close up to the pubic arch.

In aged women, where the muscular tissue of the pelvic floor has atrophied to a great degree, deep vaginal denudations must be practiced and more or less occlusion of the vagina made to act as a support for the pelvic contents above.

There was one recto-vaginal fistula repaired by simple denudation and silver wire sutures.

Among the plastic cases was one case of primary carcinoma of the urethra. So rare a lesion is this that according to J. F. Percy,* in "A Critical Review of Literature Regarding this Rare Form of Cancer," there are only sixteen recorded cases.

The patient, Mrs. S., aged 51, had ceased to menstruate one year ago. Had always been well, except for a chronic Bartholinian abscess of the right side, which I had operated upon twelve years ago. I removed at that time a concretion of inspissated pus the size of a large almond. The gland was dissected out, the patient made a good recovery, and passed from observation until April 6, 1903. She presented herself with the symptom of a very foul-smelling discharge. Examination revealed an ulcerated area just within the vulva on the right side of the urethra with a large fistulous opening into it. But a slender strip of tissue remained on the right side of the meatus urinaris. A specimen of the diseased tissue was sent to Dr. F. G. Canney for microscopical examination. His report was adenocarcinoma. The patient was operated upon April 19, 1903. A cystoscopic examination revealed no involvement of the bladder or urethra beyond the ulcerated area. The slender strip on the meatus was divided and the diseased area was

* American Journal of Obstetrics, April, 1903.

thoroughly extirpated, cutting deeply into tissues close to the descending ramus of the pubes as well as into the urethra. The indurated area, the site of the old operation, was also dissected out, leaving a large raw surface extending into the vagina.

The next step was to devise a flap to cover so extensive a denudation. Fortunately the labium minus on the right side was unusually hypertrophied and presented good material for a flap. It was removed from above downward, the pedicle was brought from the posterior commisure, the labium was split open for two-thirds of its extent, and slid up and over the raw surface. The superior portion with its free margin and its mucous membrane on both sides were utilized for the formation of the new urethra. It was stitched in place by interrupted sutures of No. 1 catgut. The raw surface left from the extirpation of the labium minus was united by continuous catgut sutures. A catheter was then introduced into the bladder. The bladder was drained by catheter for six days, when the union was considered firm enough for its removal. The patient urinated without difficulty or pain. Union by first intention. Patient discharged on the fourteenth day. The patient will be kept under observation and X-Ray treatment.

Drainage. In the abdominal operations, drainage was instituted in six cases. The only indications necessitating drainage were: I. Pus, particularly in acute cases. II. Much capillary oozing. III. Large denuded surfaces where adhesions have previously existed. The ideal in pelvic and abdominal surgery will have been reached when drainage can be discarded entirely. Every year finds the indications for drainage growing smaller as the technique becomes more perfect.

Asepsis. Every effort through the year has been to attain to a more perfect degree of aseptic technique, not only in the preparation of the patient in rigid attention to every detail through the operation, but also in the after care. Rubber gloves are worn by all taking part in the operation

—the chief operator, assistants and nurses. A large square of silkite fresh from the sterilizer covers the vulva and inner aspects of the thighs for all plastic and vaginal cœliotomies. Dry asepsis has been discarded for moist asepsis. Most interesting has been the research carried out by Walthard under the direction of E. Tavel as to the comparative value of moist and dry asepsis, particularly in the abdominal cavity. He found by a series of experiments that adhesions were formed by the superficial desiccation of the peritoneal surfaces that were not produced when moist dressings and sponges were used. He found further that the best solution for increasing the bactericidal power of the tissues and yet at the same time that would be inocuous to the tissues is a salt and soda solution made in the proportion of NaCl 7½% and Na_2Co_3 2½%. Taking advantage of his research, we have changed from the dry to the moist asepsis, using the salt and soda solutions in the abdominal cavity and wherever solutions are needed in the irrigation of wounded surfaces with most satisfactory results.

Sutures. The suture materials most frequently employed have been the chromatized catgut prepared by Van Horn, silver and silkworm gut. Several methods have been utilized in the closure of the abdominal wound. Either the through and through silkworm gut sutures with corset sutures of silk worm gut for the fascia, which is removed when the patient leaves the Sanatorium. Or in the young woman, where the cosmetic effect of the scar is to be considered, another method has been chosen: The peritoneum is first closed with No. 1 catgut, the muscles united by continuous buttonhole suture of No. 3 catgut and skin closure by the subcuticular catgut No. 1. The cicatrix is a single white line that rapidly fades out. I have also used silver wire to unite the muscles and fine silver wire for the subcuticular suture. This makes the most perfect cicatrix of all.

Conclusions. In the treatment of the lesions of the female pelvis there is no doubt that we are in a transi-

tional stage, passing from the old style of endless office treatments, with its tinkering, trifling methods, into definite, clear-cut and satisfactory procedures. The object of this paper is to adduce still further evidence that by the present development of asepsis and the perfection of technique we have arrived at a point where long series of cases of pelvic diseases can be treated surgically without mortality.

Literature shows an increasing number of articles of the same import. Henry D. Beyea, M.D.,* of Philadelphia, reports "ninety-three consecutive cœliotomies without a death—sixty-one in the Gynecean Hospital in Philadelphia. Hunter Robb† reports one hundred and fourteen consecutive abdominal sections without a death under the title of "The Results of Modern Aseptic Surgical Technique." Results such as these were not dreamed of ten years ago! The lines are constantly becoming more sharply drawn as to the strictly surgical and the strictly medical or functional cases, and surgical measures are now more readily and confidently instituted when such seems indicated. Not every lacerated cervix needs repair, not every fibroid requires removal. The trained worker in these lines is usually the most conservative, and sharply draws the lines as to the indications.

All the cases operated upon, with two exceptions, were at the Homœopathic Sanatorium. The average length of time each patient remained in the Sanatorium was twenty-four days.

My thanks are due to my anæsthetist, Dr. Alice Goss, who gave the anæsthetics in the majority of cases, whose report is here appended; to my assistants, Dr. Jos. Brooks, Dr. Ida B. Cameron and Dr. N. B. Baily, for their active and loyal coöperation, and to the corps of trained nurses for their cheerful and ever faithful services.

* American Medicine, March 7, 1903.

† American Journal of Obstetrics, May, 1900.

DR. ALICE GOSS' REPORT.

	HR.	MIN.
Longest time for abdominal operation	1	50
15 c. c. (or ½ oz.) Chloroform.		
195 c. c. (or 6½ oz.) Ether.		
Shortest		43
20 c. c. (or ⅔ oz.) Chloroform.		
60 c. c. (or 2 oz.) Ether.		
Longest time for vaginal hysterectomies		4
10 c. c. (or ⅓ oz.) Chloroform.		
90 c. c. (or 3 oz.) Ether.		
Shortest		32
10 c. c. (or ⅓ oz. Chloroform.		
90 c. c. (or 3 oz.) Ether.		
Longest time for curettage		30
10 c. c. (or ⅓ oz.) Chloroform.		
60 c. c. (or 2 oz.) Ether.		
Shortest		20
6 c. c. (or 1-5 oz.) Chloroform.		
30 c. c. (or 1 oz.) Ether.		
Longest anæsthetic for the year was for a vesico-vaginal fistula	3	4
80 c. c. (or 2⅔ oz.) Chloroform.		
Average time under Chloroform getting patient to sleep		7
Average time to get patient ready for operation		15

In only two cases were stimulants given during anæsthetic.