

A REPORT OF 565 VAGINAL HYSTERECTOMIES PERFORMED  
FOR BENIGN PELVIC DISEASE

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AT THE 1930 meeting of the American Gynecological Society during the discussion on the paper by Dr. George Gellhorn, "Vaginal Hysterectomy Under Local Anesthesia," I reported a series of 327 vaginal hysterectomies under ethylene anesthesia with 3 deaths. That report included both malignant and nonmalignant disease. I have eliminated the malignant cases from that series and now wish to report on a total of 565 vaginal hysterectomies for benign disease with two deaths, or a mortality rate of 0.35 per cent. This includes all cases operated upon since we first began using ethylene gas whether the patient received ethylene or another anesthetic, since, in this paper, I am making an analysis of an operation, not of an anesthetic. At the Presbyterian Hospital in Chicago, there is no cross file of cases according to operation, records being filed according to disease only. I began keeping a private cross file according to operations at the time we first began using ethylene anesthesia. For that reason this report includes only such cases as were operated upon since that time. Cancer carries with it its own peculiar operative risks both because of the nature of the disease and the extent and seriousness of any operation aimed at its cure. Hence, cancer cases are excluded from this discussion, except those discovered accidentally by microscopic examination postoperatively, cases in which cancer could not be diagnosed clinically previous to operation. In such instances the cancer could have no influence upon the operation or the convalescence of the patient, and, therefore, they were not excluded.

Vaginal hysterectomy is the operation of choice in my hands for the removal of the uterus except in cases in which it seems impossible of completion because of fixation of the uterus or because of an unusually large tumor. Thus far I have never had to abandon the vaginal route and complete the operation abdominally. Of the 565 patients 106 were nulliparas. In several instances fibroids extending to the umbilicus were removed piecemeal. Though I have failed to write in my tabulation book the frequency of morcellation in the entire series, I have noted that morcellation was resorted to sixteen times in the last 110 cases.

The age incidence is shown in Table I.

TABLE I

14 between ages of	25 to 29
179 between ages of	30 to 39
287 between ages of	40 to 49
65 between ages of	50 to 59
16 between ages of	60 to 69
4 between ages of	70 to 76

Table II shows the indications for operation.

It will be seen in Table II that a carcinoma of the cervix is reported associated with an ovarian cyst. The patient was fat and well past the climacterium. The uterus was removed because the cervix was badly scarred and to secure additional room for the removal of the cyst. Microscopic examination revealed cancer. It was not possible to diagnose this case either before or during operation; in fact, cancer was not suspected. Similarly in this series, though not suspected, 4 carcinomas of the cervix in situ, 4 carcinomas of the corpus uteri, 3 carcinomas of cervical polyps, and one carcinoma of the ovary were found. The ova-

TABLE II

Fibromyoma of the uterus	294
Uncontrollable menorrhagia	110
Prolapsus of the uterus	71
Adenomyoma of the uterus	58
Persistent leucorrhoea (uterine origin)	9
Sterilizing procedure	6
Retroversion	5
Uncontrollable dysmenorrhoea	3
Prolapsus of the uterus with tubal pregnancy	1
Previous interposition operation producing bladder symptoms	1
Endometriosis of uterus and ovaries	1
Ovarian cyst and carcinoma of the cervix	1
Ovarian cyst	2
Stricture of cervix	2
Bilateral chocolate cysts of ovary	1

TABLE III

Hypertension, systolic blood pressure over 150	71
Secondary anemia, hemoglobin under 60	64
Nephritis or albuminuria	22
Pulmonary tuberculosis (arrested)	3
Splenomegaly	1
Diabetes	4
Mitral stenosis	2

rian carcinoma was the size of a walnut and could not be palpated in the presence of a fist-sized fibroid.

The important associated physical complications noted are listed in Table III.

Previous to operation an attempt is made to get the patient into the best physical condition so that the operation may be as safe as possible. Abscessed teeth are removed and infected tonsils are drained or removed and healing allowed before hysterectomy is performed. Endocervicitis is treated, infected nabothian follicles are destroyed by the cautery and decubitus ulcers in prolapse cases are treated till healed before operation.

#### TECHNIC

Operative steps are as follows after the usual vaginal preparation: the vagina is swabbed out with Lugol's solution, the cervix is grasped with a bullet forceps and strong downward traction is exerted. Two cubic centimeters of obstetric pitu-

itary extract are injected into the para-cervical tissue to reduce the bleeding. A transverse incision is made through the vaginal mucosa close to the anterior lip of the cervix. The vaginal mucosa and the attached bladder are then dissected free from the anterior wall of the uterus up to the plica vesicouterina, which is incised. A slender long-bladed retractor is inserted through this anterior colpotomy incision and the bladder held forward with the attached ureters. Next a transverse incision is made in the mucosa of the vagina behind the posterior lip of the cervix. A flap of mucosa is pushed back, the culdesac opened and a narrow long-bladed retractor inserted in the posterior colpotomy opening.

The anterior and posterior incisions are joined by a lateral incision on each side of the cervix and the mucosa pushed back an eighth of an inch. The retractors are widely separated and the left sacrouterine ligament is grasped firmly with a slender curved clamp. The ligament is cut mesially and the clamp removed as a ligature is anchored and tied about it. Next the clamp is placed on the lower portion of the broad ligament and the uterine vessels. After the severing of this portion, the clamp is again replaced by a ligature. In a similar way the right sacrouterine ligament and uterine vessels are ligated. The body of the uterus may now be delivered either anteriorly or posteriorly and freed by clamping and suturing the upper portion of each broad ligament. Each of these ligatures is cut long and held with a hemostat. The appendages are inspected by drawing them into view and any indicated procedure may be performed. A small pack is introduced to hold the intestines back while closing the incision. A suture is then passed through the right edge of the anterior vaginal cuff, taking several small bites of tissue on the denuded surface of the bladder and picking up the anterior fold of peritoneum. The ligature around the upper end of the broad ligament is pulled down, and the peritoneum from the bladder to the broad ligament is brought into view and is fed onto the suture. The suture is then passed around the ligature holding the ovarian and round ligaments to again ligate the vessels and continued down the broad ligament peritonizing as it goes. It is passed around the stump of the uterine vessels and of the sacrouterine ligament, thus ligating them again, then picking up the posterior flap of peritoneum and passing out through the posterior vaginal mucosal flap. This suture is firmly tied. It not only closes the right side of the vaginal vault, but anchors it to the round and broad ligaments, peritonizes and doubly ligates the ovarian and uterine vessels. The pack is now removed and the left side is sutured in the same way. The rest of the incision is closed with two or three interrupted sutures, picking up in succession, anterior vaginal wall, anterior flap of peritoneum, posterior flap of peritoneum, and posterior vaginal mucosa. The incision is tightly closed without drainage and a vaginal pack inserted for twenty-four hours. No local treatments are administered. The same bladder attention is given as after an abdominal hysterectomy. The patient is kept in bed for one week and is dismissed ordinarily on the tenth or eleventh day. The average hospital stay for all cases was 12.16 days.

The additional operative procedures performed are shown in Table IV.

TABLE IV

Posterior colpoperineorrhaphy	268
One or both tubes removed	103
One or both ovaries removed	87
Plastic on urethra for incontinence	71
Removal of bartholinian cyst	5
Removal of adenomyoma of rectovaginal septum	5
Repair of complete perineal tear	3
Repair of rectovaginal fistula	1
Repair of fistula in ano	1
Vulvectomy	1

The two fatal cases were as follows:

CASE 1.—Patient, operated upon because of fibromyoma and menorrhagia, died on the fifth day of peritonitis. Microscopic examination showed the uterine wall to contain myriads of microscopic abscesses. It was later revealed that the patient had had an exploratory curettement within a week of her entrance upon my service and had kept this to herself.

CASE 2.—Patient had had a previous operation on appendages. During the hysterectomy the adherent ileum was incised but immediately sutured. Patient died on the fourth day from intestinal obstruction. An operation for the relief of the obstruction was performed but too late to be beneficial.

Table V shows postoperative complications.

TABLE V

Temperatures over 100.6° F. for one or more days		198
Due to cystitis	32	
Probably due to wound infection	164	
Femoral thrombophlebitis	1	
Parotitis	1	

*Postoperative Hemorrhage* (4 cases).—One patient showed evidence of internal bleeding the day following operation. Laparotomy showed that a small aberrant artery near the round ligament had not been ligated. Postoperative transfusion was followed by an uneventful recovery. Three patients bled copiously from the vaginal vault shortly after dismissal from the hospital. One patient required suture and transfusion; the other two were controlled by light tamponade. All recovered promptly.

The bladder separates from the cervix and lower pole of the uterus usually quite easily. When, however, an endometrioma has invaded the anterior culdesac or a fibroid nodule distorts the base of the bladder, it may be impossible to loosen the bladder without entering it. If this occurs, interrupted fine catgut sutures through the mucosa with a supporting row of somewhat heavier interrupted catgut sutures through the muscularis and careful covering of the suture lines with the vaginal mucosa make a safe closure. The insertion of a retention catheter to prevent distention of the bladder and tension on the sutures is an invaluable aid in the repair of such defects. In this series of cases the bladder was entered three times. In no case was the convalescence disturbed and healing was complete in all three.

Considerable fear exists in the minds of those not familiar with the technic that the ureters may frequently be ligated or injured. If the bladder is separated well laterally and the retractor is shifted to that side being operated upon, the ureters will be held away from the field of operation. There is less danger of injury to the ureter when operating vaginally than by the abdominal route, for the uterine vessels are clearly exposed and can be clamped and ligated under the direct guidance of the eye. In this series no injury to the ureters was demonstrable in any case.

I have repeatedly removed completely adenomyomas of the rectovaginal septum and surgically treated associated disease of the ovaries through a vaginal incision without removal of the uterus. As a matter of fact, it is usually easier to dissect an adenoma from the rectum by the vaginal route than it is through an abdominal incision. In this series of vaginal hysterectomies 5 had associated adenomyomas of the rectovaginal septum. In one a tiny hole was made in the rectum; this hole was immediately closed and the patient had an uncomplicated convalescence. Otherwise there were no injuries to the rectum.

Some years ago it happened several times that some time during convalescence the vaginal vault opened and allowed the prolapse of a tube, which later healed in this position and produced much vaginal discharge. In this series I was completely free of this annoying complication until recently when I had this accident happen twice. In each case it was possible to place a ligature about the mesosalpinx and remove the tube with a small cautery without difficulty or more disturbance to the patient than is experienced in the removal of granulation tissue.

For the most part the convalescence of these patients was much smoother than one sees after the simplest laparotomy. On the average the disturbance was less than after an ordinary vaginal plastic operation. No patient suffered surgical shock. Only in a few instances did vomiting tend to become persistent. We have no record of any patient with acute dilatation of the stomach. The usual patient suffered but little and relished her breakfast the morning following operation.

Formerly vaginal hysterectomy was much in vogue but with the development of abdominal surgery and especially because of the overemphasis placed upon so-called chronic lesions of the appendix, gynecologists gradually deserted the vaginal route in order to remove appendices, sever Jackson's membranes, stitch up prolapsed cecums, and do much other questionable surgery. Now that these conditions have been evaluated and the harmlessness of most of these deviations has been established, a new race of gynecologists has been reared which has relatively little or no familiarity with the vaginal attack on pelvic lesions. It is the purpose of this paper to show again how low the mortality and morbidity of vaginal hysterectomy may be with the hope that this operation may find a place in the operative armamentarium of every gynecologist.