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VAGINAL HYSTERECTOMY.

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One of the greatest and most astonishing of the many triumphs of modern gynecological surgery is the development of vaginal hysterectomy. There are comparatively few present who have ever seen the operation, indeed it has not yet been performed much more than two dozen times in this State. Yet the mortality is as low, other things being equal, as that of ovariectomy. The reason why the percentage of deaths seems higher is because the majority of the cases are malignant ones. The percentage of deaths in hysterectomy for non-malignant disease is very low, while that of ovariectomy for malignant disease is still high. The death rate of recent vaginal hysterectomies is about ten per cent. while that of some operators is even lower, and steadily decreasing.

The operation is quite a simple one, although from smallness of vagina, adhesions, disease of the appendices, etc., it sometimes becomes exceedingly difficult of execution. The steps are as follows: First, an incision through the vaginal wall, extending in a circular direction two-thirds the distance around the cervix in front and at the sides; second, separation of the parametric tissue from the uterus up to the uterine arteries at the side, and the bladder from the uterus in front until the peritoneum is reached; third,

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completion of the circular incision behind the cervix; fourth, opening the peritoneal cavity posteriorly and anteriorly; fifth, ligation or clamping of broad ligaments, and severing them from the uterus; sixth, tamponment of the vagina with iodoform gauze.

If malignant disease be present in the cervix, the vaginal incision should be from a third to one-half an inch beyond the affected tissue. If arteries of any considerable size be cut or torn during any step of the operation previous to ligation of the broad ligaments they should be transfixed by catgut ligatures. Small vessels may be clamped for a few moments with strong hemostatic forceps. After entering the peritoneal cavity in front of the uterus, the opening should be torn laterally with the fingers as far as the vesico-uterine folds. The incision in the recto-uterine cul-de-sac should be an inch or more wide, and is apt to be followed on either side by quite free hemorrhage. We may often save time, that would otherwise be spent in hunting the bleeding retracted vessels afterwards, by sewing the vaginal and peritoneal edges together completely across, so as to close up the retro-vaginal cellular tissue and its blood-vessels. The broad ligaments may now be ligated in sections from the base up, and then severed from the uterus opposite each ligature as fast as tied; or the fundus may be brought out through the anterior or posterior peritoneal opening, after ligation of the basal portions, and the twisted broad ligaments tied from above down. Ligation from the base up is, I think, preferable. Instead of using ligatures we may slip up a pair of hemostatic forceps, with one blade in front and the other behind the broad ligament, so as to clamp it, and, after cutting out the uterus between two pairs, leave them for thirty-six or forty-eight hours. As the uterus cannot always be pulled down sufficiently, and as the broad ligaments are too heavy to be included in one pair, it is at times advisable to place a short pair on the base of each ligament, cut the cervix between them, pull

the uterus down, and put other forceps on the upper portion. In some recent cases I have found it preferable to ligature the lower or cervical portions, and place forceps above. One who performs this operation should be able to employ any of these methods, since unexpected hindrances are liable to arise. I have sometimes used ligatures alone, sometimes forceps alone, sometimes both ligatures and forceps. I am partial to ligatures when the vagina is ample and the uterus can be pulled well down. But when the uterus is held up in the pelvis by contractions or adhesions about it, the forceps are to be preferred, because they can be slipped up along the fingers, and adjusted by the sense of touch. This I have been obliged to do on three occasions.

The danger of wounding the bladder is not as great as was formerly supposed. In my cases I have always separated it with the handle of a knife or the finger, and have not had a mishap.

The chief immediate danger is hemorrhage from an imperfectly secured broad ligament, and the danger is, I think, as great, if not greater, with the use of the forceps as with the ligatures. By ligaturing in small portions, hemorrhage can be secured perfectly, while the broad ligament is apt to be caught by forceps in such a manner that it is very thick in places and thin in others. In the latter case a portion being only slightly compressed may slip out. On one occasion a pair of forceps that I was using bent a trifle, so that while I had it locked as tightly as possible, the ligament was compressed only at the base. I discovered the difficulty in time, however, to apply another pair to the upper loose portion, and thus avoided a possible fatal hemorrhage.

Another possible cause of death is septic peritonitis, due to the leaving of a piece of a purulent Fallopian tube, or to a simple pelvic peritonitis arising in consequence of traumatism during the operation, or from pulling on the ligatures by the patient, or from her excessive restlessness. The peritonitis is apt to become septic from the proximity of the

necrotic stump. The remedy is found in perfect quietude after the operation, so as to allow the inflammation about the incised and ligated parts to subside quickly.

The cause of all my trouble has, however, not been in the operation, but in the previous condition of the patient. In one case of cervical carcinoma (the case which furnished the death) the patient was not only debilitated from bloody and purulent discharges, but was in such a condition from the use of chloral, alcohol and opium, that she was taken with delirium tremens on the night after the operation, got out of bed and endeavored to tear out her ligatures. She developed an abscess on the right side of the field of the operation; but this was small, was ready to discharge and would not have killed her. She died of the delirium and nervous exhaustion. Another patient affected with intra-uterine sarcoma died in three weeks after the operation of heart failure. The post mortem showed the stump healed, and no cause for the death. She had bled profusely most of the time for a year before coming to me, was excessively anemic, and could not eat well after the operation. She refused to take either food or nourishment four days before her death, and died of exhaustion.

Quite a war of words has been waged as to whether amputation of the cervix and curetting would not be equally efficient and a preferable method in the case of cervical cancer or sarcoma. Those who oppose total extirpation by vaginal section for carcinoma of the cervix claim that about as many cases suffer with relapses as after amputation of the cervix, and that it is a much more dangerous operation. There are two reasons for this tendency to relapse, *viz*: the infancy of the method, and its reservation for the worst cases. It may be said that the first two or three vaginal hysterectomies of any man are seldom well performed. The fear of exposing too large a surface of bleeding connective tissue, or of wounding the rectum, bladder or ureters, often prevent him from going far enough away from the diseased structures. I remember one case in which the

operator took out the uterus successfully, but timidly kept so near the deceased cervix as to leave infiltrated tissue on the vaginal wall. Such cases spoil the statistics, and will do so until we get skilled and experienced operators in the field, and until they can get their cases early enough. The object of a total extirpation is to get as far away from the visible disease as possible. On the other hand, a large proportion of the cervical amputations are done on very early cases, and, therefore, cannot be compared with total extirpations, which are done in more advanced cases.

The mortality is coming down so rapidly that we can now call vaginal hysterectomy not much more dangerous in experienced hands than amputation with the cautery. There is actually less hemorrhage, less traumatism, and a smaller septic surface left. Opening the peritoneal cavity is not much more dangerous than the cautery (actual or chemical) as it is used. After removal of the uterus, hemorrhage is less liable to occur than after amputation. High amputation after Shroeder, in which the stump is covered by the vagina does not admit of the removal of so much vaginal and cellular tissue, and may also involve great loss of blood.

I would, therefore, be in favor of giving vaginal hysterectomy a trial for all cases of uterine cancer, and particularly in cases discovered early, because it is chiefly in early cases we can expect to get beyond the disease, and must make our best endeavor. Also, in view of the diminishing death rate, I would perform the same operation for small fibroids, which resist treatment and show a tendency to rapid growth, or produce incurable, distressing symptoms. Two of my cases were of this kind. Occasionally cases of adenoma uteri, metrorrhagia, displacement, etc., may require the operation, not to cure a fatal disease, but to relieve from a life of suffering and invalidism otherwise unavoidable. The death rate in cases operated upon at the proper times, and with the proper indications present, ought not to be greater than two or three per cent.

VAGINAL HYSTERECTOMY.

No.	Name and date of Operation.	Age.	Married or Single.	No. of Children.	Pathological Condition or Symptoms necessitating Operation.	Duration of Disease.	Nature of Operation.	Adhesions.	Drainage.	Hospital or Private.	Recovery or Death.	Complications before or after.	Remarks and Subsequent History.	Elsewhere Reported.
1	Mrs. St-n. Aug. 3, 1887.	29	M	1	Carcinoma of cervix.	Over a year.	Multiple ligatures of stumps with silk; catgut ligature about vaginal incision. Left vaginal and peritoneal wound open.	No	Iodoform gauze.	St. Luke's Hospital.	R	Cervix was amputated several mos. before.	No return. In good health.	Chicago Medical Society, 1887.
2	Miss Ph-ps. Dec. 7, 1887.	57	S	.....	Papilloma of cervix and posterior vaginal wall, undergoing sarcomatous degeneration.	Discovered 1 year before.	Three hamostatic forceps to each broad ligament. Catgut ligature to vessels about vaginal incision.	No	Iodoform gauze.	Woman's Hospital.	R	.....	Disease returned in two months; death in nine or ten mos.	Chicago Gynaecological Society, Dec., 1887.
3	Mrs. G-n. Jan. 5, 1888.	47	M	2. Last 25 years ago.	Fibro-sarcoma of whole uterus, with ulceration of cavity. Uterus size of small fist.	8 or 10 years.	Multiple silk ligature of stump. Catgut and two hamostatic forceps below. Wound open.	No	Iodoform gauze.	Woman's Hospital.	R	Was curetted four times, viz.: 6 1/2, 4 1/2, 2 years and 1 month before operation. Thickening of right broad ligament.	So far, well.....	Chicago Gynaecological Society, Mar., 1888.
4	Mrs. Gold-t. March 4, 1888.	55	M	2. Last 17 years.	A denoma of fundus and posterior uterus wall undergoing cancerous degeneration.	Unknown, but over a year.	Retroverted uterus and applied multiple ligatures. Wound left open.	No	Iodoform gauze.	Woman's Hospital.	R	Cystocele before and after.	Perfectly well, except cystocele.	Chicago Gynaecological Society, April, 1888.
5	Mrs. Florence J s. Mar. 25, 1888.	43	M	4. Last 19 years.	Three small interstitial fibro-myoniata. Incurable stenosis. Several years of suffering and ineffectual local treatment.	Several years.	Multiple ligatures. Catgut to lower vessels.	No	Iodoform gauze.	St. Luke's Hospital.	R	.....	Cured.....	Chicago Gynaecological Society, April, 1888.
6	Mrs. O'B-n. May 17, 1888.	25	M	2. Younger 2 years old.	Cervical carcinoma involving posterior wall to uterus, os, and entire thickness.	Not well since birth of last child.	Anteverted uterus and applied a medium and a large sized pair of forceps to each broad ligament. Catgut below. Took out left ovary with ligament cut short.	Loop of intestine tied off and separated. Left ovary embedded in lymph.	Iodoform gauze.	Woman's Hospital.	R	Left ovary enlarged and adherent to bottom of pelvis. Its ligatures sloughed out in three months.	Feb., 1889, returned near acatrix and rectum.	Chicago Gynaecological Society, May, 1888.
7	Miss McN. June 9, 1888.	42	S	.....	Subserous fibro-myoma of posterior wall of cervix, size of goose egg.	A year or longer.	Multiple ligature of broad ligament. Catgut for lower vessels.	No	Iodoform gauze.	St. Luke's Hospital.	R	Unilocular cystoma of left ovary also removed, leaving ligature hanging in vagina.	Cured April, 1889. In good health.	Chicago Medical Society, June, 1888.

8	Mrs. W. K. July 18, 1888.	52	M	0	Alveolar Sarcoma of Uterine Cavity.	Over 2 years.	Ligatures to base of ligament. Forceps to upper portions. Bisected Uterus to enable me to deliver it.	Intestinal.	Iodoform gauze.	Private.	R	No	Still well.....	No
9	Mrs. C. A. K. Aug. 4, 1888.	39	M	Multip.	Carcinoma of Cervix.	Discovered a few weeks.	Multiple ligatures. Sewed up cellular tissue posteriorly and laterally.	No	Iodoform gauze.	St. Luke's Hospital.	Died from Delirium Tremens, Aug. 18, 1888.	Delirium Tremens. Abscess to right of stumps.	Abscess beside the right stump was not thought by Dr. Wing sufficient to cause death. It was the size of a small egg.	No
10	Miss Celia M. Aug. 8, 1888.	48	S	.....	Alveolar Sarcoma of Interior of Uterus.	Over 1 year.	Two pairs of forceps on each ligament.	No	Iodoform gauze.	Woman's Hospital.	R	No	This patient refused to eat, two weeks after operation, and died Aug. 25th, of heart failure. Dr. Wing, at post mortem examination, found no cause for death.	Chicago Gynaecological Society.
11	Miss Emma Sh-t. Aug. 22, 1888.	48	S	.....	Alveolar Sarcoma of Interior of Uterus.	2 years.	Forceps.....	No	Iodoform gauze.	Woman's Hospital.	R	No	Still well.....	Chicago Gynaecological Society.
12	Mrs. Sarah McK. Mar. 25, 1889.	53	M	Multip.	Carcinoma of Cervix.	7 or 8 months.	Ligatures to base of broad ligament. Forceps to upper portions.	Extensive Adhesions.	Iodoform gauze.	St. Luke's Hospital.	R	Enlarged adherent tubes and ovaries. Uncomplicated recovery.	Uterus could not be drawn down on account of hydrosalpinx and adherent tubes and ovaries. Did not disturb them.	Chicago Medical Society, May 20, 1889.
13	Mrs. Bl. May 8, 1889.	51	M	Multip.	Carcinoma of Cervix.	1 year.	Ligatures to base of broad ligament. Forceps to upper portions.	No	Iodoform gauze.	Woman's Hospital.	R	No	.....	Chicago Medical Society, May 20, 1889.
14	Mrs. M-g. May 20, 1889.	35	M	Multip.	Carcinoma of Cervix.	Short time.	Ligatures to base of broad ligament. Forceps to upper portions.	No	Iodoform gauze.	Woman's Hospital.	R	Hemorrhage upon removal of forceps in 36 hours.	Hem. checked by tampon.	Chicago Medical Society, May 20, 1889.
15	*Mrs. Ph-ps. July 28, 1889.	52	M	Multip.	Sarcoma of Cervix.	About 1 year.	Forceps.....	No	Iodoform gauze.	Woman's Hospital.	R	No	Cervix amputated 10 months before.	No

*Added after presentation of report.

VAGINAL HYSTERECTOMY.

SUMMARY.		
DISEASE.	NO.	RESULT.
Carcinoma of body	.....I.....	Well at end of 14 months.
" of cervix	.....I.....	Well at the end of 21 months.
" " "	.....I.....	Returned in 10 months.
" " "	.....I.....	Died in 2 weeks.
" " "	.....I.....	Well at the end of 6 weeks.
" " "	.....I.....	Well at the end of 3 months.
" " "	.....I.....	Well at the end of 2½ months.
Sarcoma of body	.....I.....	Well at the end of 16 months.
" " "	.....I.....	Well at 9½ months.
" " "	.....I.....	Died of exhaustion at 3 weeks.
" " "	.....I.....	Well at end of 9 months.
" " cervix	.....I.....	Died at end of about 9 months.
" " "	.....I.....	Convalescent.
Fibromata	.....I.....	Well at end of 14 mos., relieved of symptoms.
"	.....I.....	Well at end of 11 mos., relieved of symptoms.