PETERSON (R.)

Suspension of the Retrodisplaced Uterus by the Utero-Ovarian Ligaments

WITH A REPORT OF SEVENTEEN CASES

BY

REUBEN PETERSON, M.D.
Grand Rapids, Mich.

REPRINTED FROM
THE AMERICAN JOURNAL OF OBSTETRICS
Vol. XXXI. No. 6, 1895.

NEW YORK
WILLIAM WOOD & COMPANY, PUBLISHERS
1895

presented by the author.

SUSPENSION OF THE

RETRODISPLACED UTERUS

BY THE

UTERO-OVARIAN LIGAMENTS,

WITH A REPORT OF SEVENTEEN CASES.[1]

This paper does not contain the description of any new operation devised by the writer for the cure of retrodeviations of the uterus. While the endeavor to evolve the ideal operation for the correction of certain uterine malpositions is praiseworthy, one should continually keep in mind that all such new operations should be based upon the conditions present and the laws of mechanics. A review of the literature of the past five years upon the operative procedures for the cure of retrodisplacements of the uterus will, however, reveal more than one new operation the principles of which are so unsound as to make one wonder at the temerity of the originator, not so much in attempting to put it into practice upon his trusting patients, as in publishing it and thus exposing himself to merciless criticism.

I shall not attempt to give an exhaustive review of the entire subject of posterior displacements of the uterus and the various operations which have been employed for their relief. I desire

[1] Inaugural thesis read before the Chicago Gynecological Society, March 15th, 1895.

merely to relate my individual experience with the single operation which I have employed in all the cases of retrodisplacements of the uterus which I have been called upon to treat. Other methods of treatment will be considered only for comparison, and their details will be left to those who have had more experience with them.

The operation alluded to is the one described by Howard Kelly in the *Johns Hopkins Bulletin*, vol. i., 1890. Whenever it became necessary to open the abdomen for certain intractable retrodisplacements of the uterus, in order to attach the uterus to the abdominal wall, Dr. Kelly urged that the sutures be passed around the ovarian instead of the round ligaments, which had been the custom up to this time. The idea upon which this operation is based is, in brief, that, with the woman in the upright posture, the intra-abdominal pressure, which is exerted in a nearly perpendicular line, is so directed that it falls upon the posterior surface of the uterus, and, other things being equal, tends to maintain the organ in its normal position of slight anteflexion. This same force, however, may become a potent factor in producing retrodisplacement if the axis of the uterus be so changed that the line of pressure falls upon its anterior instead of its posterior surface. Thus a relaxation of any of the natural supports of the uterus, whether it be the broad, uterosacral, or round ligaments, may bring about this result by allowing the fundus to fall backward. Any operation, therefore, which aims to cure retrodisplacement by attaching the uterus to the abdominal wall, must leave the uterus in such a position that the intra-abdominal force will be exerted against its posterior and not its anterior surface. For this reason the ovarian ligaments, which lie on the posterior surface of the broad ligaments, should be selected in preference to the round ligaments when supports are made use of to suspend the uterus from the abdominal wall. The natural tendency of a uterus thus suspended is to fall forward, or, as Kelly expresses it, "necessarily throwing it into anteflexion, just as the body of a man would be bent forward if he were caught by the shoulder blades and drawn up against the ceiling." The same principle holds good if the sutures are passed through the body of the uterus instead of around the ligaments. Yet, from the descriptions of such operations which have appeared in the literature, it will be seen that the

sutures have, in almost all cases, been passed through the anterior wall of the uterus.

In order to prove the correctness of the principle set forth above and to test the value of the operation, I have employed suspension by the ovarian ligaments in seventeen cases. The number of cases, while not large, is sufficient to enable one to place a fair estimate upon the value of the operation. I will not weary you with a lengthy report of the cases, since, except in a few which I shall describe at length, they differ in no way from the ordinary cases which the abdominal surgeon is called upon to treat. The features of especial interest in each case will be found in the tabular statement appended.

The conclusions arrived at from the study of the seventeen cases reported will be considered under the following headings:

1. Indications for the operation.
2. Technique of the operation.
3. Immediate results of the operation.
4. Remote results of the operation.

1. *Indications for the operation.*—It goes almost without saying that no operative measures should be instituted for the cure of posterior displacements of the uterus until the recognized non-surgical methods of treatment have been given a fair trial. The particular kind of treatment, and the length of time it should be employed, will depend upon the nature of the lesion, the wishes and circumstances of the patient, and the skill of the physician. The treatment of certain retrodisplacements of the uterus by abdominal section has become a well-established surgical procedure. Its advantages and disadvantages should be carefully weighed, and if the operation is clearly indicated it should be chosen in preference to the so-called conservative methods. It is not conservatism to employ tampons, tincture of iodine, and hot-water douches indefinitely. Much harm has been done throughout the country in this class of cases under the cloak of conservative treatment, and it is the duty of the surgeon to demonstrate this fact and the superiority of his methods by his vastly better results.

Posterior displacements are naturally divided into two classes, those in which the uterus and its appendages are freely movable and those in which reposition is impossible because of adhesions.

Alexander's operation has been advocated for, and restricted

to, the first class of cases. While I admit the value of this operation for small retroflexed uteri and have employed it several times, I think that better results can be obtained by celiotomy and suspension whenever we have to deal with a large, flabby, subinvoluted uterus or where there is prolapse of one or both ovaries. With a large, subinvoluted uterus the body falls over the posterior bar of the pessary, however well the instrument is selected and adjusted. I consider the use of the intrauterine stem pessary, as advocated by some operators, to prevent the falling backward of the body of the uterus after an Alexander's operation, dangerous and poor surgery. The failure of Alexander's operation in these cases illustrates that the wrong part of the uterus has been used in the suspension. When the round ligaments are shortened the pull comes from the anterior surface of the broad ligaments and uterus, and therefore the uterus is lifted at a disadvantage, and held at a still greater one when lifted. It is a well-known fact that the fundus so suspended falls backward and that the intra-abdominal pressure forces it to its original position. Other things being equal, therefore, I would choose suspension by the ovarian ligaments in preference to Alexander's operation in such cases.

I have found many cases in which the mere replacement of the uterus will not be accompanied by a restoration of the prolapsed ovary to its normal situation. The reason for this is clear when the relaxation of the lateral supports of the uterus—namely, the broad ligaments—is considered, which is an important factor in the production of retroflexion of the uterus and prolapse of the adnexa. When the uterus is replaced the pelvic circulation may be so changed as to decidedly lessen in a marked degree the hyperemia of the prolapsed ovary. This may be followed by amelioration of the symptoms, but in many cases it falls far short of a cure. The mere shortening of the round ligaments has but little effect upon the prolapsed ovary, which will require more direct treatment before it can be restored to its normal location. No method of treatment can be more direct or more productive of good results than the one under discussion, because the approximation of the ovarian ligaments to the abdominal peritoneum must raise the congested and prolapsed ovary from the pelvic floor and must be instrumental in removing the distressing symptoms produced by the abnormal location.

The varicosed condition of the veins of the broad ligaments,

which all engaged in abdominal work have noted scores of times, is best relieved by direct support of these ligaments. In retrodisplacements of the uterus and prolapse of the adnexa these varicosities may reach the size of the little finger, and may, in my opinion, be productive of much of the pain which is complained of in the groins and back. I have found this condition to be present in a large percentage of the cases under consideration, and the relief following the operation I attribute in no small degree to the restoration of these veins to their normal calibre.

The second class of cases comprises those in which the retroverted or retroflexed uterus is bound down by adhesions, which have failed to yield to treatment through the vagina. The suspension of the uterus will usually be a secondary operation in these cases, because the symptoms from which the patient suffers result in great degree from the diseased adnexa rather than from the malposition of the uterus, although this latter condition always produces marked symptoms. It is the surgeon's duty to restore the organ as nearly as possible to its normal position.

Whenever the uterus is not freely movable Alexander's operation is absolutely contraindicated. Breaking up the adhesions binding down the uterus, by force exerted through the rectum or vagina, is hazardous in the extreme and should never be attempted because of the danger of rupturing a pus tube, the diagnosis of which may not have been made before the operation. In many cases the adhesions binding down the uterus and its appendages are so firm that no method short of actual digital contact will prove of any avail. The possibility of mistaking the condition of the appendages from bimanual examination alone is ever present. We must confess that abdominal section has often revealed a vastly different condition of affairs than previous examination led us to expect. For these reasons, and because the dangers of the operation far exceed those of modern celiotomy, I would absolutely banish the so-called Schultze's operation. The cases are rare where the fundus of the retrodeviated uterus is attached to the rectum by firm adhesions without disease or malposition of the appendages. The pelvic peritonitis causing these adhesions arises in the great majority of cases from infection through the Fallopian tubes, which, together with the ovaries, will be found adherent to the adjacent organs. Hence an abdominal operation will only occasionally be performed for the sole purpose of restoring an adherent retrodis-

placed uterus to its normal position. If the adhesions cannot be softened by appropriate local treatment, the abdomen should be opened and both sight and touch be employed to separate the bands binding down the appendages and uterus. If the adnexa are found to be diseased, they should be removed and the uterus secured in its proper position by the operation which has been described above. The experience of the past year or two has shown me that freeing the appendages from their adhesions and approximating them to the abdominal wall will often prove sufficient.

2. *Technique of the operation.*—The operation of suspension of the uterus by the ovarian ligaments is extremely simple. If it be a primary operation a very small incision in the median line, nearer the pubes than the ordinary abdominal incision, will suffice. The parietal peritoneum should be caught with catch forceps on either side low down and drawn outward. This will tend to prevent non-coaptation of the cut edges of the peritoneum when the abdominal stitches are passed. The fundus of the uterus is brought up to the abdominal wall and a suture passed around each ovarian ligament into the abdominal wall, through peritoneum, muscles, and fascia, back again through the same tissues, and the free ends tied within the abdomen. I prefer the Cleveland ligature-passer to the needle for placing these sutures. The sutures should be passed just at the point where the ovarian ligament can be most easily approximated to the abdominal peritoneum when the uterus is in normal position. I do not consider it necessary to use more than one suture on each side. In about half my cases I have used catgut and in the remainder silk. They have both given good results, but I think it safer to employ silk.

Where the operation is secondary to the removal of one or both of the appendages, it is best to pass the suture before the ovary and tube are excised, and a liberal pedicle should be left. After the adhesions have been released the passing of the sutures will require but a short time. It is now my custom to perform at the same sitting any necessary plastic operations, unless the severity of the pelvic lesions or the condition of the patient contraindicates.

3. *Immediate results of the operation.*—When the operation is employed solely for the purpose of rectifying a retrodisplacement without adhesions, with or without prolapse of the ap-

pendages, it is devoid of danger to life; and in saying this I speak advisedly. Fatal accidents may occasionally occur through faulty technique, but these accidents should not be considered, when we have the operation under advisement, any more than should the deaths which have followed such simple operations as Alexander's operation, trachelorrhaphy, perineorrhaphy, etc. I have a great respect for the peritoneal cavity and would not advise indiscriminate celiotomy, but I think that in skilled hands the operation described should show only a slight mortality.

When suspension of the uterus is secondary to an operation the mortality of which is much higher, or when extensive adhesions of both uterus and appendages are present without requiring the removal of any organ, the situation becomes more grave. The mortality, however, even in cases presenting grave pathological changes, is very low, and a death can often be traced to neglect on the part of the operator. The only death in the seventeen cases tabulated in this paper (Case 3) arose from failure to examine the urine prior to operation. The patient died with symptoms of uremia on the third day. Examination of the urine passed after the operation showed advanced pathological changes in the kidneys. The appendages were badly diseased and very adherent, and considerable time was required for their removal. This result was avoidable and should not be counted against the operation.

4. *Remote results of the operation.*—About two months after the patient in Case 4 had been operated upon and had left the hospital, I was hastily summoned to a neighboring town, and found her suffering from intestinal obstruction due to the constriction of a coil of small intestine by a band of adhesions. Celiotomy was immediately performed and the constriction relieved, but the patient died of exhaustion within twenty-four hours. The section showed the uterus to be in the normal position and the stumps of the excised appendages loosely adherent to the abdominal wall. The band of adhesions had no relation to the appendages or uterus.

Reports have been received from the remaining fifteen patients. During the past three weeks I have examined ten of the patients, four have been examined by other physicians, and one has not been examined. The uterus was in normal position in the fourteen patients examined. In the ten patients whom I examined the uterus was freely movable and the fundus not

(Continued on page 11.)

TABULATED REPORT OF SEVENTEEN CASES OF SUSPENSION OF THE

Number.	Name.	Date.	Age.	Social condition.	Number of children.	Pathological conditions necessitating operation.	Coincident operations.	Suture material.
1	N. B.	April 2d, 1892.	22	Single...	1..	Retroflexion; subinvoluted uterus with endometritis; right pyosalpinx.	Removal of right tube and ovary.	Catgut.
2	F. B.	May 9th, 1892.	25	Single...	0.	Retroflexion; ovarian cyst, right side, size of orange; one-half of left ovary cystic.	Removal of right ovary and tube and one-half left ovary.	Catgut.
3	C. M.	May 11th, 1892.	26	Married..	2..	Retroflexion; double pyosalpinx; dense adhesions.	Removal of both tubes and ovaries.	Catgut.
4	M. V.	September 26th, 1892.	43	Married..	1..	Retroflexion; chronic salpingitis and ovaritis with adhesions.	Removal of both tubes and ovaries.	Silk...
5	J. B.	November 26th, 1892.	38	Married..	0	Retroversion; chronic salpingitis and ovaritis with adhesions; endometritis.	Removal of both tubes and ovaries.	Catgut.
6	A. J.	January 2d, 1893.	32	Single...	0.	Retroversion; chronic appendicitis; cystic left ovary.	Appendix and left ovary and tube removed.	Catgut.
7	B. B.	January 20th, 1893.	19	Single...	0..	Right lateral version; varicose broad ligaments; prolapse of right ovary.	None.....	Catgut.
8	E. R.	June 17th, 1893.	21	Married..	1..	Retroflexion; endometritis; uterus three and one-quarter inches deep; enlarged and prolapsed right ovary.	Curettage. Blood cyst, occupying one-third of right ovary, removed.	Silk....
9	F. W.	September 4th, 1893.	21	Single...	0..	Retroflexion; chronic ovaritis and salpingitis with adhesions, with prolapse of both ovaries; endometritis.	Removal of both tubes and ovaries.	Silk....
10	J. G.	September 14th, 1893.	26	Married..	1..	Retroflexion, with prolapse of both ovaries; endometritis; cystic right ovary; varicose broad ligaments.	Curettage; removal of right ovary and tube.	Silk....
11	A. B.	October 5th, 1893.	32	Married..	1..	Retroflexion, with prolapse of both ovaries and tubes; varicose broad ligaments.	None.....	Silk....
12	A. M.	December 16th, 1893.	23	Single...	0..	Retroversion, with prolapse of both ovaries; dense adhesions; endometritis.	None.....	Catgut.
13	L. M.	March 30th, 1894.	28	Married..	6..	Retroflexion; endometritis; bilateral laceration of cervix; small left ovarian cyst removed.	Curettage; trachelorrhaphy; removal of right tube and ovary.	Catgut.
14	E. E.	May 17th, 1894.	20	Married..	2..	Retroflexion; endometritis; bilateral laceration of cervix; ruptured perineum; prolapse of both ovaries; right ovary cystic.	Curettage; trachelorrhaphy; perineorrhaphy; removal of right ovary and portion of left.	Silk....
15	A. A.	July 7th, 1894.	27	Married..	1 .	Retroflexion; endometritis; ruptured perineum; prolapse of both ovaries.	Curettage.....	Silk....
16	.....	Dec. 6th, 1894.	26	Married..	0.	Retroflexion; chronic salpingitis and ovaritis of left side.	None.....	Silk....
17	.....	Dec. 17th, 1894.	22	Single...	1.	Retroflexion; endometritis; bilateral laceration of cervix.	Curettage; trachelorrhaphy.	Silk....

RETRODISPLACED UTERUS BY THE UTERO-OVARIAN LIGAMENTS.

Immediate result.	Anatomical result.	Symptomatic result.	Remarks.
Recovery...	Examined in February, 1895, by Dr. F. H. Martin, Chicago, Ill. Good.	Good.....	Letter received February 22d, 1895: "My health is good; have not been sick since operation." Works at hard manual labor.
Recovery....	Examined, September, 1894, by Dr. E. N. Wanty, Grand Rapids, Michigan. Good.	Good.....	Letter received February 28th, 1895. Is in good health; able to pursue occupation—that of school teacher.
Death.....	....	....	Death on third day from uremia. Secondary operation on third day showed no peritonitis or intestinal obstruction.
Recovery...	Good. November 23d, 1892.	Improvement up to November 21st, 1892.	Celiotomy, November 23d, 1892, for intestinal obstruction due to a band of adhesions. Death. Adhesions unconnected with stump or position of uterus.
Recovery....	Examined February 21st, 1895. Good.	Not very good.	Says she is in poor health. Pain in left side. Occasional vaginal discharges, due to endometritis, which persists.
Recovery....	Not examined.....	Good.....	Letter received March 1st, 1895. Has gained twenty-five pounds since operation. Earns her own living. Has no local trouble.
Recovery....	Examined February 21st, 1895. Slight inclination of uterus to right; ovaries in normal position.	Good.....	Had been unable to work for two years before operation. Now is engaged in nursing. Has no pain or trouble, except when she does heavy lifting.
Recovery....	Examined February 28th, 1895. Good.	Good.....	Has no pain. Earns her own living by an occupation which requires a great deal of walking.
Recovery....	Examined February 22d, 1895. Good.	Good.	Has no pain, and is well, with the exception of too profuse menstruation. Earns her own living as a nurse.
Recovery....	Examined February 26th, 1895. Good.	Good.	Has gained thirty pounds since operation. Has no pain. Does her own work.
Recovery....	Examined March 5th, 1895. Good.	Not very good.	Patient is of a neurotic type; "has pains all over her." Is to have perineum repaired at an early date.
Recovery....	Examined by Dr. W. T. Dodge, Big Rapids, Mich., February 25th, 1895. Good.	Not very good.	Operated upon a few months ago for endometritis, which was not cured. Patient uses morphine and has many aches and pains. Has earned her living since operation.
Recovery....	Examined February 28th, 1895. Good.	Good.....	Earns her living by working in factory. Is not entirely free from pain. Endometritis not cured.
Recovery....	Examined, February, 1895, by Dr. W. Morris, Caro, Mich. Good.	Good.....	Letter from Dr. Morris, February 26th, 1895: "Is now in perfect health. Uterus remains in position, and the operation has been a perfect success."
Recovery....	Examined March 2d, 1895. Good.	Good.....	Perineorrhaphy by her family physician, January 2d, 1895. Is better now than she has been for years. No pains.
Recovery....	Examined March 3d, 1895. Good.	Good.....	Works in a factory. Has no pain and is perfectly well.
Recovery ..	Examined February 12th, 1895. Good.	Good.....	Earns her own living. Some pain in back still remaining.

SUMMARY.

Total number of cases,	17	Catgut used for sutures around ovarian ligament,	8
Single, with no children,	5	Silk used for sutures around ovarian ligament,	9
Single, with children,	2	Immediate recoveries from celiotomy,	16
Married, without children,	2	Deaths,	1
Married, with children,	8	Death from accidental cause two months after operation,	1
Retroflexion,	13	Number of cases from which reports have been obtained,	15
Retroversion,	3	Examined personally,	10
Right lateral version,	1	Examined and reported on by other physicians,	4
Endometritis noted in	11	Report received from, but no examination made in,	1
Retrodisplacements with adhesions,	5	Uterus found to be in normal position in	14
Removal of appendages of both sides,	4	Examined from two to three years after operation,	3
Removal of appendages of right side,	5	Examined from one to two years after operation,	5
Removal of appendages of left side,	1	Examined less than one year after operation,	5
Cases in which appendages of neither side were removed,	7	Symptomatic recovery in	12
Case in which portion of right ovary was removed,	1	Improvement in	2
Cases in which portion of left ovary was removed,	2	No improvement in	1
Prolapsus of right ovary,	2		
Prolapsus of both ovaries,	6		
Uterus curetted,	6		
Trachelorrhaphy,	3		
Perineorrhaphy,	1		

attached to the abdominal wall. I do not believe that, as a rule, the fundus becomes adherent to the peritoneum after this operation, nor do I think it necessary that this should take place. On the contrary, it should be guarded against as much as possible for two reasons: first, in case of subsequent pregnancy it might interfere with the increase in the size of the uterus; and second, it adds to the immobility of the uterus. For these reasons I have ceased to scarify the top of the fundus for the purpose of producing adhesions, although I believe that such scarification accomplishes but little, because when the uterus is suspended by the ovarian ligaments by this operation the fundus is not closely approximated to the abdominal wall. The mobility of the uterus when suspended by the ovarian ligaments is marked. While I have had no patients who have become pregnant after the operation, I have no fears of their not going to full term should this occur. In Cases 4 and 13, in which I examined the patients during a subsequent celiotomy, the fundus was not adherent to the parietal peritoneum and the ovarian ligaments were only lightly attached, but the adhesions were sufficient to maintain the uterus in normal position. There was no prolapse of the ovaries in any of the patients examined. Some tenderness on pressure in the ovarian regions still remained, but not more than is usually elicited by palpation.

Of the fifteen patients, twelve have been so far relieved that they have resumed their occupations, two show improvement, and one (Case 11) states that she is no better than before the operation; the repair of a badly ruptured perineum may, however, give her some relief. Of the patients showing improvement only, one (Case 12) has become addicted to the use of morphine, and I attribute her neuralgic pains in a large degree to the effects of that drug. The other (Case 5) is suffering from a chronic endometritis, probably gonorrheal.

It is extremely difficult to estimate how important a part the reposition of the uterus has played in the favorable results obtained, and for this reason I shall place no estimate upon its value. Those who desire further information about the cases will find the details in the tabulated report on pages 8–10.

MEDICAL JOURNALS

PUBLISHED BY

WILLIAM WOOD & COMPANY.

MEDICAL RECORD.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY.

Price, $5.00 a Year.

The **Medical Record** has for years been the leading organ of the medical profession in America, and has gained a world wide reputation as the recognized medium of intercommunication between the profession throughout the world. It is intended to be in every respect a medical newspaper, and contains among its **Original Articles** many of the most important contributions to medical literature. The busy practitioner will find among the **Therapeutic Hints** and in the **Clinical Department** a large fund of practical matter, carefully condensed and exceedingly interesting. **Medical News** from all parts of the world is supplied through special correspondents, by mail and telegraph; **New Publications** and **Inventions** are reviewed and described; and in the **Editorial Department** matters of current interest are discussed in a manner which has established the **Medical Record** in the estimation of the whole profession as a thoroughly independent journal and the most influential publication of its class.

THE AMERICAN JOURNAL OF OBSTETRICS

AND DISEASES OF WOMEN AND CHILDREN.

Price, $5.00 a Year (Issued Monthly).

This is not a special journal, as such are usually understood. As it gives special attention to lines which, more than any other, go to form the everyday experience of the general practitioner, its scope of usefulness is very wide.

The original articles appearing in its pages are selected with a view to their practical value and general interest, and include many contributions from writers of wide celebrity and established reputation.

The **Journal** is not the organ of any society, being entirely independent, and consequently free to select for publication only such matter as will be most useful to its subscribers.

Society Proceedings, Book Reviews, and Abstracts of current literature in its scope are carefully prepared features which add to the completeness of the **Journal**.

In order to add to its usefulness and attractiveness, special attention is given to the matter of illustrations, and all articles admitting of it are copiously illustrated by every available means. In fact, the **Journal** is presented in a form of typographical excellence unequalled by any other medical journal. A specimen copy will be sent free, if desired.

PRICES AND CLUB RATES:

Medical Record (Weekly),	**$5.00 a year.**
American Journal of Obstetrics (Monthly),	**5.00 a year.**

And when mailed to the same address and paid for according to our terms:

Medical Record and Journal of Obstetrics,	**$9.00 a year.**

At the above low rates only when paid in advance to William Wood & Company or their Agents, NOT the Trade.

WILLIAM WOOD & COMPANY, 43, 45, & 47 East 10th Street, New York.