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THE UTERUS*

WHY VAGINO-FIXATION, VENTRO-FIXATION AND VENTRO-SUSPENSION THEREOF SHOULD BE AVOIDED IN CASES THAT RETAIN ANY CAPACITY FOR CONCEPTION.

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1. They are "unnatural, unsurgical and unscientific." The aggregate normal effect of the healthy and properly developed supports, attachments and guy-ropes of the uterus is to hold it in a state of stable equilibrium, in a sufficient degree of anteversion to secure the supporting aggregate impact of intra-abdominal pressure upon its posterior surface. This, the greatest of all forces in the abdomen and pelvis, then maintains that forward obliquity of the body and fundus of the uterus which experience has abundantly demonstrated to be not merely essential, as a rule, to maintain a normal balance in its circulation and in that of the adnexæ, but also to be the most benign safeguard against descensus of the uterus or ovaries, or both. While the entire organ has a considerable but very variable degree of mobility in all direction, its principal portion—the body—has a very large range of normal mobility, like an inverted pendulum in an anteroposterior direction. This wide range of motion of its body, which is so necessary in view of the bladder, and its general freedom to expand and contract, and to rise untrammelled in pregnancy from the pelvis into the abdomen, are secured chiefly by the total absence of all connections or attachments to its vertex and its anterior or posterior surfaces. Therefore, the thought of opening the abdomen from any direction and inflicting fixations upon any one of these surfaces which are destined to be free, and thereby limiting the normal mobility or expansibility of the body of the uterus in some degree, is repugnant to every rational instinct; especially as it is done or proposed for conditions that are never serious, that may cause an *indicatio quod valetudinem* but never *quod vitam*. These operations effect at best a substitution of one abnormal condition for another. They are a loan from the domain of pathology, that we need to make exceptionally when the proper supports of the uterus are very seriously deranged or defective, as in those cases of marked descensus uteri in which hysterectomy seems still more objectionable or less effective. Pronounced cases of the so-called prolapse of the uterus, especially those of the genuine type in which there is not merely an elongation of the supravaginal cervix, but an actual descent of the entire uterus, are not radically curable by any kind or degree of plastic proced-

ures upon cervix, vagina and perineum, singly or combined; but they require either a shortening of the broad and sacrouterine ligaments or some ventral fixation of the uterus as a supplementary act to the plastiques upon the pelvic floor. But, fortunately, these cases are mostly beyond the period of their life in which pregnancy is possible or probable, and if they are not, they should be sterilized, at the time of the operation, by removal of the Fallopian tubes alone, which should be excised from the uterus and the resulting wounds sewed up. Otherwise a cure of such marked cases of descensus should not be attempted by the help of an auxiliary ventrofixation, if attempted at all.

2. The essential features in the technic of these operations that give them any stability in good results that they may or are intended to do are in every detail directly antagonistic to the interests of the uterus in gestation and labor. There is no parallelism of functions here. Any choice of technic that is intended to avoid serious complications in labor correspondingly sacrifices the certainty or durability of the principal purposes of the operation; and vice versa. So, in ventrofixation, in order to avoid obstetric complications, the point of fixation on the uterus dare not be taken upon its posterior surface nor upon its vertex, but as low down upon its anterior surface as is likely to do any holding. The point of attachment to the abdominal wall should not be taken low down, so as to enable the uterus to rise into the abdomen in gestation; and to permit the deeper muscular strata in the uterine wall to slide by the fixed point caught in the ligatures² in gestation, these should be passed as superficially in the uterine wall as is likely to do any good, while, on the other hand, if a complete and lasting result in holding the displaced organs in an improved position—not to speak of a perfect one—is the aim of the operator, he must of necessity do very differently and in an opposite direction in each of these features. He cannot serve both masters in the same act.

Thus, vesicofixation alone, or intraperitoneal vaginofixation—making seroserosous junctions—do not interfere with labor; but, pregnancy and labor also uniformly destroy the fixations. On the other hand, extraperitoneal vaginofixation—creating a serosofibrous or fibrofibrous junction—holds the uterus as a rule, but it also, quite as certainly, presents obstacles to gestation and labor which are so serious that this operation has already been practically discarded. What is true of this operation is also true, to a milder degree, of the direct and firm fixation of the fundus uteri to the abdominal wall by a serosofibrous or by a fibrofibrous junction, without any intervening band—the ventrofixation of Leopold³ and Czerny⁴. This operation is of real service for some cases of extreme descensus uteri, as before mentioned, and in other rare and extreme conditions with which the round ligaments can not be made to cope successfully, and it is permissible then, because sterility either exists or it is readily accepted and secured at the same time.

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But as examples of the obstetric complications that it has otherwise induced, the following should be kept in memory: Out of Milander's⁵ collection of 54 cases of pregnancy and labor after this operation, 11 cases, or 20 per cent., required severe operative delivery; 7 in Noble's American collection of 43 cases, or 16.25 per cent. and 18 in Noble's⁶ foreign collection of 133 cases, 13.5 per cent. W. A. N. Dorland⁷ collected 179 cases of pregnancy following this operation, in which 111—62.01 per cent., or nearly two-thirds of the whole number—experience some uncommon abnormality in gestation or in labor, or in both; and in 37.99 per cent. of the cases these disturbances occurred as complications of labor, which are more serious. Disorders during gestation that are recorded are, among others, excessive vomiting, abortions, interference with the bladder and many traction pains so severe as to make the recumbent posture necessary, or to require the induction of premature labor. Leaving aside the disasters following extraperitoneal vaginofixation as an obsolete operation, the following are some of the serious or fatal complications of parturition after ventrofixation alone: Gubaroff⁸, Veldi¹⁰, Mackenrodt¹¹, Norris¹², C. P. Noble¹³, Michaelis¹⁴, Krim¹⁵ and Guerard¹⁶, Strassman¹⁷, Gottschalk¹⁸, Ols-hausen¹⁹ and Edebohl's²⁰, each report one case, while Bidone²¹ publishes four instances in three patients out of six total cases of pregnancy following ventrofixation. This operator advises an abdominal section for the removal of the fixation two months before term, in every case of this kind. In all these cases together four Cesarean sections were made and were followed by recovery; and two Porro operations ended fatally, and in the remaining cases other severe and uncommon operative aid was required.

It is true that these obstetric disasters are usually avoided by a mediate fixation—the so-called ventrosuspension, in which the uterus becomes hitched to the abdominal wall by one or more bands that allow it a variable degree of mobility. But what is gained in this direction is largely lost in another regard, from the imminent liability to intestinal obstruction and to the suffering of more frequent and unavoidable abdominal pains due to smaller interferences with the intestines that cling to all such unnatural and intruding bands, bridges or clefts, spanning from one viscus to another, or from any viscus to the abdominal parietes. Notwithstanding some nice names that are calculated to obscure their heinous nature, they are always pathologic, whether arising spontaneously from disease or from misdirected efforts of a surgeon. And the latter would usually regard an operation for their removal at some convenient time as proper, when such menacing bands have originated otherwise than by his voluntary act.

The reports of cases of ileus following at variable periods after ventrosuspension, have only begun to appear. But I have chanced to notice the following without any exhaustive search: Ruehl²², Jacobs²³, Ols-hausen²⁴, and A. L. Smith²⁵ each publish a case; while Rufus B. Hall says he has dealt with three cases and thinks the operation of ventrosuspension has had its day. In a second abdominal section for severe disabling pain in the abdomen, on account of which the patient could not walk nor stand erect, Professor Fitch²⁶ found the omentum so engaged between the uterus and bladder, after a former ventrofixation by Olshausen's method—attaching the uterus at its cornua or the origins of the round ligaments—that he had to reset a large portion of it.

Furthermore, Fihling's statistics show a mortality-

rate of 5 per cent. after all these operations²⁷ (Steinthal²⁷) and ventral hernia has followed these, as other abdominal sections, in the hands of many men, more frequently than that. And finally, the rate of recurrence of retroversion, etc., after this operation, is so high, when the operation has been carefully done so that it will not create serious obstetric complications, that no intelligent patient will accept it if the truth in regard to it is honestly stated by the doctor.

Again, everything about these so-called artificial ligaments is very uncertain and ungovernable, whether they be constructed by the use of the urachus, or a strip of parietal peritoneum sewed to the uterus or drawn through a slit on its surface, whether they be developed by the pulling out of an exclusively peritoneal parietal fixation of the fundus or of the cornua, or whether they be formed by sewing the round ligaments of the uterus into a median ventral incision or against or into the abdominal wall at points laterally from the median line, so that clefts or pockets for the omentum or intestines result. No operator knows with any reasonable certainty what will be the strength of his newly-made attachments for desirable service or for occult mischief; he does not know how soon nor how long they will pull out, nor how long these enemies to nature and its efforts will last. This entire matter is made ungovernable by the uncertain and incalculable degree of peritoneal reaction upon the sutures of any kind of material—as foreign bodies—and by the frequency of slight infections that nature overcomes readily enough, but does so by throwing out an amount of exudate and by forming a volume or depth of adhesions that were not bargained for by the operator. This fact has been repeatedly impressed upon me in doing second abdominal sections upon various cases. A striking one was a few weeks ago: In doing a vaginal hysterectomy only for a large metritic uterus and septic tubo-ovarian conglomerate and ovarian cyst of one side, I was surprised to find two short and very dense fibrous bands close together and nearly a centimeter in thickness, attached to the fundus and holding it high up against the upper vesical boundary. Nothing but actual cutting would sever them; and in case of pregnancy they would have done mischief certainly. These resulted, as my records show, from a mere auxiliary vesicofixation with finest silk and a round milliner's needle, that I had made two years previously to supplement an intra-abdominal shortening of both round ligaments for a retroverted metritic uterus, after curettage and removal of adnexæ of one side, while at that time I could not expect that more than a slight seroseroserous union would result, that would not embarrass any uterine function.

3. But another most commanding reason why these *dernier* operative resorts to things pathologic in gynecologic surgery are not only not necessary but out of order in all possibly fruitful females is, that there are other surgical expedients quite generally available, that are entirely within the domain of normal anatomy and physiology, that help nature and are assisted by nature because they exercise a parallelism and no antagonism of forces. The only normal structures that exist and can be consistently made use of upon this declaration of principles, for the purpose here intended, are the round ligaments of the uterus. They are the only things that, as a part of the uterus, keep pace with it in its physiologic changes and migrations. They grow with it approximately in thickness and length during gestation. They participate with it in involution after parturition. They may be dealt with: 1, by median ventral celio-

tomy; 2, by anterior median, vaginal celiotomy, and 3, by way of the inguinal canals. By the first route they can be shortened or can be made to hold the uterus, anteverted only by intra-abdominal methods which consist exclusively of looping them upon themselves or upon each other, or upon the anterior or posterior surface of the uterus; and this is only possible by means of sutures that are in danger of cutting off the circulation partly on the one hand and of cutting out on the other; so that the extent and permanency of the desired adhesions that are necessary to maintain the loops or other transformations in the ligaments is uncertain; and they do not stand the test of pregnancy and labor, although they do not present any obstacles to these functions. Substantially the same intra-abdominal shortening of the round ligaments can be made by the vaginal route with a good result, in the absence of pregnancy, especially when supplemented with a seroserosous vesicofixation. Furthermore, vaginal fixation of the round ligaments is ideally a creditable procedure and is recommended by several good gynecologists—Bode, Wertheim and others. I have no experience with it. But all these operations either do positively not stand the test of normal child-birth or they have a great burden of proof yet to bring that they can stand it. Far better are the results from shortening the round ligaments by way of their natural channels—the inguinal canals. Here no dependence is placed upon light suturing or slight adhesions. The ligaments are not distorted, and no sutures or plastic junctions of any kind are needed within the peritoneal cavity, as in shortening these ligaments by every other possible route. On the other hand, the strong central half of the ligaments alone is made use of, additionally reinforced by a strip of firmly attached peritoneum, and untrammelled by any kinks or sutures. Thus alone can they be expected—and in this manner, alone, have they been proven—to fulfill their ideal function, i. e., to grow, *pari passu*, with the uterus in gestation, to become involuted with it in the puerperal period and to guide and guard it in anteversion thereafter.

The original Alexander operation greatly modified and improved is the only operation practiced or proposed that not only does not borrow from things pathologic and antagonistic to nature—as do all ventral attachments—and does not create obstacles to gestation or labor, but also guarantees against a return of the retroversion afterward, provided that the operation is properly performed. And this means a very much greater conception as to its technic and requirements than was entertained by Alexander himself, or is entertained now by those who speak of one-inch incision, of not laying open the inguinal canal, of not opening the peritoneal cavity and similar puerile vagaries. This, the modern procedure, which resembles that of Bassini for hernia far more than it does the operation introduced by Alexander, is the only operation that has been proven, or is likely to be proven, to stand the crucial test of pregnancy and labor. All others, according to all evidence so far available, either create obstacles to these functions, or the good that they did or were intended to do is ended by their supervision.

And when this modern Alexander is combined with inguinal celiotomy* by way of the temporarily dilated internal inguinal ring, for the severing of adhesions, for the resection or removal of diseased appendages and for

the permanent restoration of descended ovaries to their normal locations, it most nearly fulfills the highest ideals now entertained.

This combination originated with the writer accidentally and was executed by him completely for the first time, Sept. 18, 1893, when he removed a diseased tube and ovary via the left internal inguinal ring, in the course of an Alexander operation. From Jan. 1, 1897, to May 29, 1899, inclusive, I performed these combined operations, called by me the "Improved and Extended Alexander Operation," sixty-five times; twelve times with simple digital exploration, or examination or freeing of the adnexæ of both sides, which I never omit; 19 times with resection of one ovary; 13 times with removal of one ovary and tube; once with removal of both ovaries and tubes that were unexpectedly found to be tubercular, very adherent and moderately distended, with cheesy pus; 11 times with removal of tube and ovary of one side and resection of the other ovary. Seventeen times a descended ovary was suspended by shortening its proper lateral suspensory ligament, and in five or six cases salpingostomy was done. One of the simple cases was pregnant two and one-half months, and the uterus remains now in normal position, some four months after a normal labor.

In one instance a tubal pregnancy, which was just beginning to rupture, was removed with the tube entire, and the ovary—the only one—left in. Although I have always done one or more other operations—such as curettement, Schroeder cervix operation, colporrhaphy or perineorrhaphy—in conjunction with this extended Alexander, in every case except the pregnant one I can join a number of other operators in declaring that even this extended Alexander operation, in careful and competent hands, has practically no mortality; for after a total number of over 170 cases of all Alexander operations—old and new—I have yet to experience the first death. And the results in the last 100 cases, in most of which not merely the retroversion but also the other half of the indications, i. e., that pertaining to the appendages, was attended to, are so satisfactory that they distinctly emphasize the importance of the extension feature of the operation. And by cutting nothing but skin and fat and severing all the other structures—all the supporting ones—bluntly by splitting, in making the wound; and by following the principles and technic of the Bassini hernia operation always in closing it, we not only avoid the supervention of hernia, but incidentally cure a number of inguinal herniæ that are impeding or are fully developed.

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* For the technic of this combined operation, named by me the "improved and extended Alexander operation," see *American Gynecological and Obstetrical Journal*, February, 1898; *Medical Record*, Oct. 8, 1898; and *American Journal of Surgery and Gynecology*, November, 1898.