

## Report of Two Cases of Acute Inversion of the Uterus

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### ACUTE INVERSION DURING THE THIRD STAGE OF LABOR.

**CASE I.**—Mrs. E., para II, aged thirty, was normally delivered at her home of a living female child in 1911. Two years previously the first confinement had been terminated by midforceps for inadequate pains, and a quite adherent placenta was removed manually. About fifteen minutes after the birth of this second child, Credé's method of placenta expression, which I am accustomed to employ in all cases, was carried out without force, and at the same time slight traction was made on the cord, the arterial pulsations having ceased and Strassman's sign being absent. As no response was made to these attempts and the uterus remained firmly contracted, I left the room for about ten minutes, but was then hastily summoned by the nurse, who said that the patient was having a hemorrhage. Investigation, however, showed this to be a mistake, the nurse having been somewhat nervous and excited. Very slight traction was again made on the cord to see if the placenta had been caught and was being held in the lower segment, and at the same time the other hand was placed on the abdomen. Much to my surprise the previously well contracted uterus had disappeared.

The patient being under mild chloroform anesthesia, the hand was at once introduced into the vagina where the afterbirth was found blocking the upper part of that canal. The placenta was then slowly and carefully drawn downward and out of

the vulva, when it was found that an elongated mass of pale pink color, about the size of a Bartlett pear and covered by ovular membranes, accompanied the secundines. It was at once recognized that this body was the inverted uterus with adherent placenta. Although the attachment was quite firm, the latter was quickly peeled off. There was no particular bleeding. The organ, now decreased in size, was easily grasped by the hand, the fingers extending along the neck and the tips indenting the parts within the constricting ring, while at the same time steady pressure was made, upward and forward, on the fundus. The abdominal walls were so flaccid that the constriction ring could be readily felt from above, and the rather rapidly reinverting organ distinguished as it pushed upward through the opening.

The intrauterine hand was held for a few moments in the cavity, contractions being promptly established, and the latter was then washed out with a mild, hot lysol solution, and an ampoule of aseptic ergot injected into the thigh. For an hour following replacement the uterus was held and controlled through the relaxed parietes. There was a constant tendency to retroflexion, but the organ could be readily brought forward and maintained in position, while retraction continued firm.

The same evening the fundus was on a level with the umbilicus, and no tendency to inversion was manifested. The pulse at the time was 100 and the temperature 98.6° F. During the third day postpartum the temperature rose to 101° F., and a small, foul smelling piece of membrane was expelled. The

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next day several small shreds of membrane were thrown off, but the temperature remained normal, and continued so during the remainder of the puerperium. Catheterization was necessary for the first three days, due to swelling of the parts from the slight traumatism incident to the reposition of the uterus. The patient made an uninterrupted recovery and was dismissed on the twenty-first day in excellent condition, the well retracted and the involuted uterus being retroflexed.

My notes state that what impressed me at the time was the absence of shock, which is usually considered the most dangerous feature of the accident; the slight blood loss; the smallness of the uterus, and the readiness with which it could be replaced.

Six years later I again delivered the patient of a living premature (eight and a half months) male infant without difficulty. The placenta was slightly adherent and had to be detached manually, but there was no tendency on the part of the uterus to invert. It is worth noting that in this case, from the time that the uterus was found inverted to the completion of the replacement not more than three minutes elapsed; and so little physical disturbance resulted from the accident that the patient was not aware to this day of the serious complication that threatened her wellbeing.

#### ACUTE INVERSION OF THE UTERUS.

CASE II.—Mrs. R., para I, aged twenty-six, a patient of Dr. W. H. Acker, of Monroe, was delivered by a low forceps April 8, 1915. Following delivery there was some hemorrhage and considerable shock, which was controlled by ergot and atropine. No undue traction had been made on the cord, and the nonadherent placenta had come away readily following gentle fundal pressure. The uterus remained well contracted, and the puerperium progressed satisfactorily, no untoward symptoms manifesting. Early on the morning of the tenth day the patient expressed the desire to "pass something"; shortly after which it was discovered that a mass lay in the vagina and projected through the orifice of the vulva. The doctor being hastily summoned, a diagnosis of inversion of the uterus was made, but as the patient was comfortable, there being neither shock nor hemorrhage, no attempt at reducing the organ was made at this time. Two days later, that is, on the twelfth day following delivery, I was asked by Dr. Acker to see the patient in consultation. On examination I found the uterus lying two thirds outside of the vulva opening, slightly enlarged, of a dull red color, and apparently in a healthy condition.

With the patient under ether anesthesia, in the lithotomy position on the kitchen table, I carried out precisely the same manipulations as mentioned in the previous case, and was gratified to find that, although the uterus had been inverted for some days, the method succeeded with as little effort on my part as in the former case. Not more than five minutes were consumed in accomplishing the reinversion. As the cervix was rather deeply lacerated, this was also repaired at this time, and the patient put to bed in excellent condition. Recovery was prompt and progress uneventful; the patient has remained well ever since, but there have been no further pregnancies.

Twenty-five textbooks on gynecology refer to the acute inversion of the uterus, but dwell particularly and *in extenso* on the chronic form which, as Hirst remarks, is so rare that "many experienced gynecologists have never seen a case"; twenty-five textbooks on obstetrics devote much space to the etiology and symptomatology of the condition, but largely fail to give the minutiae of treatment.

As to the frequency of acute inversion. Quoting the older statistics—which have been overworked because no recent collection of large numbers of cases has been made—in 280,000 labors in the Vienna clinic but one case of uterine inversion occurred; at the Dublin Lying-in Hospital in 140,000 deliveries there was not a single case; in the St. Petersburg Lying-in Hospital there were 250,000 deliveries without uterine inversion; at the Glasgow Maternity Hospital there were three cases in 51,290 deliveries. More recently but one case in 35,000 confinements is reported from the Sloane Maternity Hospital, and Dr. H. W. Yates, of this city, who has taken pains to gather the statistics from four of our Detroit hospitals which care for maternity cases, finds that in a total of 22,157 deliveries there was but one instance of acute uterine inversion. In the enormous number of 778,537 labors, then, there were just six cases of this complication of childbirth—certainly so infinitesimal a percentage as to approach the vanishing point and warranting writers in classing this accident as the rarest of all obstetrical emergencies.

But is this true?—and here "ariseth a strange matter," for the deliver in current medical literature will be astonished by running up against an incontrovertible paradox. The annual indices of published medical articles, for many years back, show that uterine inversion is not the *rara avis* we are wont to consider it. Indeed, Cragin asserts that "most consulting obstetricians of large experience have seen several cases." Figures, it is averred, do not lie, and certainly it would be presumptuous to question the statistics of the leading hospitals of the world; but how are we to reconcile the reports of physicians with the statements of the maternity hospitals. There seems to be but one solution, and that is to tabulate acute puerperal inversion of the uterus as an accident of private practice, largely the result of sloppy, inadequate and unskillful midwifery.

#### VARIETIES.

For convenience of description and treatment, acute inversion of the uterus may be divided into two varieties: the incomplete, in which the degree of inversion may vary from a simple dimpling in the fundus uteri; and complete, in which the whole uterus turned inside out is extruded into the vagina and possibly escapes from the vulva. The first variety and degree is probably not uncommon—I have personally observed several cases—and this condition usually rights itself. Indeed I doubt if it is often distinguished by the practitioner, since the patient rarely presents symptoms other than a slight increase in the sanious flow. If the etiological factor in its production is continued, however, it may go on to the second degree and a total inversion result, when the symptoms may be exceedingly serious.



## ETIOLOGY.

If the uterus is well retracted and in its normal position, it is impossible for this accident to occur, a corroboration of the desirability of the practice which I have always advocated and taught, that the organ should be held and controlled for one hour following every delivery. With a relaxed uterus all things are possible which may render the condition of the patient uncomfortable, or precipitate well-being into serious disaster, from afterpains, hemorrhage and other complications, to inversion. Moreover, the relaxed uterus is more prone to retroflexion—a condition pointed out by Henning as long ago as 1882, as a forerunner of inversion.

To start the inversion, which in most cases begins at the fundus, some force, *a tergo* or *a fronte*, is necessary. Probably the latter is the most frequent cause and is represented by strong traction of the cord to hasten the escape of the placenta. A cupping of the fundus is thus started, and continued dragging pulls down the bulging uterine wall until it assumes the shape of a broad pedicled tumor, while uterine contractions hasten the *dénouement*.

Precipitate labor, delivery in the upright position and a short fundus, act in the same manner. From above, rough and violent pressure in attempts at rapid delivery of the placenta produces a similar effect. In instances of spontaneous inversion, which undoubtedly occur and to which my second case belongs, abdominal pressure associated with more or less strong contractions of the recti muscles may furnish the inciting cause, or causes, acting on a relaxed and softened portion of the fundus, while along the same lines, coughing, sneezing and vomiting in the presence of a relaxed or locally parietic uterus, have produced the condition. The upright or squatting posture, especially with the patient at stool, has given rise to inversion not only early but even during the later weeks of the puerperium. The mortality from this accident is high, ranging up to forty per cent., thus indicating that in inversion of the uterus the physician is dealing with a most serious complication. Death occurs from shock, hemorrhage (acute anemia), and sepsis.

## DIAGNOSIS.

The diagnosis of complete inversion presents no difficulties; it is the partial type which is likely to mislead the practitioner and give rise to hasty and wrong conclusions. The bleeding incident to the mishap is likely to be through postpartum hemorrhage, and investigation is therefore postponed until an advanced stage of the dislocation has been reached. Shock may supervene after a prolonged and nagging labor, especially in nervous and hysterical individuals, and anxiety over the patient's state may mask the true conditions to the attendant's mind. In all such instances investigation bimanually is desirable and necessary as soon as the immediate symptoms have been relieved. Only by bearing the possibilities in mind is a successful diagnosis antecedent to successful treatment. In cases which present no symptoms, a knowledge of beginning or accomplished inversion may be obtained only through a constant supervision of the uterus, particularly during the lat-

ter part of the second, and for a time after the completion of the third stage.

## TREATMENT.

The treatment should be largely prophylactic through avoidance of unjustifiable violence, especially in the third stage of labor. In dealing with the actual occurrence, the discovery of a vaginal tumor being the earliest intimation of the event, the condition of the patient must be first considered. If there is much shock or hemorrhage, these must receive immediate attention before any attempt at the reduction of the inverted organ is made, and the patient put in as good condition as possible before administering the anesthetic.

When taxis is attempted, it must be remembered that gentleness and speed are of the utmost importance. Should the placenta be adherent, as it is in a considerable number of cases, it must be peeled off the uterus as quickly and thoroughly as possible without doing damage to the organ. This reduces the size of the tumor and facilitates its reduction. If the uterine body is still within the cervix, the introduction of a small Voorhees bag through the cervical ring and gradually distending this with warm sterile water, may, by elastic pressure, cause the fundus gradually, or, more likely, rapidly to spring upward into position. Lacking the bag, gentle packing with sterile gauze may be tried, but the utmost caution must be taken not to rupture or perforate the uterus, which is sometimes greatly softened and even friable. When the uterus lies in the vagina or has escaped from the vulva, the technic is as follows: the hand, with the fingers pressed together forming a cone, is introduced into the vagina with its dorsal surface toward the sacrum, the fingers being extended along the neck, with the tips, if possible, inside the constriction ring. With the body of the uterus lying in the palm of the hand, the former is gently squeezed between the palm and the thumb like a sponge, to remove as much of the contained blood as possible and render the organ smaller. This, I consider, is of the greatest importance as the preliminary step. At the same time the finger tips within the cervical opening, or, when this is impossible, at the sides of the ring, attempt to dilate the constriction with simultaneous upward pressure. Coincident with this, the fundus and body of the uterus still lying in the palm of the hand, are pressed upward and forward in the axis of the superior pelvic strait, slowly, persistently, gently, until the uterus responds and turns outside in. It is surprising how quickly, under proper manipulation, restoration of the inverted organ can be accomplished, the uterus often springing back through its own elasticity after the process is once started. Some writers state that, with the sudden return of the organ to position, a decided snap can be heard. Following reinversion, the hand should be left inside the cavity until uterine contractions can be established when it may be slowly withdrawn. The uterus should then be washed out with a hot, weak antiseptic solution, (iodine, lysol or carbolic acid), and if there is a tendency to relax, both uterus and vagina should be packed with sterile gauze. Ergot, as a promoter of uterine contractions, is preferable to pituitrin.

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