ONE HUNDRED AND FIFTY CASES OF VERSION BY POTTER'S TECHNIC

By Percy W. Toombs, B.A., M.D., F.A.C.S., Memphis, Tenn.

AT THE annual meeting of the American Association of Obstetricians and Gynecologists, held at Indianapolis in 1916, Irving W. Potter, of Buffalo, N. Y., made a report of five hundred cases of internal podalic version, which he had performed during the preceding year. The technic which he described differed in some important particulars from the classic methods described in text books and taught to students of obstetrics both here and abroad, but the most noteworthy feature of Dr. Potter's communication was not so much the manipulations which he advocated as the indications he accepted for the performance of the operation. To make use of his own words, "Version will be found especially useful in occipitoposterior positions, in face presentations, in prolapsus funis, in placenta previa occurring in multiparae, and in a moderately contracted pelvis with a small fetus. Used in all cases where there are indications of prolonged labor under natural conditions, it does away with unnecessary suffering and exhaustion of the mother and lessens the chance of injury to the soft tissues. Moreover it is an operation presenting great advantage to the mother, the child, and the attending obstetrician. It lessens shock by shortening labor, it conserves the patient's strength and does away with injuries to the baby's head." Dr. Potter asserted that "from an experience extending over many years of practice" he had reached the conclusion "that it is justifiable to perform a version for the purpose of eliminating the second stage of labor and relieving the woman of the pains and agonies of childbirth, *since such a procedure in my hands has been attended by no increase of fetal mortality, and has had a lessened maternal mortality and future morbidity.*"

Opposition did not shake Dr. Potter's conviction that his method had merits and advantages of a very high order. In 1917 he reported two hundred more cases of version performed according to his technic, with corroborative hospital charts and case records, showing even better results—both maternal and fetal—than in those previously presented.

There is no doubt that every one who visited Buffalo was very greatly impressed by Potter's remarkable obstetrical skill, the rapidity with which his deliveries were accomplished, and the excellent postpartum condition of his patients. That Potter's method was sat-

isfactory and excellent when Potter employed it, was established beyond the gainsaying of even his most determined adversaries. The question was now resolved into whether it were possible for others to acquire the skill necessary to perform version according to the Potter method. This, his opponents held, and still hold, to be impossible. As Rongy of New York, one of the most violent "obstructionists" of the Potter technic, has put it, "Since witnessing two versions performed by him * * * my reason for opposing his teaching became still greater, because I find Dr. Potter to be a master in obstetrics and I dare say that there is no one in any lying-in hospital in the United States that knows how to perform versions as well as Dr. Potter. I honestly believe that it is still a dangerous procedure to be applied by the average obstetrician in any of the lying-in hospitals. What Dr. Potter can do very few of us are able to do as far as version is concerned, but I do want to reiterate that this procedure must not be made light of, otherwise it will be undertaken by those not competent to perform it."

This was said in September, 1920, and, I believe, fairly voices the opposition to Potter's method at the present time. On the other hand, several men, after observing Potter's technic, have introduced it into their own obstetric practice, and published reports which mitigate against the "one-man" theory. M. P. Rucker of Richmond, Virginia, presented a series of two hundred cases, only one hundred and four of which he delivered personally, the remainder being performed by his associate, and his fourth year medical students. His results compare very favorably with those of any obstetric service—regardless of the technic used—and he stated that "the Potter version can be taught to students, it is easier to teach than the use of forceps." A number of other publications of results following the employment of the Potter method, have appeared in print, showing that it is being "tried out" even as far away as Cuba, and a detailed description of the technic together with a discussion of the history of version appeared last September in *Nederlandsch Tijdschrift voor Geneeskunde*, showing that interest in Potter's method is beginning to manifest itself in Europe. It is to be regretted that this Dutch author, C. C. Nijhoff, does not give any case reports, or otherwise indicate whether the method has actually been employed on the other side of the Atlantic.

In discussing one of Dr. Potter's papers, E. G. Zinke remarked that he believed it "the duty of every man who attends to the practice of obstetrics, and who intends to practice it in the future, to see Dr. Potter while he has an opportunity * * * his method of practice should not be lost. It is undoubtedly of benefit to suffering womankind. It helps the obstetrician, it saves suffering, it saves life."

this point in the extraction it lies directly transverse to the pelvic outlet. All the maneuvers just described are carried out with the utmost deliberation and gentleness but anyone who has had extended experience with the Potter method can usually accomplish the version in a very brief time.

When the fetal trunk is exposed it is my practice to wrap it in a warmed sterile towel to prevent the stimulating effect of a sudden change of temperature upon the skin, which is likely to make the child gasp and aspirate fluid. Very gentle traction is now exerted on the child's thighs until one of the scapulæ emerges from the vulva, the child's body being turned slightly as it descends so that it is drawn downward and backward. This brings the scapula beneath the maternal symphysis. When the scapula is in full view, the accoucheur pushes his hand above the shoulder and delivers it, thereafter rotating the fetal body so that the posterior shoulder comes into the anterior position, and is delivered in its turn, the body being supported from below by the operator's hand.

In his recently published book, (Fig. 25, p. 93) Dr. Potter advocates pushing the scapula under the pubic arch with the index finger instead of pulling the shoulder down, as was done in the deliveries which I witnessed. I have not yet had an opportunity of "trying out" this variation in technic. This rotation of the shoulders is one of the important features of the Potter procedure, as it avoids trauma to the perineum, and assists greatly in preserving the integrity of the birth canal.

The child's body now rests upon the flexor surface of the accoucheur's operating arm so that the child's chest rests in his hand, enabling him to observe the pulsations of the heart. One or two fingers are now cautiously inserted in the child's mouth, and very gentle traction exerted, the operator's other hand pressing lightly upon the occiput over the mother's pubes. This is perhaps the most "ticklish" moment in the whole procedure; too great pressure from without will push the head down between the shoulders, and extend the arms, a common technical fault in the older method of version. By delivering the shoulders before any pressure is brought to bear on the aftercoming head the danger of extended arms is overcome. Guided by the accoucheur's fingers in the mouth, great care being taken to avoid traction which might fracture the jaw, the head is now made to pass through the pelvis, flexion being fully maintained all the time. When the child's mouth and nose emerge over the perineum, the body is raised in order to permit any mucus to run out, and Dr. Potter's method of stroking the throat to assist in the discharge of any aspirated fluids, is followed. The head can now be allowed to rest on the perineum if there is need to further dilate the vaginal canal, as there is no danger now for either mother or child. Often the baby will gasp spontaneously, or even breathe and cry. Final delivery of the head is accomplished by lifting the child's body forward and up away from the perineum.

Delivery completed, the infant is placed on its right side upon the mother's abdomen, where it is left until all pulsation of the cord has ceased, after which the cord is clamped and cut. Following Dr. Potter's routine I give a hypodermic of one c.c. of pituitrin into the mother's thigh, immediately upon completion of delivery. The placenta will ordinarily be spontaneously evacuated in a few minutes, but if this does not occur the uterus can be emptied manually.

Rucker, in reporting his series of Potter versions states that it was "surprising to note the number of times the placenta separated by Duncan's method." In my series one hundred and one placentae were expelled with the lower edge in advance, while forty-nine followed Schultz's mechanism, practically a ratio of two to one. I do

or any of the usual compression injuries. More than fifty years ago it was demonstrated by Sir James Young Simpson that in cases where the head is very large or the outlet contracted, extraction is easier and the child's chance of life and a normal mentality greatly increased if the head comes last rather than at the outset of delivery. The after-coming head can be greatly flattened and extended and yet make a perfect recovery.

The duration of labor in my series was from six to fifty hours, version being done at the beginning of the second stage in seventy-three, and where the second stage had been for some time in progress, in seventy-seven. When version is the selected form of delivery, and undertaken as soon as complete dilatation is accomplished, the results are best for both mother and child.

Table I shows the relation of fetal death to the shape of the mother's pelvis.

TABLE I

SHOWING RELATION OF PELVIS TO INFANT MORTALITY

	NORMAL PELVIS	FLAT CONTRACTED	FUNNEL	KYPHOSIS (NOT CONTRACTED)	TOTAL
Breathed spontaneously and lived at least 14 days	97	11	4	10	122
Resuscitation necessary, lived at least 14 days	11	0	0	0	11
Died in the first 14 days	6	3	1	0	10
Stillborn (not macerated)	6	2	0	1	9
Macerated	1			1	1
Total	121	16	5	12	153

Four cases of normal pelvis counted twice on account of twins.

It will be noted that ten babies were born dead, and eleven died within the first fortnight. Two of these stillborn infants were in consultation cases after forceps had been used, and were dead before admission to the hospital; three were monsters; one died because of antepartum toxemia, and one was a case of prolapsed cord where the mother refused assistance until the fetus had perished. Two babies died during the process of delivery; in both these cases, elderly primigravidae with large fetuses, both version and extraction were most difficult. The pelvic measurements were normal, however, so that viewed conservatively, there was no indication for cesarean section, but I am

now inclined to believe that had section been elected these children might have been saved.

The infant noted on the table as "macerated" was born at term, following a normal pregnancy. The mother, a primipara, aged twenty-five, a few days before the expected date of delivery, fell down a flight of stone steps, and rolled some distance upon a concrete driveway. Although she suffered some pain, she was of a rather phlegmatic disposition, and was not sufficiently alarmed to inform me of the accident. No external bleeding immediately followed the fall, but she felt uncomfortable for two or three days, or until the membranes ruptured. Following the rupture of the membranes she was sent to the hospital, although labor did not set in for thirty hours thereafter. At entrance the abdomen was very tense and no fetal heart sounds were audible. The patient stated that she had not felt any movement since the accident.

Dilatation was fully accomplished about twelve hours after the onset of labor, with moderate bleeding during the first stage. Version was performed in the interests of the mother, and upon delivery of the placenta a number of small blood clots were observed to be adherent to it, the evidence of a classic accidental hemorrhage, abruptio placentae. In this case cesarean section immediately following the accident would probably have saved the child's life.

Of the eleven infants dying within the first two weeks there was one set of syphilitic twins delivered at the thirty-fourth week who lived two hours; another premature baby, thirty-six weeks, delivered of a toxic mother, lived twenty hours. Still another, the mother being injured in an automobile accident at the thirty-fourth week, lived two days; and another, delivered in the thirty-sixth week, the mother suffering from encephalitis, lived seven days.

Of the infants born at term there were two cases of melena neonatorum living thirty-six and forty-two hours respectively; two others with patent ovale, one living five days and the other six; and one child with an enlarged thymus gland who died on the second day. One baby died on the second day from morphine poisoning. Forceps delivery had been attempted in a neighboring town and the patient was kept under heavy doses of morphine until she could be conveyed to the hospital in Memphis. The baby lived eighteen hours.

The proper administration of the anesthetic is one of the prerequisites to a successful version according to Potter's method. Dr. Potter's patients are all anesthetized by his co-worker, Dr. Reynolds, and Rucker, in his report, remarks, that after having some experience with various kinds of anesthetists, he "can see the importance of such an arrangement." I am fully in accord with Rucker's conclusions. In my work I have employed ether rather than chloroform,

TABLE II—Cont'd.

AGES	CASES	AGES	CASES
18	1	30	8
19	4	31	8
20	3	32	7
21	13	33	2
22	6	34	5
23	16	35	1
24	12	36	2
25	13	37	1
26	15	39	1
27	5	40	1
28	8	42	1
29	14		
Labor Induced		2	
Dead before delivery and in interest of mother		8	
Fetal heart stopped before attempt at delivery		2	
Operation done at onset of second stage		73	
" " late in second stage		77	
Maternal Deaths, placenta previa		1	
Ruptured uterus		1	
Laceration of Pelvic Floor, first degree		40	
" " " " second stage		12	

pulsion, but my anesthetist keeps the patients under full surgical anesthesia throughout, and I found when this is done I have absolute control, and by making gentle traction can accomplish a successful extraction. I have occasionally used chloroform, but cannot see that it offers any advantage over ether, which is universally conceded to be the safer anesthetic for routine employment.

There were no infections in any case in this series, nor any post-partum hemorrhages. Where version was done early in the second stage of labor, it was selected as a means of delivery because of a diagnosis of posterior position, and in accordance with my belief that if the operation is carried out early in the second stage we get far less injury to the baby's head, and a shorter and more satisfactory convalescence for the mother.

In some of my early cases, I had very great difficulties, but I believe now that most of my trouble was due to my making the extraction too quickly. Dr. Potter's rapid slowness, if I may use a contradiction of terms, has only been acquired by vast experience, and too hasty extraction is a mistake likely to be made by those who try to do the delivery in record time.

I have not yet had time to judge the remote effects of this obstetric procedure. The mothers, however, undoubtedly have a more rapid involution of the uterus, with earlier cessation of the lochia, the secretion of milk, as a rule, is active, and the patient seems to have a general sense of well-being, greater than when delivery has been accomplished by other methods. Pelvic examination eight weeks after labor always shows the birth canal to be in excellent condition, and in