Original Articles.

THE VALUE OF POSTURE IN THE TREATMENT OF OCCIPITO-POSTERIOR POSITIONS.¹

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THE advantage to be gained in the treatment of occipito-posterior positions by a proper application of the force of gravity by posture of the patient is not, it seems to me, as thoroughly understood and appreciated as it should be. We know, to be sure, that in a majority of these cases the head flexes and descends, that the occiput rotates to the pubic arch and is normally born. But we also know that it is in the posterior positions that operative procedures are more often necessary; that the mother suffers more exhaustion and damage to soft parts; that the fetus is more often lost, and that the physician more frequently finds his Waterloo.

At the superior strait the head does not so readily engage when the occiput is posterior; the head is more liable to become extended and present the brow or face; the brim is not so well fitted, and there is therefore a greater chance of prolapse of the funis. The reason for the comparative difficulty in the engagement of the posterior occiput is apparent from an inspection of the bony pelvis. In anterior positions the biparietal diameter of the fetal head passes readily through a pelvic diameter parallel with, and almost equal to, one of the large, oblique diameters. But in posterior positions the biparietal must pass through a much smaller diameter, the chord that subtends the right or left sacro-iliac arch. When the pelvis is ample, the child not much above average size, and the pains strong, this passage of the flexed head may readily take place; but under other circumstances not only may the occiput fail to advance, but the sinciput, encountering less resistance in the anterior quadrant of the pelvis, may descend, and a presentation of the brow result.

When the posterior occiput has passed the pelvic brim, the possibilities of difficulty or disaster are largely diminished. With the head in the pelvis, flexion can be maintained, and if the elastic resistance of the pelvic floor has not been unduly impaired, and if the pains are adequate, anterior rotation of the occiput will take place. But owing to the longer rotation required to bring the occiput to the arch, it is obvious that greater demands are made on the patient's voluntary efforts, as well as on the strength of the uterine contractions. Should these forces fail to produce rotation, resort must usually be had to manual or to instrumental assistance to effect delivery. Instrumental delivery in such cases requires much more skill than is necessary in anterior positions, and is more liable to result injuriously to the fetus and to the maternal soft parts. Obviously, therefore, it is our duty to neglect no measure that will safely promote spontaneous anterior rotation.

It is not my purpose in this paper to speak of the various expedients employed to promote normal delivery in the skilful management of labor in posterior positions of the presenting occiput, but to testify to the great value experience and observation have led me to ascribe to the force of gravity as a factor in the promotion of anterior rotation.

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I shall never forget my surprise, and I may say my annoyance, in the early days of my dispensary practice, at the custom, common especially among the foreign population, of the parturient woman to kneel by her bedside. Such a posture was quite different from what I had been taught to believe the correct one; besides it made examinations difficult, to say the least. Sometimes the baby was born while the mother was in this position, and my well-meant attempts to support the perineum were quite ineffectual. It did not then occur to me that this posture had become a custom from primeval instinct, and I never knew how many difficult cases, on which I might have exercised my obstetric art, were taken from me by this uncivilized, albeit highly scientific, practice. I well remember among my early cases that of a young primipara, whose labor began at 7 A. M. At 11.30 A. M. I found the head presenting at the brim in O. D. P. position; the cervix was taken up, and the os dilated an inch and a quarter. Soon after, I went to luncheon, and on my return found the patient on her hands and knees by the bedside. My notes read that during my absence of not more than an hour dilatation was completed, the membranes had ruptured, and the occiput had descended and rotated to the pubic arch. The baby was born at 1.45 P. M., six and three-fourths hours from the initial pains, and it seemed obvious to me at the time that the anterior rotation and the rapid delivery were promoted by the kneeling posture.

One other case, among those in which I made my early observations in regard to posture, lingers in my mind, that of a secundipara who had lost her first child in difficult high forceps delivery of a posterior occiput. The second child was also in O. D. P. position, and I determined to try the effect of posture. I placed the patient in the right latero-prone position in bed, so to make the right anterior quadrant the lowest part of the pelvis, and left the room for half an hour. On my return I found the head engaged in right anterior position, and I subsequently delivered by low forceps with comparative ease, with a normal rotation to the arch.

I will now quote briefly the history of a case in which last year I was able to demonstrate to several pupils the effect of gravity in changing fetal position. I first saw the patient just prior to her third labor in 1898, and was able to obtain the records of her first two labors. Her first labor was in 1890, when she was thirty-two years old; the head presented, O. L. A. The first stage was over thirty hours in duration; but the second stage lasted less than an hour and a half, and she delivered herself of a nine-pound child without assistance. From these facts it may fairly be inferred that the pelvis was ample. In the second labor, four years later, the head presented, but in right posterior position. The pains, which began at 4 A. M., were frequent, but, as is often the case in posterior positions, were not very effective. The membranes ruptured at 3.30 P. M., when the os was about two-thirds dilated. Soon after, the os became somewhat edematous, and the fetal heart rose from 140 to 170; the head was still in O. D. P. position and not engaged. It seemed to the attending physician that it was best to deliver. The axis-traction forceps was applied, but slipped when tractions were made; after three unsuccessful applications the forceps was discarded, and delivery was effected by internal podalic version with

forceps to the after-coming head. The child was still-born, and weighed eight pounds and three ounces, thirteen ounces less than the first child, which was born naturally from an O. L. A. position.

When this patient was at full term with her third child, in 1898, the membranes ruptured one morning at six o'clock; I saw her a few hours later. Labor had not begun. Pelvimetry showed the pelvis to be of normal size, and the head presented in right posterior position. With a view to effecting anterior rotation of the fetus on its long axis, I advised the patient to assume a kneeling posture by her bedside, making herself comfortable with pillows beneath her knees, and leaning forward, resting her head and arms upon the bed. She maintained this posture a good part of the day. The following morning I saw her again, and was able to demonstrate to my own satisfaction and to that of several students that the fetus had rotated anteriorly and was then in O. D. A. position. The patient was allowed to sit up, but was advised to resume the kneeling posture from time to time. Labor began the next day; the first stage lasted three and one-half hours, and the patient delivered herself in a second stage of seven minutes. The child weighed ten pounds, one pound more than the first child, and one pound and thirteen ounces more than the second child, which was lost in operative delivery from a high posterior position.

The theory on which gravity effects anterior rotation of the fetus is sufficiently simple. The position of the spinal column makes the dorsal side of the fetus the heavier; and when the patient's posture is such as to make the anterior uterine wall the lower, the natural tendency, under the laws of gravitation, is for the fetus to rotate on its long axis to enable the dorsum to seek the most dependent portion of the uterus. The ease with which this anterior rotation will occur depends very largely, of course, upon the mobility of the fetus. If the fetal head is not engaged, and if the membranes are unruptured, anterior rotation will almost invariably take place. That unruptured membranes are not essential to this rotation is shown by the third labor in the case just quoted. If the head is fully engaged, rotation cannot, of course, occur until the head has passed the superior strait. But if the head is simply resting upon the girdle of contact, embedded, so to speak, in soft parts merely, a knee-chest or a knee-elbow position will make the fundus the lowest portion of the uterus, and the fetal head will drop away from its bed, unless a long-dry and retracted uterus is holding the fetus immovable.

When the head is in the pelvic cavity the influence of gravity in producing anterior rotation is not so striking. Yet, unquestionably, with the patient in a latero-prone posture on the side towards which the occiput is directed, gravity will generally effect rotation in cases wherein, if the patient lies upon her back, it will not occur at all without manual or instrumental assistance. Oftentimes, even when the head is well flexed and the soft parts elastic, the pains are not quite adequate to accomplish anterior rotation against gravity, as it must be when the patient is on her back or on the side opposite to that towards which the occiput points. A single pain will start anterior rotation; but on its cessation the head will often return to its former position, and the patient thus passes a weary and exhausting time in labor as fruitless as that of

Sisyphus. In such cases the effect of gravity, when the patient is so placed as to take advantage of it, is often most satisfactory. Especially is the effect of gravity most happy when a suitable latero-prone posture is adopted as soon as the head has passed the superior strait. The shoulders are then as yet not engaged in the brim and may rotate under gravity to the opposite oblique pelvic diameter. This rotation of the shoulders and trunk makes the anterior rotation of the occiput much easier than when the head is quite low and the shoulders are already engaged with the dorsum posterior.

Of course in some cases of posterior positions, when the head is in the cavity, anterior rotation fails in spite of gravity. At most gravity is only an adjuvant force, and cannot be expected to afford effectual aid if the pains are weak, and if the head is not well flexed; good flexion is an essential requisite to normal anterior rotation. But even if gravity is ineffectual, for whatever reason, the postures necessary to the efficient working of that force certainly do no harm and are not causes of discomfort to the patient. The knee-chest and the knee-elbow postures cannot be long maintained with comfort; but I rarely find it necessary to use these positions, and if at all, for only a short time, when the head must be dislodged from a partial engagement at the brim. The kneeling posture, with the body bent forward and with the head and arms resting comfortably on a bed or chair, is surely no hardship; and we know that parturient women have, of their own volition and apparently from a sort of instinct, often assumed that position, especially during the first stage. As to the latero-prone posture—that is the commonest position in second stage labor, and is equally comfortable on either side.

I have rarely advised a patient in the last days of pregnancy to assume a particular posture in the daytime, with a view to converting posterior to anterior positions; but I have often suggested sleeping in the latero-prone position on the side towards which the occiput has been ascertained to be directed. In multiparous labors, in which the head is almost always high, I use the kneeling, forward-bending posture early in the first stage, varied with the appropriate latero-prone position, until the head is engaged anteriorly. In primiparæ, if there is no relative disproportion between pelvis and fetal head, the latter is engaged, or even well down in the cavity, at the advent of labor; in these cases I customarily employ no especial posture until the second stage, when I keep the patient in the appropriate latero-prone position until anterior rotation is accomplished; or, if the pains are ineffectual, until such time as I find it expedient to employ some manual assistance to rotation, which can be most conveniently afforded with the patient in dorsal position. Even in these cases, however, during the first stage, when the patient is preferably sitting up or walking about the room, I often find the kneeling posture to be gratefully assumed from time to time.

It will not be inferred, I trust, that I deliver patients in the kneeling posture, as perforce I sometimes did in dispensary days. As soon as anterior rotation is accomplished the patient is advised to assume such position in bed as she finds most comfortable, until the time of delivery is at hand, when the left lateral posture is most convenient for the conclusion of the labor.