The delivery of the second fetus in labor with twins / by Charles M. Green.

With the Writers Compliments.

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SECOND FETUS IN LABOR WITH TWINS

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CHARLES M. GREEN, M.D.,

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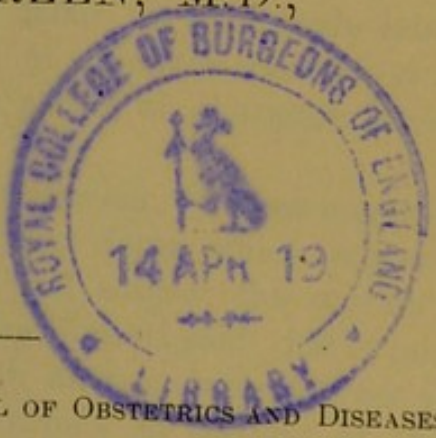

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DELIVERY OF THE SECOND FETUS

IN LABOR WITH TWINS.

In a majority of cases of labor with twins, the second fetus is born naturally, and shortly after the birth of the first. Indeed Spiegelberg compared twin labor to two single labors following quickly on one another; of which the second is much shorter than the first, because the period of dilatation is common to both.

And yet in a not inconsiderable number of cases complications arise after the birth of the first fetus which seriously endanger the life of the second and subject the mother to increased risks. In fact Spiegelberg himself said[1] that in labor with twins the prognosis was much more unfavorable for the children than in single labors; not only on account of their smallness, but because of the more frequent anomalies of presentation, and therefore more frequent artificial delivery: especially unfavorable, he pointed out, is the prognosis, for the second child, on account of the more frequent occurrence of transverse positions. Since more than 25 per cent of twin pregnancies terminate prematurely,[2] it is not unexpected that the mortality in early infancy should be large; nor is it surprising that the mother's convalescence should often be protracted, on account of the greater demand on her organism for the

[1] Geburtshülfe, 2te Aufl., S. 195.

[2] Reuss gives 26.5%; Spiegelberg, 27.5%.

simultaneous development of two offspring. It is to be regretted, however, that owing to what I believe to be preventable causes connected with labor, the life of the second fetus is not infrequently compromised or lost, and the maternal convalescence greatly retarded. Supposing now the first fetus to have been delivered, and excluding, therefore, complications which might arise from the simultaneous presentation of both children, I propose to consider the delivery of the second fetus, the difficulties which may arise, and how best to prevent their occurrence.

The chief cause of dystocia from the second fetus arises from abnormal presentation. In 1,144 cases, Spiegelberg[1] found that in 121, that is in 10.5 per cent, the second fetus lay in transverse position. Carl Braun[2] places the proportion even higher, namely, at 12 per cent. Of 208 cases analyzed by Hecker, the second fetus lay in oblique or transverse position in 34 instances, or 16 per cent. In single fetation transverse position occurs in only 0.7 per cent of all cases. This faulty position is in the great majority of instances secondary; that is to say, the second fetus, occupying originally a longitudinal position, owing either to the sudden rupture of its membranes, to the greater roominess of the uterine cavity after the birth of the first child, or to both these causes, assumes an oblique or transverse position, and presents the shoulder, arm, or trunk. And these presentations entail in most cases artificial delivery, with more or less danger to the fetus and to the mother, according as the interference is skilful and timely, or the reverse.

In the beginning of single labors in which the head presents, if the pelvis and fetal head are not disproportionate, the head rests either at the brim or within it, in a state of moderate flexion; and the effect of the first expulsive pains acting on the head through the vertebral column and aided by the relatively greater resistance on the longer, sincipital arm of the cephalic lever is to increase this flexion. Excluding from present consideration the effect of pelvic contraction and marked dolicho-cephalism in thwarting this mechanism, it may be said that the head descends into the pelvis well flexed provided the uterine obliquity is not extreme; that is to say, provided the

[1] Op. cit., p. 192.

[2] Lehrbuch der gesammten Gynäkologie, 2te Aufl., S. 201.

fetal spinal column does not deviate from the axis of the brim so far and in such a direction as to transmit the force of the uterine contraction to the sinciput, and thus produce extension. Now in labor with twins, when the second fetus presents the head, the first fetus being born, two circumstances may lead to a malpresentation which it is needless to say is a most undesirable one. In the first place, the second fetus may be retained for a time in its intact membranes somewhat above the brim: a sudden rupture of the membranes may cause the chin to drop away, as it were, from the sternum, and thus the head enters the pelvic inlet more or less extended: at the same time the cord may be swept into the pelvis by the sudden gush of amniotic fluid. Secondly, owing to the greater roominess of the uterine cavity and the laxity of the uterine walls, the fetus may fail to maintain its longitudinal position, and the breech may fall to the right or left, according to the mother's position. If the breech deviates towards the chin, any extension of the head that may have occurred will be in a measure corrected, and the labor may terminate normally: if, on the contrary, it deviates toward the occiput, the extension will be increased, the force of the uterine contraction will be conducted to the sinciput, and the brow or face will descend as the presenting part.

Another source of possible danger to the second fetus arises from the fact that in a very large proportion of cases the pelvic extremity presents. The proportion of pelvic presentations in all cases is commonly placed at three per cent: if cases of premature and plural births are excluded from the calculation, the proportion falls as low as 1.5 per cent.[1] In labor with twins, however, it is found that the second fetus presents the breech, foot, or knee in over 40 per cent of all cases. Allowing one-fourth of the cases to be prematurely delivered, there would remain 30 per cent of cases at full term in which the second fetus would present the pelvic extremity. In a large proportion of cases, therefore, unless the second fetus be very small, it would be subjected to danger from pressure on its cord; especially since the second fetus is generally the larger,[2] and does not, therefore, pass through an entirely dilated canal. More-

[1] Conf. Spiegelberg, op. cit., § 162; and Schröder, Geburtshülfe, 5te Aufl., § 170, Anm.

[2] This was the experience of Spiegelberg; vide op. cit., p. 188

over, if the fetus is small and there is no danger from compression of the cord when the head passes the brim, the very smallness of the presenting part and its imperfect adjustment to the pelvic inlet increase the danger of funic prolapse.

In recapitulation it may be stated that the second fetus is liable to assume certain malpositions after the birth of the first child; that these malpositions, varying from the slightly oblique to the completely transverse, may result in the presentation of the shoulder, arm, or trunk, or of both hands and feet; further, that even if the head presents at the superior strait, the decided lateral deviation of the fetal trunk possible in these cases may cause extension of the head and a consequent presentation of the brow. It is also to be noticed that in a large proportion of cases the second fetus presents the breech; and that although this presentation may not make the labor more difficult for the mother, it increases the danger for the child. Finally, it is to be remembered that in presentations of the trunk, shoulder, brow, or pelvic extremity, there is greater danger of prolapse of the cord, since these parts do not accurately adapt themselves to the pelvic brim. With a view to the prevention of these malpositions and complications, I suggest the following method of treatment.

Immediately after the birth of the first child, the mother should be bidden to lie upon her back, the funis tied with two ligatures and cut between them, and the infant delivered to an attendant. On no account should an attempt be made to remove the placenta. Without delay examination should then be made to ascertain the position of the second fetus. If it is found that either the breech or a well-flexed head has normally engaged in the superior strait, it is probable that the labor will be speedily and naturally completed: it is only necessary, if the breech presents, to exercise the care usually required in such cases. But if, as is commonly the case, the tired uterine muscle does not at once contract, and the membranes remain unruptured, the second fetus will not be found within easy reach of the examining finger, but will remain at or somewhat above the pelvic brim. Under these circumstances, in order to examine with accuracy and to be prepared to deal with any complication that may threaten, a hand should be passed into the vagina: since this canal has just been dilated

and its sensitiveness obtunded by the passage of the first fetus, this maneuvre can cause no pain. While one hand is thus occupied in vaginal examination, the other hand should support the fundus uteri and prevent the womb from assuming a marked degree of lateral obliquity. If perchance it should be found that a malposition already exists, bipolar version should be performed to restore the fetus to a longitudinal position, and external pressure should be properly exerted to maintain it therein. At the same time, if the cord is in advance, it should be pushed above the presenting part before the membranes are ruptured.

If now the fetal heart is heard, and the mother's condition does not demand immediate delivery, the patient should be allowed to rest. At the end of half an hour or more, if pains have not recurred spontaneously before that time, abdominal frictions and, if necessary, rupture of the membranes should be resorted to to stimulate uterine contractions. If the head occupies the brim, with the hand already in the vagina perfect flexion can be secured: if the pelvic extremity presents, or if the membranes rupture suddenly before the presenting part has occluded the superior strait, the hand is ready to prevent a prolapse of the cord. In other words, it may be briefly stated that the proposed treatment embraces the intelligent use of one hand upon the abdomen to support the uterus and maintain its contents in longitudinal position, and of the other hand in the vagina to prevent prolapse of the funis, and to adjust properly the presenting part to the pelvic inlet.

I append brief notes of three cases germane to the subject of this paper:

CASE I.—A multipara gave birth with easy labor to a fetus weighing about four pounds: the midwife in attendance then discovered that the uterus contained another fetus, and, as speedy delivery did not follow, I was sent for. I found the second fetus in left transverse position presenting both feet and both hands: the liquor amnii had drained away, and the uterus had contracted firmly upon its contents. With some difficulty I turned and delivered a living child weighing four pounds.

It is probable that in this case the second fetus originally occupied a longitudinal position and presented the breech, and that in the interval of uterine inactivity the change of position

occurred. The case shows that the commonly-received opinion that the small fetus offers no obstacle to labor is erroneous.

CASE II.—A multipara, aged twenty-four, after an easy labor of five hours, bore a female child weighing six and one-half pounds. It was then discovered to be a case of labor with twins. One hour and a half later the membranes of the second fetus ruptured, and the pains became so severe that ether was given. The head descended into the cavity, but would not advance farther; and about six hours after the birth of the first child I was sent for by the student in charge of the case. I found the head low in the pelvic cavity, O. L. A., the brow presenting. The woman being fully anesthetized, I tried, both with my hand and with one blade of the forceps used as a vectis, to bring down the occiput and thus produce flexion of the head. Failing in this attempt, I applied forceps, hoping by their means to correct the malposition, but without success. I now had recourse to podalic version, and with great difficulty succeeded in delivering a still-born male infant weighing eight pounds.

In this case the pelvis was not contracted, and the fetus was not dolicho-cephalic: it is probable, therefore, that the extension of the head was caused either by the sudden rupture of the membranes before the head entered the brim, or by undue uterine obliquity, or by a combination of both these factors.

CASE III.—A secundipara, aged twenty-eight, was thought to be with twins before labor began. Four hours and twenty minutes after her initial pains, she was delivered of a female infant weighing seven pounds, and it was then evident by inspection that the uterus contained another fetus. Passing my hand into the vagina, I felt the head presenting, O. L. A., the hands extended over the face, and the membranes unruptured. As the head was still above the superior strait, I conceived that a sudden gush of liquor amnii might cause a further extension of the arms, and perhaps a prolapse of the cord, before the head could engage in the brim: I therefore kept my hand in position to correct these mishaps, should they occur. Meanwhile, the patient lying on her back, the uterus was maintained in the median line. The membranes soon ruptured, and head, hands, and cord descended and occupied the superior strait. I at once pushed up the hands and cord, and held the latter on my fingers' tips above the brim until the next pain caused the head to descend and prevent further prolapse. The fetal heart was still beating, as, indeed, the cord had been subjected to no pressure, and the second stage was completed naturally in forty minutes: the child was male and weighed nine pounds, the combined weight of the twins being sixteen pounds.

Since this paper was written, a case has occurred in my experience which is of interest in this connection:

I had induced labor in a case of acute hydramnios at about the fifth month: twin pregnancy had been suspected, but not diagnosticated. After the birth of a fetus weighing one pound two ounces, a second fetus appeared at the brim presenting O. R. A. In the absence of uterine contractions, I kept my finger on the presenting part: soon the head disappeared and a shoulder presented. As the child was small and not viable, and as I believed that no harm could befall the woman by my non-action, I did not rectify the malposition, but waited to see what would happen. Very soon strong pains ensued, the shoulder was crowded down, and in thirty minutes from the birth of the first fetus the second was born by spontaneous evolution.

The change of position, here shown under my finger, is what might naturally have been expected in a uterus which had been much distended by dropsy of the amnion, and which did not at once contract upon the second fetus. But a very similar condition exists in twin labor at full term, and similar changes of position are quite as likely to occur, unless prevented by appropriate treatment.