Am J Obs Dis Women & Child 1896 V-34

PROLONGATION OF PREGNANCY:
ITS DANGERS AND TREATMENT.[1]

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My attention has been called most forcibly to the above title, from the fact that I have had under my care at the University Hospital Maternity during the past year two very striking examples, in one of which cephalotripsy was performed and in the other Cesarean section.

That these operations were necessitated solely on account of the great prolongation of pregnancy can be readily seen from an examination of the histories of the cases, which were as follows:

Case I.—M. G., white, æt. 42; family and personal history negative; IVpara, last being twins; two miscarriages. Previous labors difficult, although easily terminated by the use of

[1] Read before the Section on Gynecology, College of Physicians of Philadelphia, October 15th, 1896.

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forceps. She was brought to the Maternity in the ambulance at 3:30 o'clock in the afternoon of August 3d, 1896, having been in active labor for thirteen hours. At this time the history elicited was as follows: Menstruated last September 26th, 1895; fetal movements first noticed about February 15th, 1896. As far as she knew, this pregnancy was in no way different from preceding ones except for its long duration.

Abdominal palpation showed fundus at the ensiform cartilage; back of child in right flank; head large, resisting, and freely movable above the pelvic brim; contraction ring about three inches above symphysis pubis; the abdomen large and pendulous. Auscultation was negative. Neither fetal heart sounds nor uterine souffle were heard, although heart sounds were distinctly heard earlier in the day by the attending physician. Vaginal examination showed the os fully dilated, the membranes ruptured, lower uterine segment very thin, sagittal suture in the transverse diameter, occiput pointing to the right. The true conjugate diameter, estimated by digital measurement, was 8.5 centimetres.

In order to ascertain positively whether the child was dead, as suspected, a hand was introduced into the uterine cavity and the cord palpated. It was found pulseless, and, in view of this positive evidence of the child's death, craniotomy was selected as offering the best method of delivery.

This was performed in the usual way: parturient tract made thoroughly clean; head fixed with volsella forceps; skull perforated at site of anterior fontanelle; brain substance washed out with large two-way metal catheter and sterile water. An attempt was then made to extract the child with the cranioclast; this failing, the cephalotribe was applied, the skull crushed and extracted with the greatest difficulty. An effort was next made to deliver the shoulders, which were felt to be unusually large. This was unsuccessful at first, but finally, with the help of an assistant pulling upon the neck, they were extracted by making strong, continued traction by means of an index finger hooked under each axilla. The placenta was expressed almost immediately, the womb contracting quite firmly. The child was a male, measured 56 centimetres in length, and weighed 5,542 grammes. The skull was so crushed that no measurements could be taken; the bisacromial diameter, however, was 20 centimetres.

Case II.—R. L., Italian, æt. 40; no family history obtainable; personal history negative; Vpara; one miscarriage.

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Previous labors normal, none but the first being unusually prolonged. She was sent to the Maternity at 11:30 o'clock in the evening of April 27th, 1896, after having been in active labor for thirty-six hours. I saw this case with Dr. Hirst, the history being as follows: Menstruated last June 12th, 1895; fetal movements noticed about November 1st; labor pains began about 10 o'clock in the morning of the 26th of April, 1896, and continued strong and active until about three hours previous to her arrival at the hospital. During this time she was attended by three physicians, each of whom attempted to extract the child with axis-traction forceps.

Abdominal palpation showed the fundus well up to the ensiform cartilage, the child's back to the left, the head freely movable above the superior strait; contraction ring midway between symphysis pubis and umbilicus. Auscultation revealed uterine souffle, but no fetal heart sounds. Vaginal examination showed the vulva and vaginal walls greatly edematous and lacerated from previous efforts at extraction, the os fully dilated, membranes ruptured, the lower uterine segment extremely thin; sagittal suture in the transverse diameter, and the small fontanelle looking toward the left. The true conjugate diameter was estimated at 8.75 centimetres.

Although the child was thought to be dead, yet, on account of the condition of the vagina, already infected and sure to be seriously injured by the passage of the child, the high position of the contraction ring, and the almost certain infection of the womb, Cesarean section was decided upon, the Porro operation being performed. No unusual difficulty was encountered in the operation, and a female child with an enormously developed head was extracted. The measurements were as follows: length, 55 centimetres; bisacromial, 18 centimetres; bitemporal, 9.5 centimetres; biparietal, 10 centimetres; occipito-frontal, 13.5 centimetres; occipito-mental, 15 centimetres; trachelo-bregmatic, 10 centimetres; circumference, 40 centimetres; weight, 5,280 grammes.

What, then, are the dangers of the prolongation of pregnancy? Certainly the greatest is the overgrowth of the child. Both of these women, although having minor degrees of contracted pelvis, had given birth to children of average size and at term without special difficulty. But allow an extra four weeks of intrauterine growth as in the first case, and five weeks as in the second, and we have enormously developed children which from their size alone demand the most serious

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operations in obstetrical surgery. Had these women been delivered at term of children with soft, compressible heads of average diameters, no such difficulties would have been encountered and both children would in all probability have been alive to-day.

But there are other, although less obvious, dangers, the result of the prolongation of pregnancy. What obstetrician has not seen serious "kidney breakdown" in the last few weeks of pregnancy? And how much more apt is this to occur in those who are overdue! The kidneys, probably the most sensitive of all the abdominal organs, have been working "time" and "half-time" for the past nine months. Extend this physiological nine months to a pathological ten months or more, and the result is kidney insufficiency, eclampsia, and possibly the death of both mother and child. I have myself seen two cases of this character during the past year.

Of all the causes of "accidental" hemorrhage, probably the most common is the prolongation of pregnancy. Recognizing fatty degeneration of the placental attachment as one of the causes of beginning labor, we can readily understand how, if for any reason pregnancy is prolonged, there may be a premature separation of the placenta with its inevitable hemorrhage.

Post-partum hemorrhage may also be a result of prolonged pregnancy, since any condition which unduly distends the uterine walls may by this overstretching cause failure of, or imperfect contraction of, the uterine muscle with its accompanying hemorrhage.

Finally, I wish to call your attention to the fact that septic infection is more likely to occur in these cases than after a pregnancy of normal duration. We know now definitely that the tissue cells possess a certain power of resistance, which when normal is sufficient to overcome, in most instances, the invasion of pathogenic bacteria. Given, then, a case in which the entire system is enervated and enfeebled by this excessive strain; in which the womb contracts imperfectly and therefore retains portions of blood clot, decidua, and the like; in which the entire parturient tract has suffered an exaggerated pressure, contusion, and laceration—how much more readily will these tissues, thus deprived of their vitality, yield to the attack of pathogenic micro-organisms! Yet another cause for the great frequency of infection in these cases is explained by the large number of vaginal and sometimes intrauterine examinations, the frequency with which forceps are used, and also the intra-

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uterine manipulations, such as version, which may be necessary to secure delivery.

And not alone does the mother suffer from this prolonged gestation. The dangers to the child are even more grave. Prolonged and continuous pressure of the brain centres may develop a fatal asphyxia, or later may cause imperfect physical development or defective cerebration; delayed labor, with premature efforts at respiration, may result in an inspiration pneumonia; faulty positions may be a cause of prolapse of the cord; and that class of cases in which the disproportion between fetal head and maternal pelvis is great, as in the one just reported, may require some form of embryotomy.

Knowing, then, the more common dangers of the prolongation of pregnancy, should we not take every precaution to prevent them? And in what should this prophylaxis consist? The rule which has been followed at the University Maternity, and which has met with the most satisfactory results, is to terminate pregnancy if it extend two weeks beyond the expected date. By allowing pregnancy to extend only fourteen days beyond term, the danger of overgrowth of the child, as well as the chance for a premature birth, are both minimized.

The question may be here asked: In what percentage of cases is pregnancy unduly prolonged? According to Winckel, who bases his statistics on an examination of 20,000 cases, 6 per cent of pregnancies are prolonged beyond the three hundredth day. An examination of 1,000 consecutive cases at the Preston Retreat shows 23½ per cent prolonged beyond the two hundred and ninety-fourth day. Of 480 cases at the University Maternity, 99 were prolonged beyond the two hundred and ninety-fourth day (21 per cent). The disproportion in these percentages arises from the fact that Winckel's statistics were based on cases that extended three weeks beyond term, while at the Preston Retreat and the University Maternity two weeks was taken as the limit of prolongation.

Especially is this prolongation apt to occur in primiparæ past the age of 30, in whom it is particularly unfortunate, since in these cases labor at term is usually difficult on account of the rigidity of the muscular, ligamentous, and bony structures.

As to the method of inducing labor, the simplest and most effective is the introduction of a sterile bougie into the uterine cavity between the membranes. The technique of this operation—if operation it can be called—is exceedingly simple: 1. The patient should lie in the dorso-sacral position, with legs and thighs flexed and widely separated; the buttocks should extend

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well beyond the edge of the table. 2. The external genitals, vagina, and cervix should be thoroughly cleansed by a vigorous scrubbing with linimentum saponis viridis and pledgets of baked cotton, followed by a copious douche of bichloride solution (1:4000). 3. Two fingers of the left hand, previously sterilized and well lubricated with five per cent carbolized oil, should now be introduced into the vagina; the middle finger pressed against the external os, which will gradually dilate until tip of finger is at or beyond the internal os. 4. An elastic, silk bougie (No. 17 French), previously sterilized by soaking in cold bichloride solution (1:1000) for one hour, is now passed along the groove between middle and index fingers until it enters the uterine cavity and extends from seven to nine inches between the decidua vera and reflexa. 5. Finally, the bougie is kept in position by a vaginal tampon of iodoform gauze. The patient then lies quietly in bed, labor beginning after a variable period, the average being twelve hours. If at the end of twelve hours there are no signs of beginning labor, a second and larger bougie may be inserted by the side of the first. If this fails, after the lapse of another twelve hours, the cervix, which has become very much softened, may be easily dilated by means of Barnes' bags.

I have the records of more than 150 cases of labor induced in this manner, and all have been perfectly normal and satisfactory in every respect. The dangers of sepsis, if performed in a cleanly manner, are as nothing compared with the dangers of all the unfavorable possibilities above described.

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