DÜHRSSEN'S INCISIONS*

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FROM the years 1922 to 1949 there have been fifty-seven patients delivered following the use of Dührssen's incisions at the Methodist Hospital in Brooklyn, with one maternal death and eight stillbirths. During the same period there have been 61,490 delivered making a ratio of one Dührssen incision to 1,078 deliveries.

In the year 1890 Dührssen[1] described the use of cervical incisions as an aid to delivery. He made two or three incisions, two lateral and possibly one posterior sufficient to dilate the external os completely. He also stated that with the use of an antiseptic these incisions were absolutely without danger. Many of the deliveries were not difficult and he did not consider the procedure "acouchment force." Our technic differed from his only in the fact that we incised the cervix obliquely, that is at ten and two o'clock. Incisions were seldom made at six o'clock. In the great majority of cases only the vaginal part of the cervix was incised and due to this fact repair is simple and hemorrhage is slight.

At the present time so much stress has been given to cesarean section for the delivery that many of the procedures which were previously used have possibly been neglected. Among these may be mentioned high or medium forceps, bag inductions, artificial rupture of the membranes and Dührssen's incisions.

Now with the use of vaginal antiseptics during labor and at the time of delivery we have little to fear as far as puerperal infection is concerned. The antibiotics and the extraperitoneal cesarean section have also been of benefit. Postpartum hemorrhage which has been given credit for almost as many deaths as infection is not to be dreaded as in the past because of the availability of massive blood transfusions if necessary.

The fifty-seven cases have been analyzed showing that there were forty-seven private cases with a morbidity of 17.1 per cent and no maternal deaths and on the ward service there were ten cases with a morbidity of 70 per cent and one maternal death. Forty-nine of the patients were primiparas with a morbidity of 26.5 per cent and there were eight multiparas with a morbidity of 25 per cent. One of the most difficult deliveries was in a gravida 8 with seven living children. (Case 11.) The position of the baby was posterior in thirty-nine, occiput transverse in seven of the patients, fourteen were anterior and there were four breeches. The posterior position seems to be the principal cause of cervical dystocia. If it were possible to correct this position as recommended by Pomeroy, or if we were to do a Dührssen's incision, there is little doubt but that a considerable number of these patients would deliver easily if they were allowed to continue in labor.

There were thirty-five medium forceps, twelve high medium and four high forceps. With the posterior position the head is unable to descend when the cervix is not fully dilated and thus, if these patients are to be delivered from below, it is necessary to do a median or a high median forceps. There were twelve of these patients who were delivered with the use of Barton forceps which makes it very easy to get a correct application, and the rotation of the baby's head to the anterior position is usually a simple procedure. Frequently the delivery can be completed with these forceps, but there are times when it is preferable to change to a Simpson forceps after the position is corrected. Then by using the traction bar the baby is delivered. Kielland forceps were used in several cases but do not seem to be fitted to such a delivery. Two babies were lost following the use of the Kielland forceps as well as the one mother.

There were four babies delivered by version two of which had a prolapsed cord. The placenta was removed manually eight times. This is important so that at the same time the possibility of a ruptured uterus may be ruled out following a difficult delivery. Forty-three of the patients were examined vaginally; fourteen once, ten twice, sixteen three times and one eleven times. The membranes were ruptured in eight patients from ten to twenty

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hours, in seven patients from twenty to thirty hours, in seven patients thirty to forty hours, in two forty to fifty hours, in four fifty to sixty hours and in nine over seventy hours. In ten patients the time of rupture was not recorded.

There were eight patients in labor less than ten hours, seven were in labor ten to twenty hours, twelve twenty to thirty hours, eleven thirty to forty hours, three forty to fifty hours, six fifty to sixty hours and six were in labor more than sixty hours. In one the duration of labor was not recorded.

Maternal Morbidity. There were fifteen patients who had a morbidity of two or more days, a percentage of 26.3. Ten of the patients had a morbidity of five days or less and these were discharged either on the regular day or within three days of it. Five of the patients had a morbidity of seven days or longer. They all had posterior positions and three had very difficult deliveries. Two patients had a morbidity of ten days. One of these patients had a rise in temperature to 101°F., but after five days it was normal and remained so until the fourteenth day when it reached 104°F. and again it was normal after three days. She remained in the hospital for thirty-five days and the diagnosis was phlebitis and a mastitis. The second case had a morbidity of ten days and had had the membranes ruptured for thirty-four hours and was in labor for eighty-eight hours. She had a very difficult high forceps delivery and the baby weighed 9½ pounds. Her temperature reached 102°F. on two days and she was in the hospital for twenty days. She was given two transfusions and the cause of the morbidity was pyelitis. Her urine was loaded with pus cells. Included among those with a morbidity was the mother who died and her history is given in Case 1. The total days' morbidity for the fifteen patients was seventy or 4.6 days per patient.

When we consider the three most frequent causes given for maternal morbidity are ruptured membranes, long labors and vaginal examination, it is surprising that with forty-four of the patients being examined vaginally thirty-six were in labor more than twenty hours and forty-five had the membranes ruptured more than ten hours. Only five of the fifty-seven patients had a morbidity of more than five days.

Infant Mortality. There were fifty-nine infants delivered following the use of Dührssen's incisions. There were two sets of twins, eight stillbirths and no neonatal deaths. Forty-seven of the infants were of forty weeks' gestation or over, four were thirty-nine weeks, six were thirty-eight weeks and two under thirty-eight weeks. Eight of the babies weighed less than 7 pounds, twelve between 7 and 8 pounds, sixteen between 8 and 9 pounds and six between 9 and 10 pounds. There were eight babies lost of which six were of forty weeks' gestation, one thirty-nine weeks and one forty-three weeks. Four of the babies were on the ward service giving a mortality of 40 per cent. There were four deaths on the private service among forty-seven babies, a mortality of 8.7 per cent.

Three of the babies were macerated at birth, two of these had craniotomies and of the five remaining, in three, the delivery was attempted before the cervix was incised. One set of twins was lost. The delivery was easy but the mother was pre-eclamptic and this probably accounted for their death. The autopsies were negative. It would seem possible that two of the babies might have been saved if the cervix had been incised before the delivery was attempted. There is no doubt but that cesarean section would have been advisable even after attempting forceps.

CASE REPORTS

CASE 1. No. 29901. Mrs. A. G. was a twenty-nine year old gravida 1 weighing 210 pounds. She had a justomajor pelvis which was confirmed by x-ray with no numerical dystocia. This patient was admitted to the hospital on August 17, 1944, with the membranes ruptured and having slight irregular pains. The head was not engaged. The patient continued in labor for ninety-six hours and the membranes were ruptured for 109 hours. At this time the cervix was almost fully dilated and the head dipping into the brim of the pelvis. Two hours before delivery the patient was given morphine sulphate ⅙ gr. and scopolamine 1/150 gr. The patient was prepared for delivery and under nitrous oxide and ether anesthesia Barton forceps were applied to the head which was in the right occiput transverse position. When traction was made, it was believed that delivery per vagina would be very difficult and the patient should be sectioned. However, another consultant was called and he decided that the dystocia was due to a contraction ring and

that the patient should be delivered from below. The patient was given 1 cc. of adrenalin with subcutaneous injection, Kielland forceps were applied and delivery seemed impossible. The cervix was then incised and delivery completed with considerable difficulty. A right mediolateral epesiotomy had been done. The baby was stillborn and weighed 8 pounds, 10 ounces. The child's death was due to asphyxia or possible cerebral injury. There was considerable laceration of the vagina, but the cervical incision was small. The placenta was easily expressed and the blood loss did not exceed 400 cc.

Immediately following delivery the patient went into shock and she was given artificial respiration, oxygen and adrenalin. She received 500 cc. of plasma and seemed to respond well. She was visited by her husband and while talking to him was getting a transfusion of citrated blood; and when 350 cc. had been administered, the patient suddenly became cyanotic, gasped for breath and died in a few minutes, apparently from an embolus. The cavity of the uterus was explored post mortem and no evidence of rupture was found. Autopsy was refused.

There is no doubt but that this mother should have been sectioned when it was found that delivery was going to be difficult by the vaginal route.

Case II. No. 12564a. M. H., a gravida 8 with seven living children, was admitted to the Methodist Hospital on June 6, 1936. She had short labors and the fifth child was stillborn two weeks before term. After eighteen hours of good labor the cervix was only four fingers dilated and the head was wedged into the brim of the pelvis in the right occiput posterior position. The cervix was markedly edematous, the posterior rim about 2 inches thick. Under nitrous oxide and ether anesthesia the cervix was dilated as much as possible. Kielland forceps were applied and delivery attempted. Barton forceps were also applied without success. The cervix was then incised and delivery completed without difficulty using the Barton forceps. The baby was stillborn and a large tumor was present in the baby's abdomen which extended down to the umbilicus. At autopsy this proved to be a very large liver weighing 340 gm. The diaphragm extended straight across the abdominal cavity with no upward concavity. The microscopic examination resembled that of a premature liver. This baby would very likely have died had it been delivered by cesarean section.

The cervix was repaired following delivery and the mother's condition was fairly good. She was given an infusion of 500 cc. of 10 per cent solution of glucose and later a transfusion of 500 cc. of citrated blood. She had a seven-day morbidity; the highest temperature was 102°F. except following a transfusion which was given on the eighth postpartum day when it rose to 105°F. The temperature returned to normal by the tenth day. She went home on the sixteenth day. The morbidity was very likely due to the cervix. A large mass of cervical tissue sloughed off on the thirteenth day after delivery.

Case III. No. 28545a. Mrs. M. B. was a gravida 2, para 1 and thirty years old. She had a normal delivery in 1943 of a child weighing 9 pounds 4 ounces. She was admitted to the hospital on June 26, 1948, being one week overdue and had been vomiting throughout her whole pregnancy. This condition was considerably worse during the last two weeks. On the day following admission a No. 3 bag was inserted into the uterus without rupturing the membranes. The bag came out in three hours at which time the membranes were ruptured artificially and a prolapsed cord was found. The cord was replaced, Simpson forceps were applied and one deep incision made in the cervix at ten o'clock, and the baby was easily delivered. The baby weighed 8 pounds, 9 ounces, and its condition was good. At the upper angle of the incision in the cervix there was some active bleeding which was easily controlled with interrupted sutures. The patient's condition was fair at the time of delivery. She was given 1 unit of plasma and 500 cc. of citrated blood. She had no morbidity and was discharged from the hospital on the eighth day. Six weeks following the delivery of the baby the cervix was nicely healed. It would have been better perhaps to have made an anterior incision, separating the bladder as is done in a vaginal hysterotomy. If several small incisions had been made, it would not have allowed the baby to be delivered. If one had waited for a cesarean section, the baby might have been lost.

Case IV. No. 36495. O. S. was a gravida 2, para 0 and twenty-nine years old who had had a miscarriage in 1947. She was admitted to the hospital on November 14, 1948, in mild labor. After the patient had been in labor for

nineteen hours, the cervix was only three fingers dilated. A No. 4 Voorhees bag was inserted through the cervix. The bag came out in one and a half hours and the cervix was then four and a half fingers dilated and three hours later it was just the same. At this time delivery under spinal anesthesia seemed indicated. The baby was in the right occipito-posterior position, Barton forceps were applied, the position corrected and after incising the cervix at ten and two o'clock, the baby was easily delivered by high median forceps following a right mediolateral episiotomy. The placenta was removed manually; the cervix and the perineum were repaired. The mother's condition was good. She was discharged from the hospital on the eighth postpartum day and at the end of six weeks the cervix was healed with primary union. The condition of the baby was good at birth. It was given 20 cc. of maternal blood by a cord transfusion as a prophylactic measure to prevent any cerebral damage from the long labor. The baby weighed 9 pounds, 4 ounces and was almost up to its birth weight when it was discharged from the hospital.

This patient might easily have had a cesarean section, but she is certainly better off now than if she had had an abdominal delivery.

COMMENTS

With the use of vaginal antisepsis during labor and at the time of delivery, the use of antibiotic drugs and finally the use of the extraperitoneal cesarean section, one should not hesitate to give a patient a good test of labor or even to attempt delivery from below. If it is found too difficult, a cesarean section should be done.

There are many well qualified obstetricians who would hesitate to do a Dührssen's incision; in fact, many would even hesitate to do a bag induction, a high or median forceps and would do a cesarean section without doing a vaginal examination or even rupturing the membranes in order that the patient may have a real test of labor. In my own private service and on the ward where I have been active for thirty-five years it is very seldom that a real disproportion is found to exist. This is borne out by the fact that twenty-six of the fifty-seven patients who had Dührssen's incisions were either on my service or were seen by me in consultation.

SUMMARY*

1. Fifty-seven patients were delivered following the use of Dührssen's incisions with the loss of one mother, eight stillbirths and no neonatal deaths.

2. The loss of the one mother was due to poor judgement used at the time of delivery. The patient should have been sectioned when delivery by forceps proved to be difficult.

3. Three of the babies were macerated among the stillbirths and in three delivery was attempted without doing a Dührssen's incision. When delivery was found impossible, the cervix was incised. The two remaining babies were a set of twins; the delivery was easy and the autopsy was negative. The mother was pre-eclamptic which might have accounted for their death.

4. The morbidity of the fifty-seven mothers was 26.3 per cent and the total number of days' morbidity was seventy, an average of 4.6 days for each of the fifteen mothers with a morbidity. Only two of the patients had a morbidity of as long as ten days. One of these had mastitis and phlebitis, and the other had a diagnosis of pyelitis. Her urine contained much pus.

5. The occipitoposterior position with a large baby is the principal factor in cervical dystocia as it is generally called; some will prefer the term uterine inertia.

6. Four case histories are presented, namely, one of a mother who was lost; one in which the baby had a very large abdominal tumor which proved to be an enlarged liver and two which might have been sectioned, but the results proved that the patients were better off with a vaginal delivery.

7. The use of cesarean section has been stressed so much of late that many patients are operated upon who could be very easily delivered from below following Dührssen's incisions.

REFERENCE

1. Dührssen, Alfred. Uber den werth der tiefen Cervix und Schieden-Damm Einschnitte in der Geburtshulfe. *Arch. f. Gynec.*, 37: 27–66, 1890.

* During the year 1950 three additional patients have been delivered following Dührssen's incision with excellent results. One was a breech in which the cervix was incised when it was found that the aftercoming head could not be delivered without using too much force. In one of the other cases a cesarean section seemed necessary; but after the head had been rotated manually and the cervix incised, delivery was easily completed.