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second stage time, which was within 60 minutes for 95.3% of the sitting primiparae, as compared with 48.2% of the supine women.

3) A marked decrease in incidence of neonatal asphyxia (Apgar Score under 7) was noted in the sitting group with 3.0% while the other group had 8.89%.

4) The frequencies of Kristeller fundal pressure, vacuum extraction/forceps application and manual placenta removal were 0%, 2.0% and 0% respectively for the sitting group—remarkably lower than 7.54%, 4.0% and 1.3% of the supine group.

56. Physiological Benefits of Maternal Sitting Position in Neonatal Blood Gas Analysis

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We measured blood gas levels in 93 neonates who were delivered in sitting position, and the results were statistically compared with those in 33 neonates who were delivered in supine position. We also measured the first cry occurence time in neonates at birth. Each blood sample of the neonates obtained from both umbilical vein and artery immediately after delivery was analyzed by ABL-II Acid-Base Laboratory. In addition, maternal arterial blood samples from radial artery were also analyzed for blood gas levels both in supine (n=12) and sitting (n=34) position just before delivery.

The average duration for the onset of first cry in the sitting position was significantly shorter than that in the supine position. A weak negative correlation was found between the first cry occurence time and umbilical blood pH. The neonates in sitting position had a higher pH, a lower PCO_2 and a higher PO_2 in both umbilical vessels than those in supine position. The sitting versus supine differences in blood gas values were evident in umbilical artery, and were more prominent in umbilical vein. In contrast, there were no statistically significant differences in maternal blood gas values between supine and sitting position.

There have been few studies under the relationship between neonatal blood gas analysis and different delivery positions. The present study showed some physiological advantages of sitting position at the second stage of labor.

57. Analysis of Overterm Pregnancy—Prospective Study of 838 Pregnancies

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Overterm pregnancy out of 838 pregnancies, whose data of pregnant course and delivery including BBT were recorded in detail, are analized in order to clarify the actual state and possible cause of overterm pregnancy.

723 pregnances lasted more than 24 weeks. Calculating from last menstrual periods, 118 (16.8% of 723) were overterm, while according to BBT, only 26 (3.56%) were overterm. That is the 118 contained 92 "pseudo-overterm" pregnancies, whose duration of pregnancy were not elongated. Twenty out of 92 "pseudo-overterm" pregnancies had regular menstrual cycle and without BBT, the delay of ovulation might not have been suspected and therefore gesgational age should not be calculated only from last menstrual period and menstrual cycle.

Twenty-six "true" overterm pregnancies resulted in 12 (46.2%) normal deliveries, 5 vacuum or foceps extractions, 9 (34.2%) Cesarean sections and 4 (15.3%) fetal distress. Nine (34.6%) did not respond to induction of labor.

As the mechanism of labor onset has not been clarified and induction is self-limited, the possible treatment for now is to induce labor timely and to prevent secondary feto-placental insufficiency and CPD-like dystosia. No ill effects of labor induction were observed in our record. The non-responding to induction at present shall be therapy-demanding cases in the near future.

58. Clinical and Statistical Analysis on 103 Cases of Twin Pregnancy and Placental Function

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Increasing curve of height of the uterine fundus, birth weight incidence of abnormal pregnancy, blood loss with delivery and premature labor rate were statistically analyzed on 103 cases of twin pregnancy.

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Comparison of increasing curve of the uterine fundus on twin pregnancies was investigated under classification of 3 groups that consisted with both AFD, AFD and SFD, both SFD respectively. The increasing curves of the uterine fundus in each group were as the following formulas.

Group I=1.01109 × gestational weeks + 3.84849 cm

Group II=0.997522 × gestational weeks + 3.62115 cm

Group III=0.890572 × gestational weeks + 5.12526 cm

Birth weight almost coincided with 50 percentile of twin pregnancy and 10 percentile of singleton pregnancy in each gestational week. Cases of blood loss more than 500 ml in delivery existed in 70% of twin pregnancies. Incidence of toxemia in twin pregnancy was higher than that of singleton pregnancy and there was found same tendency on incidence of premature labor. It has been definitely shown that twin pregnancy involves high risk in pregnant and fetus. Urinal E_3 in twin pregnancy nearly showed twice value of singleton pregnancy, but low value in pregnant with severe toxemia and SFD.

59. A Six-year Analysis of the Fetal Deaths and its Relating Factors in Kagoshima Municipal Hospital

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There were 9,131 births with the birth weight more than 500 g. in Perinatal Medical Center, Kagoshima Municipal Hospital, between January 1, 1976 and December 31, 1981. One hundred twenty three fetal deaths and 87 neonatal deaths were encountered among them. The Present study was undertaken retrospectively in order to elucidate the contributing factors to the perinatal losses, particulary focussing on the fetal demise.

The corrected perinatal mortality rate was calculated by excluding those who were life incompatible, artificially aborted, and already dead on admission. Among the 67 corrected fetal losses, the major causes were toxemia 13, abruptio placentae 13, cord accidents 12, fetal hypoxia 9, maternal diseases 6, placental disorders 4, and unknown 10.

From a retrospective point of view, 34 out of 67 cases could have been salvaged, but 29 fetuses were lost because of improper perinatal managements and 5 were caused by social and family problems. Additionally, delayed maternal transfer were considered to be responsible for 5 fetal deaths out of the remaining 33 fetal deaths.

This study concludes that the establishment of the system of perinatal managements, socioeconomical consultation, and perinatal regionalization are the most important factors to improve the salvagable fetal losses at present time.

60. Quantitation of Amniotic Phosphatidylglycerol as an Accurate Method for the Antenatal Prediction of Fetal Lung Immaturity during Pregnancy of Diabetic Patients

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The detection of phosphatidylglycerol (PG) in amniotic fluid has been stressed as a method for the antenatal assessment of fetal lung maturity. In the present report, which is based on a quantitative enzymatic method, PG was determined in the amniotic fluid of 45 pregnant women with diabetes mellitus. We also determined L/S ratio, shake test, and total phosphatidylcholine (PC). There was no detectable difference in the PC content in the amniotic fluid from normal and diabetic women. Consistent with earlier reports using semiquantitative methods, our results show that pregnant women with severe diabetes mellitus (Class D, F, or R) have higher levels of PG than normal pregnant women. Whereas, throughout gestation pregnant women with mild diabetes mellitus (Class A, B, or C) have less PG in their amniotic fluid than normal pregnant women. Nine of the 45 infants that were born from these diabetic patients developed RDS postnatally. In each of these 9 cases, the PG level in the amniotic fluid was less than 0.36 μmoles/dl. Since all except one of the remaining 36 infants (who were free of RDS) had PG levels higher than this value, our results show that the present method for determining PG can most accurately predict the incidence of lung immaturity, prenatally.

61. The Effect of Intrauterine Exposure to Drugs —Especially Relation Due to Antithyroid Drugs and Antiepileptic Drugs—

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