308. Clinical Evaluation of FHR Long Term Variability

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Criteria and significance of the FHR long term variability (LTV) were examined in 36 cases which showed no ominous signs of FHR pattern throughout labour under balanced anesthesia.

Method: From the records of internal monitoring, LTV was defined as fluctuation of more than 5 bpm with the duration of 5–15 seconds which was read in the baseline FHR between contractions of more than one minute (one episode). The number of occurrence of the defined LTV and of episodes with LTV were evaluated in association with umbilical arterial blood ph.

Result: In the course of labour both the number of LTV and the episodes with LTV were gradually decreased after the maternal administration of analgesics, but during 20 min. before delivery both were restored to some degree. within 20 min. of delivery, 13 cases with no LTV as defined had significantly more acidotic pH value than the remaining 23 cases with any LTV's. These cases which showed LTV in more than 50% of episodes, or more than one LTV per two episodes showed significantly less acidotic pH value. We established the visual definition of LTV and its clinical evaluation was also performed in the course of labour under balanced anesthesia.

309. Antepartum Detection of Congenital Heart Disease by Fetal Ultrasound-cardiogram

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Present study was undertaken to determine possibility of antepartum diagnois of congenital heart disease by fetal UCG.

After checking of fetal position by B-scope of ultrasonogram, echocardiograph and the sounding of 48 fetuses were taken through the fetal hemithorax by ALOKA MODEL SSD-200. Arterioventricular and semilunar valves and septal wall were recognized by their relative position and pattern of motion. Structural abnormality has not yet detected prenatally, but two cases of functional abnormality were diagnosed.

The first case was at 35 weeks of gestation, fetal UCG revealed incoordination of 'A' wave and 'E' points. 'A' wave which denotes atrial wave appeared to march through 'E' point of mitral valve motion. From UCG finding, atrioventricular dissociation was suspected.

The second case was 38 weeks of gestation, ventricular extrasystole was confirmed by fetal UCG. The antepartum detection of fetal bradycardia and arythmia is necessary to give the opportunity for an elective deliverly, with a forward medical and surgical treatment.

The first case reported here demonstrates a possibility of antepartum diagnosis of congenital complete heart block by means of fetal UCG to detect atrioventricular dissociation.

310. A Study on the Management of Perinatal Fetuses by Urinary Estriol, Nonstress Test and Contraction Stress Test

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Forty-nine pregnancies considered at risk for uteroplacental insufficiency were monitored with 24-hours urinary estriol determinations, nonstress test (NST) and contraction stress test (CST).

All 49 patients went on to have an oxytocin CST after a NST. Forty-three patients showed a reactive pattern. Six patients interpreted as nonreactive. Among 43 patients who showed a reactive pattern, 41 were negative by simultaneous CST.

Of the 41 reactive NSTs, 2 revealed positive CST. Each of these had low Apgar score of less than 6. Six patients revealed nonreactive patterns by NSTs. Three of these demonstrated late decelerations during CSTs.

Among 34 patients who had normal estriol values, 5 patients demonstrated nonreactive pattern. Four of these showed reptitive late decelerations by CST. All of these had low Apgar scores of less than 6. In

only one patients among 15 patients who had abnormal estriol values, both nonreactive pattern and late deceleration were observed.

These results suggest that a reactive NST and a negative CST have more predictive reliability of good fetal outcome than a normal estriol value.

311. Functions of the Special Clinic for High Risk Pregnancies

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At the special clinic for high risk pregnancies, a total of 197 patients were evaluated with fetal activity acceleration determination (FAD), 6-point scoring system as a non-stress test and Neo-synesine test as a stress test. FAD was done in 197 patients, of these there were 8 fetal distress (4.7%), 3 low Apgar score (1-minute Apgar score less than 6) (1.8%) of 169 positive FAD and 14 fetal distress (50%), 10 low Apgar score (35.7%) of 28 negative FAD.

Neo-synesine test was performed 62 times to evaluate the correlation between the two tests. In 51 instances FAD was positive and Neo-synesine test was either normal. In 2 cases of negative FAD, Neo-synesine test was abnormal, of these 2 fetal distress (100%) and 1 low Apgar score (50%).

6-point scoring was done in 144 patients, of these there were 3 fetal distress (3.1%), 1 low Apgar score (1.0%) of normal 6-point score (5 or 6) and 13 fetal distress (72.2%), 6 low Apgar score (33.3%) of abnormal 6-point score (4 or less).

All the three tests are reliable for fetal evaluation in high risk pregnancies. Especially as FAD and Neo-synesine test are less time-consuming and have fewer contraindications, it is concluded that the combination of these are the most useful screening test for fetal evaluation in high risk pregnancies.

312. Preparation of Fetal Hypoxia Model and the Effect of Carbohydrate on Intrauterine Resuscitation

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Since intrauterine resuscitation is performed through maternal enviroment. It is necessary to eliminate maternal factors for an evaluation of therapeutic measure to the fetus. The present study is aimed upon to produce the same grade of hypoxia by different way of maternal preparation, a hypovolemic shock and a low oxygen inhalation. Phisiological parameters of maternal B.P., respiratory rate, heart rate and fetal E.C.G. were continuously monitored. Fetal and maternal blood gas analysis and biochemical parameters of blood glucose, maltose, lactate and pyruvate and tissue glycogen, A.T.P., were also determined. Fetal blood gas value of PO_2 5 mmHg, PH 6.50, PCO_2 100 mmHg measured at the end of experiment revealed that an identical hypoxia was produced in two experimental models. Fetal heart rate in carbohydrate treated group showed significant recovery than that of salien treated group. Fetal lever glycogen contents in maltose group was significantly higher than glucose or salien group. It is concluded that maltose has a potent effect on treatment of fetal hypoxia.

313. The Evaluation of Fetal Well-being and Prognosis by Assaying 16α-hydroxysteroids and Corticoids in Amniotic Fluid

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An attempt was made to evaluate fetal maturity and viability by assaying steroid levels in amniotic fluid. The steroids selected for evaluation were conjugated and unconjugated 16α-hydroxysteroids and cortisol. All the steroids assayed in amniotic fluid increased rapidly during the latter half of pregnancy. Amniotic unconjugated 16α-hydroxypregnenolone and conjugated estetrol and cortisol showed a close correlation with umbilical arterial plasma levels. In abnormal pregnancies such as Diabetes mellitus, Toxemia gravidarum and Rh isoimmunization