

Min.)), and PEP/LVET ratios (mean=0.25 at -20 Min., and 0.27 at -10 Min., respectively). (3) Correlation coefficients between umbilical blood nor-adrenalin values and systolic time intervals were calculated to be: -0.606 in -30-Min-PEP, -0.560 in -20-Min-PEP, -0.629 in -30-Min-PEP/LVET, and -0.560 in -20-Min-PEP/LVET, respectively. It was concluded that the stress of labor would result in an increase of catecholamine, mainly nor-adrenalin, levels in the fetus, which would cause a shortening of systolic time intervals, subsequently followed by a prolongation of systolic time intervals due to either a decrease in venous return or cardiac hypoxia in the terminal stage of fetal hypoxia.

### 230. Multiple Regression Analysis of Perinatal Prognosis by the Factors to Toxemia

S. IMAI, H. TAKEMURA, T. HASEGAWA,  
S. OHMINATO, M. ASADA, Y. CHIBA,  
M. AOKI and K. KURACHI

*Dept. Obst. & Gynec.,  
Osaka Univ. Med. Sch., Osaka*

Toxemia is one of the most important disease for obstetricians, but evaluation of toxemia for perinatal prognosis is not clear. Symptoms of toxemia (systolic pressure, diastolic pressure, body weight increase, edema, proteinuria) in 5 periods (7, 8, 9, early 10 M., late 10 M.), pre-pregnant factors (age, number of abortion, parity, body weight, body height) and perinatal prognosis (gestational days, baby's body weight, baby's body height, Apgar score (1 min. later), perinatal blood loss) were studied statistically by the means of correlation and multiple regression analysis.

- 1) Positive correlation was recognized between systolic pressure and diastolic pressure, and body weight increment and degree of edema.
- 2) Factors of toxemia had all positive correlation between each periods.
- 3) Constant relationship between hypertension, edema and proteinuria was not recognized.
- 4) By means of multiple regression analysis, baby's body weight was most affected by symptoms of toxemia.
- 5) Other factors of perinatal prognosis were not significantly affected by toxemia.
- 6) Systolic pressure of each period showed

negative correlation with the baby's body weight.

### 231. Effects of Estrogen Treated RNA on Castrated Rat Uterus Concerning to Prostaglandin Production

M. ITO, K. ITO, H. OZAKI, M. MAEYAMA and  
N. MORI\*

*Dept. Obst. & Gynec.,  
Kumamoto Univ. Med. Sch., Kumamoto  
\*Dept. Obst. & Gynec.,  
Med. College of Miyazaki, Miyazaki*

Many investigators have reported that estrogen increases prostaglandin  $F_{2\alpha}$  ( $PGF_{2\alpha}$ ) content in uterine tissue of various animals. Estrogen has been said to its stimulatory effect on the target tissues by initial activation of RNA synthesis. In order to study the mechanism of estrogen stimulation of  $PGF_{2\alpha}$  biosynthesis, the action of RNA isolated from castrated and estrogen treated was examined. E-RNA from the uterus, liver RNA from the liver of estrogen treated rats, and heated e-RNA were injected to the castrated rat uteri. Results were as follows:

- 1) E-RNA could cause the estrogenic changes of the treated uteri morphologically.
- 2) E-RNA increased  $PGF_{2\alpha}$  content in the treated uterine tissues.
- 3) PG synthetase activity evaluated by the method of adrenochrome formation was stimulated in the e-RNA treated uterine tissues. On the contrary, liver RNA, heated e-RNA, and saline had no effects on the PG synthetase activity.

From these results it would be concluded that estrogen stimulates PG synthetase activity in uterine tissue via RNA synthesis and the PG content is increased.

### 232. Localization of Prostaglandins in Endometrium in Human Menstrual Cycle

R. MATSUKAWA, Y. MURASE, N. IMOTO, K. ITO,  
M. OHTA and T. NINAGAWA

*Dept. Obst. & Gynec.,  
Nagoya Univ. Sch. Med., Nagoya*

It has recently been demonstrated that