

of surfactant seems to be of value as additional index of prenatal evaluation of lung maturity.

### 191. Studies Concerning the Molding of Fetal Head Measuring the Elasticity Modulus of the Newborn Head

S. MATSUURA, Y. SANDA, N. SAGAWA and  
T. NISHIMURA

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

The external forces acted on fetal head during labor were calculated from deformation and elasticity modulus (E) of the newborn head.

In 129 mature newborn babies delivered with vertex presentation and in 17 cases with another presentations, the changes of suboccipito-bregmatic diameter (SBD), occipito-mental diameter, these forward angle, biparetal diameter (BPD) and its inclination were measured using the newborn cephalometer. Then, resultant force of compression and shearing stress at the top of SBD (P1), and that of compression and torsional moment at the both end of BPD (P2) were calculated as a function of E.

The BPD was pressed 0 to 200 mmHg by the pressure-pelote placed on parietal eminence, and E was calculated from electrical record of minute shortening of BPD and the pressure change.

The average value of E was 23.4 kg weight/cm<sup>2</sup>, and P1, P2 in vertex presentation were 1.41, 0.36 kg weight/cm<sup>2</sup> respectively. Each scalars of breech presentation were smaller than those of vertex presentation, but former P2 was shown as an internal force. Both P1 of sinciput and face presentation acted from almost symmetrical direction to the normal P1. The P1 of face presentation (1.67 kg weight/cm<sup>2</sup>) was about twofold larger than that of sinciput presentation, and the former P2 acted as an internal force.

### 192. Deep Body Temperature of the Early Newborn Infants

S. KUBOTA, H. NAKANO, T. KOYANAGI and  
C. SAKAMOTO

*Dept. Obst. & Gynec.,  
Faculty of Med. Kyushu Univ., Fukuoka*

A new method by Fox-Togawa for monitoring deep body temperature was attempted to use in the field of neonatal observation nursery.

Investigation was made on fifty-three matured newborn infants in order to obtain deep body temperature of different body part, together with other vital signs, TcPo for instance.

Based on the analyses of the continuous records by polygraphic tracing, adaptation process of the newborn infants to extrauterine life was considered to be represented by the mode of deep body temperature changes.

As concerned the new device studied here, it might be available for practical use.

### 193. A Study of Autopsied Cases of Still Birth

N. NAGASUE, Y. AIKO, S. KABASHIMA,  
Y. HOSOKAWA, H. MORINAGA, T. MATSUNAGA,  
K. ATSUKI, M. UCHINO, H. ABE and T. KATO

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

Investigations into the causes of still birth have a profound significance to the obstetricians who aim at reduction in to perinatal mortality.

Data from a series of 123 cases of still birth were reviewed and analysed as to the causes of perinatal death at a clinicopathological conference attended by obstetricians pediatricians and pathologist of these Medical School and Hospital.

In the present study, the perinatal staging employed was according to the definition by the American Medical Association and the still birth defined according to the definition by the W.H.O..

Results: Of the deaths in perinatal period, 112 cases were due to the maternal abnormalities, 29 cases due to placental abnormalities, 16 cases due to abnormalities of the umbilical cord, 6 cases due to abnormalities in parturition, 33 cases due to the congenital malformations, 3 cases due to other causes, while no definite causes could be determined or was not recorded in the remaining 6 cases. Toxemia of pregnancy was most frequent causes on the part of the mother, being 11 cases.

Of the placental abnormalities, abruptio placenta was prominent in incidence, accounting for 62%, the abnormalities of the umbilical cord included torsion (8 cases) and knotting (5 cases). The congenital deformities included anomalies of the