

### 258. The Influence of Various Kinds of Audio-stimulation upon Neonatal Emotion

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Various kinds of audio-stimulation with 75 decibel were given for 10 minutes onto 126 crying neonates and 60 sleeping ones, and the responsive effect upon emotional status was individually evaluated electrophysiologically. The used stimuli were tape-recorded various tones of maternal aortic blood stream, lullaby, piano music, jazz band and metronome. Eighty-five per cent of crying neonates were ceased to cry accompanied with the audio-stimulation of maternal aortic blood stream tone, closed to ninety-one per cent of lullaby, seventy-five per cent of piano music, respectively. However, jazz band had no satisfactory effect of cessation upon crying neonates, and more than ninety per cent of babies were kept to cry. From the study in sleeping neonates, all babies under the audio-stimulation of maternal aortic blood stream, lullaby or piano music were kept to sleep during the whole period under audio-stimulation. On the other hand, fifteen per cent of neonates were waked up by the tone of jazz band. These results suggested that the audio-stimulation by the tone of maternal aortic blood stream, lullaby and piano music may be useful upon the emotional culture in neonatal nursing.

### 259. Expectation of Long-term Sequelae Complicated from Neonatal Distress

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Neonatal distress is dominant factor of brain damage in childhood. The parameters in neonatal stage have been evaluated that can expect the Development Quotient (DQ) in childhood.

We have investigated 146 neonatal distress cases which were delivered in term pregnancy. The neonatal parameters, APGAR score (1, 5 min), timing of 1st crying, etc. were investigated and brain damage was checked by Tsumori's DQ method. The correla-

tion coefficient of these parameters and DQ revealed APGAR score (1 min): 0.35, (5 min): 0.53, timing of 1st crying: -0.62, umbilical arterial blood pH: 0.41,  $pO_2$ : 0.13,  $pCO_2$ : -0.35, BE: 0.24 that showed the APGAR score (5 min) and timing of 1st crying were significantly related to neonatal outcome. By using  $DQ = 3.012 \times (\text{APGAR score (5 min)}) - 0.0188 \times (\text{timing of 1st crying}) + 74.064$ , 2 years old DQ could be expected (DQ(E)).

The DQ average of investigated cases (DQ(I)) is  $110 \pm 13$ , and the growth retarded cases are under 80 of DQ level. The relationships between DQ(E) and DQ(I) are evaluated. 7 cases of DQ(I) are under 80 in which 5 cases can be detected by DQ(E). The correlation coefficient of DQ(I) and DQ(E) is  $r=0.69$ . It is indicated that 2 years old DQ can be early detected by DQ(E) method. So close observation can be managed in early stage.

### 260. Prognosis of Low Birth-weight Infants

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The present study shows the outcome in 88 infants with birth body weight of 500-1500 g. The survival rate of these 88 cases was 86.4%. The survival rate was particularly greater in a group of infants with birth weight of more than 700 g (93.2%, 68/73 cases) than those of 700 g or smaller (53.3%, 8/15 cases).

A group of infants born at the 25th week of gestation or later also showed a significantly greater survival rate (92.1%, 70/76 cases) than those born before the 24th week (50%, 6/12 cases).

In 43 cases who were followed for at least 1 year after birth, one case had cerebral palsy, two had major handicaps (e.g., deafness and/or blindness), and four had minor neurological handicaps.

The possible role of Cesarean section in achieving the improvement of survival rate was also discussed.

### 261. A Study on the Receptor Mediated Pinocytosis of Transferrin by the Human Placental Trophoblast

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