PREDICTION OF PERINATAL OUTCOME ASS SING FETAL MATURITY

Beena Bhattacharjee and Shashi Ramsh

Prematurity is the leading factor associated with neonatal morbidity and mortality. Neonatal morbidity may end in serious sequelae in later life. To avoid these hazards of prematurity—maximum efforts should be made to prevent unintentional prematurity by accurate assessment of foetal maturity before contemplating interruption of pregnancy.


Material and Method

The present study was carried out at the State Zenana Hospital attached to Sawai Man Singh Medical College, Jaipur, from March 1968 to July 1973. The material for the present study was collected from pregnant mothers admitted to the hospital. All the one hundred cases had a gestational period ranging from 28 to 40 weeks with a known last menstrual period. The birth weight of all infants was recorded immediately after birth with a weighing machine, in kilograms (Lever and Dectecto) without clothing. The length of the baby from crown to heel and the circumference of the head were measured in centimetres with a tape. Clinical examination of each baby was done thoroughly and the Apgar score assigned. Each baby was followed in the perinatal period. Clear amniotic fluid was collected in clean sterile bottles shielded from heat and sunlight. All these samples were discarded which were contaminated with blood, meconium, faeces or urine.

Amniotic fluid creatinine contents were determined by the modified Jaffe reaction with alkaline picrate solution (Pitkin and Zwirek 1967) in the Department of Biochemistry, S.M.S Medical College, Jaipur.
Observations

The results are tabulated below: (Tables 1 to 7).

Table 1. *Amniotic fluid creatinine levels at different periods of gestation*

<table>
<thead>
<tr>
<th>Gestation period (weeks)</th>
<th>No. of cases</th>
<th>Creatinine (mg per cent)</th>
<th>Mean</th>
<th>S.D. (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-31</td>
<td>30</td>
<td>0.46-1.18</td>
<td>0.84</td>
<td>0.90</td>
</tr>
<tr>
<td>32-35</td>
<td>30</td>
<td>0.81-2.01</td>
<td>1.81</td>
<td>0.40</td>
</tr>
<tr>
<td>36-40</td>
<td>40</td>
<td>2.00-3.00</td>
<td>2.50</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Table 2. *Correlation between amniotic fluid creatinine and infant's birth weight.*

<table>
<thead>
<tr>
<th>Infant's birth weight (kg)</th>
<th>No. of cases</th>
<th>Creatinine (mg per cent)</th>
<th>Mean</th>
<th>S.D. (±)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infants weighing less than 2.5 kg</td>
<td>56</td>
<td>0.46-1.87</td>
<td>1.37</td>
<td>0.6</td>
</tr>
<tr>
<td>Infants weighing 2.5 kg and more</td>
<td>44</td>
<td>1.62-3.00</td>
<td>2.52</td>
<td>0.3</td>
</tr>
</tbody>
</table>