Use of the Z-A breech score in the management of breech presentation at term

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Although some authors have advocated routine use of cesarean section for breech presentation at term, there are many cases in which vaginal delivery is uncomplicated and avoids the maternal morbidity and mortality associated with surgery. The Zatuchni-Andros scoring system offers a means of predicting the outcome of breech delivery and selecting cases in which vaginal delivery may be preferable for both mother and infant.

The Z-A breech score, introduced by Zatuchni and Andros, has led to recognition of potentially difficult breech deliveries early in labor. It is the purpose of this paper to review the use of the Z-A score in 150 cases of breech presentation at term as a prognostic index for determining the method of delivery. In most cases of overt subclinical fetopelvic disproportion the Z-A score will be 3 or less. With a high score there usually is no problem in delivery. The Z-A breech score is not meant to replace the obstetrician's clinical judgment and experience in dealing with breech presentations, but it acts as a valuable aid in determining the most appropriate and, it is hoped, successful route of delivery.

Results
There were 56 patients with scores from 1 to 3, and all but two of these were delivered by cesarean section. There were two difficult vaginal deliveries in which resuscitation of the neonate was required.

Details are shown in Table 2 and corresponded with those reported by Zatuchni and Andros and by Bird and McElin. Fifty-four of the fifty-six patients in the low-score group were primigravidas, and there were only 2 primigravidas in the high-score group. Of the patients in the high-score group, all those delivered vaginally bore infants with Apgar scores above 6 and 7 for 1 and 5 minutes, respectively.

Patients and methods
One hundred fifty cases of breech presentation after the thirty-seventh week of pregnancy, in both clinic and private services, were studied. Each patient in active labor was evaluated by the Z-A breech score on admission to the labor and delivery suite. Patients with premature rupture of the membranes were included in the study.

Excluded from our evaluation were all cases in which the infant was estimated to weigh less than 2,500 grams and cases of multiple gestation, hyperextension of the fetal head, fetal anomaly, sing-
TABLE 1. CRITERIA FOR BREECH SCORING.*

<table>
<thead>
<tr>
<th>Points</th>
<th>Parity</th>
<th>Primigravida</th>
<th>Multipara</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gestational age</td>
<td>39 weeks or more</td>
<td>38 weeks</td>
</tr>
<tr>
<td>2</td>
<td>Estimated fetal weight</td>
<td>&gt;3,600 grams</td>
<td>3,200 - 3,600 grams</td>
</tr>
<tr>
<td></td>
<td>History of breech presentation at term with uncomplicated delivery</td>
<td>None</td>
<td>One</td>
</tr>
<tr>
<td></td>
<td>Dilatation</td>
<td>2 cm.</td>
<td>3 cm.</td>
</tr>
<tr>
<td></td>
<td>Station</td>
<td>-3 or higher</td>
<td>-2</td>
</tr>
</tbody>
</table>

*Adapted from Zatuchni and Andros.^

TABLE 2. SCORE DISTRIBUTION AND OUTCOME.

<table>
<thead>
<tr>
<th>Low score points</th>
<th>High score points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3</td>
<td>4 5 6 7 8 9</td>
</tr>
<tr>
<td>Total patients</td>
<td>10 20 26 4 44 24 22</td>
</tr>
<tr>
<td>Vaginal delivery (no abnormality)</td>
<td>4 44 23 22</td>
</tr>
<tr>
<td>Cesarean section</td>
<td>10 20 24 1</td>
</tr>
<tr>
<td>Vaginal delivery with difficulty; neonatal depression</td>
<td>2</td>
</tr>
</tbody>
</table>

was difficult, and the infants were severely depressed, with Apgar scores of 1 and 4, and required resuscitation.

**Comment**

The management of breech presentation is a persistent challenge to the obstetrician. Improvements in monitoring techniques, understanding of the different types of breech presentation, and access of pelvimetry and ultrasound scanning have helped to reduce the perinatal mortality, but breech delivery continues to be a serious problem.

The perinatal mortality rate varies from 2 to 5 percent. Because of the increased perinatal mortality and the possibility of reduced motor and intellectual performance following vaginal delivery from breech presentation, some authors have advocated cesarean section of all primigravidas with breech presentation. Churchill reported an increased rate of idiopathic epilepsy among children delivered vaginally from breech presentation, but other authors reviewed by the British Medical Journal did not find this increase. Studies at age 5 years of boys extracted vaginally from breech presentation have shown lower I.Q. scores than those of children born from cephalic presentation, but scores at age 10 showed no difference.

The problem in interpretation of such studies is that many variables affect an individual's intellectual, motor, and psychologic development. A poor prenatal course as well as the vaginal delivery itself may contribute to the long-term effects on the child. A clear-cut cause-and-effect relation cannot be established. Moreover, cesarean section has been shown to decrease immediate perinatal mortality, but carries with it an increase in maternal morbidity and mortality. Although cesarean section is increasing in popularity in delivery of primigravidas with breech presentation, vaginal delivery has not been totally abandoned. The obstetrician facing breech presentation at term must determine the appropriate method of delivery for the individual patient, and the Z-A breech score has been used and advocated as an excellent prognostic aid for the clinician.

The retrospective study by Zatuchni and Andros suggested that complications of labor and delivery usually occur when the patient has a score of 3 or less. All cases of cesarean section as well as most cases of abnormal labor and of neonatal depression requiring resuscitation were in the low-score group. All four infant deaths were in this group as well and were related directly to difficulty in extraction of the after-coming head. Pitocin stimulation was used successfully in the high-score group, with no difficulty in subsequent delivery and no neonatal depression. Zatuchni and Andros concluded that such stimulation is contraindicated when the score is low, but can be used for hypotonic dysfunction when the score is high. It should be reiterated, however, that hypotonic dysfunction with breech presentation can be interpreted as a sign of fetopelvic disproportion, and for this reason cesarean delivery may be advisable. There was no case of hypotonic dysfunction in our high score group.

We believe that utilization of the Z-A breech score in selected cases makes it possible to predict the outcome of delivery with reasonable accuracy and to decrease the perinatal complications of delivery and the maternal morbidity and mortality without arbitrarily using cesarean section for all breech presentations.
3. Community obstetrical study, Hartford, Conn. Unpublished

Accepted for publication in October 1981. Updating, as necessary, has been done by the author.

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