# THE STUDY OF OUTCOME OF BREECH DELIVERY USING ZATUCHNI-ANDROS PROGNOSTIC SCORING INDEX

by

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Breech delivery has been a source of interest to the obstetricians for many years because of its obstetric problems and high perinatal mortality and morbidity. The choice of vaginal versus abdominal delivery in breech presentation depends on obstetrician's experience. According to Zatuchni and Andros (1965) the decision of vaginal delivery in breech does not depend only on adequacy of pelvis but also on other factors as parity, gestational age, previous obstetric history, estimated foetal weight and course of labour. Based on a retrospective analysis of term breech deliveries, Zatuchni and Andros (1965) developed a simple scoring system which helps in deciding safe method of delivery for a particular patient.

The present study was undertaken to evaluate the usefulness of Zatuchni-Andros scoring index by a prospective study of breech deliveries at Safdarjang Hospital, New Delhi.

*Material and Methods*

During the study period i.e., 1st September, 1974 to 30th June, 1975, there were 5720 deliveries, of which 124 (2.13%) delivered as breech. The patients were divided into study group and control group.

*Study Group*: It consisted of patients whose delivery was based on scoring (64 patients).

*Control Group*: It consisted of patients whose labour and delivery was not influenced by scoring (60 patients).

Maternal and foetal outcome was studied in all patients and analysed to:

(1) compare the maternal and foetal complications in low score group and high score group.

(2) compare the results of study group and control group.

Breech Index chart given by Zatuchni and Andros in 1965 was used for scoring:

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| Score | 0 | 1 | 2 |
|---|---|---|---|
| 1. Parity | Primi | Multi | — |
| 2. Period of gestation | 39 wks or above | 38 wks | 37 wks. |
| 3. History of previous vaginal breech deliveries | None | One | Two or more |
| 4. Estimated foetal weight | >8 lbs | 7 lbs. 15 oz. | <7 lbs. |
| 5. Cervical dilatation | 2 cms | 3 cms | 4 cm or more |
| 6. Status of presenting part | —3 or higher | —2 | —1 or less |

—Total score ranges from 0-11.

—Low score group (LSG) 0-3: to be delivered by caesarean section.

—High score group (HSG) 5-11: safe vaginal delivery is possible.

—Score of 4—guarded prognosis i.e., patients were allowed vaginal delivery and reassessed again in labour to see if they would have safe vaginal delivery or should be delivered by Caesarean Section.

*Observations*

Incidence of breech delivery was 2.13 per cent. Maximum incidence was in the age group 21-25 years and majority of patients were multiparous. Following parameters were studied.

1. *Duration of Labour:* As shown in the Table I duration of labour in low score group primigravidae and multigravidae was found to be longer than in high score group. It was more in the control group. Patients in the study group had a shorter duration of labour, because here only the high score group patients were allowed vaginal delivery.

Prolonged first and second stages of labour were associated with a higher perinatal mortality as shown later in Table VI.

2. *Mode of Delivery*: As shown in Table II, patients in the study group had

TABLE I
*Duration of Labour*

| | | Study Group | | Control Group | |
|---|---|---|---|---|---|
| | | LSG | HSG | LSG | HSG |
| Primi | 1st Stage | 9-12 hrs. | 6-10 hrs. | 15-17 hrs. | 7-13 hrs. |
| | 2nd Stage | 35-100 min. | 10-15 min. | 40-120 min. | 20-70 min. |
| Multi | 1st Stage | — | 2-6 hrs. | — | 2-10 hr. |
| | 2nd Stage | — | 5-25 min. | — | 5-40 min. |

TABLE II
*Mode of Delivery*

| | Study Group | | Control Group | |
|---|---|---|---|---|
| | LSG | HSG | LSG | HSG |
| 1. Spontaneous breech | — | 10 (18.2%) | 2 (15.4%) | 14 (29.8%) |
| 2. Assisted breech | — | 39 (70.9%) | 3 (23.1%) | 31 (65.9%) |
| 3. Breech extraction | 1 (11.1%) | 1 ( 1.8%) | 6 (46.2%) | 2 (4.3%) |
| 4. Caesarean section | 8 (88.8%) | 5 ( 9.1%) | 2 (15.4%) | — |

a higher rate of caesarean section. Eight out of 9 patients in low score group had caesarean section and only 1 was delivered by breech extraction. Whereas in the control group of 13 patients in low score group, only 2 had caesarean section. Of the rest 6 had breech extraction, 2 delivered spontaneously and 3 had assisted breech delivery. All these were associated with higher perinatal mortality (Table VI). Had these cases of control group been managed according to the scoring i.e. delivered in time by caesarean section, the higher perinatal mortality associated with breech extraction could have been avoided.

3. *Birth Weight*: A definite correlation between scoring and birth weight could not be predicted with reasonable accuracy because of less number of cases but there were higher mortality and morbidity rates in babies with birth weight 3000 gms or more (Table III).

4. *APGAR Score*: Table IV depicts that low APGAR score was observed in more babies belonging to low score group.

Of low score group patients, those managed according to scoring (study group) had only 22.2 per cent (2/9) babies showing APGAR of 1-4, whereas in the control group 38.5 per cent (5/13) had an APGAR of 1-4. In high score group, 5.5 per cent (3/55) of study group had APGAR 5-7 compared to 12.8 per cent (6/47) in control group. Thus the use of scoring system was associated with higher APGAR scores.

5. *Perinatal Morbidity*: As shown in Table V the perinatal morbidity was

TABLE V
*Perinatal Morbidity*

| | Study Group | | Control Group | |
|---|---|---|---|---|
| | LSG | HSG | LSG | HSG |
| Total No. of Cases | 9 | 55 | 13 | 47 |
| —Anoxia | - | 1 | - | 4 |
| —Severe Anoxia | 2 | - | 5 | 2 |
| —Pneumonia | - | - | 2 | 1 |
| —Convulsion | - | - | 2 | - |
| —Intra-cranial haemorrhage | - | - | 1 | - |
| —Brachial Palsy | - | - | - | 1 |

TABLE III
*Birth Weight*

| Wt. (Gms) | Study Group | | Control Group | |
|---|---|---|---|---|
| | LSG | HSG | LSG | HSG |
| 1500—1999 | 1 (11.1%) | 1 (1.8%) | 2 (15.4%) | 3 ( 6.4%) |
| 2000—2499 | 2 (22.2%) | 18 (32.7%) | 1 (7.7 %) | 15 (31.9%) |
| 2500—2999 | 3 (33.3%) | 27 (49.1%) | 3 (23.1%) | 19 (40.4%) |
| 3000 + | 3 (33.3%) | 9 (16.4%) | 7 (53.8%) | 10 (21.3%) |

TABLE IV
*Apgar Score*

| Apgar | Study Group | | Control Group | |
|---|---|---|---|---|
| | LSG | HSG | LSG | HSG |
| 1 — 4 | 2 (22.2%) | — | 5 (38.5%) | — |
| 5 — 7 | 4 (44.4%) | 3 (5.5%) | 5 (38.5%) | 6 (12.8%) |
| 8 —10 | 3 (33.3%) | 52 (94.5%) | 3 (23.0%) | 41 (87.2%) |

higher in the low score group, more so in the control group. In the study group, only 3 patients suffered anoxia. In the control group, all sorts of complications were seen from anoxia to intra-cranial haemorrhage, convulsions and brachial palsy. Low morbidity in the study group was due to prior scoring and frequent use of Caesarean Section.

6. *Perinatal Mortality*: Reviewing the perinatal mortality in the study group and control group, it was found that gross as well as corrected perinatal mortality was much higher in control group as compared to study group. It was related to prolonged labour, higher rate of breech extraction and assisted deliveries and increased rate of perinatal asphyxia in these patients.

7. *Maternal Mortality and Morbidity*: No maternal deaths were seen in the present series. Maternal morbidity in the form of perineal tears, cervical tear, postpartum haemorrhage and wound infection, etc. was high in low score group and was very low in high score groups.

Low score group = 10 per cent
High score group = 2 per cent

*Conclusion*

Our prospective evaluation of breech scoring index revealed findings similar to that of Zatuchni and Andros in that:

(1) the maternal and foetal outcome was better in high score group when compared with patients in low score group.

(2) management of patients as guided by the breech scoring index resulted in lower perinatal mortality and morbidity rates, although it resulted in increased rate of caesarean section.

TABLE VI
*Perinatal Mortality*

| | Study Group | Control Group | Whole Series |
|---|---|---|---|
| —Gross | 4.6% | 11.7% | 8.09% |
| —Corrected | 1.6% | 5.0% | 3.2 % |
| —Relation to age | | | |
| 16—20 years | 8.3% | — | 5.5 % |
| 21—35 years | 33.3% | 100% | 60.0 % |
| —Duration of labour | | | |
| Prolonged 1st Stage | — | 50.0% | 50.0 % |
| Prolonged 2nd Stage | 13.3% | 25.0% | 19.3 % |
| —Type of Delivery | | | |
| Caesarean Section | — | — | — |
| Breech Extraction | 50.0% | 37.5% | 41.7 % |
| Spontaneous Breech delivery | — | 6.2% | 3.8 % |
| Assisted Breech delivery | 2.7% | 8.9% | 5.6 % |
| —Birth Weight | | | |
| 1500 | 50.0% | 60.0% | 57.1 % |
| 3000 | — | 50.0% | 33.3 % |

| | Study | Control | |
|---|---|---|---|
| P. Mortality | 1.6% | 5.0% | The pertinatal mortality and morbidity of control group could also be decreased by using breech scoring index in time which would result in increased rate of Caesarean Section. |
| P. Morbidity | 3.2% | 11.0% | |
| C.S. | 20.3% | 3.0% | |

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