

CERVICOGRAPHIC ANALYSIS OF BREECH LABOUR IN 75 PARTURIENTS WITH LOW SCORE*

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SUMMARY

Labour in 266 Singleton breech cases above 34 weeks have been analysed. Cases in which caesarean section was decided and those admitted in second stage were excluded.

Introduction

Planned delivery in a breech case is essential and involves careful preliminary evaluation of fetal risk due to associated complications and obstetric factors in form of Zatuchni-Andros Score. This score considers parity, station of presenting part and state of cervix. Zatuchni-Andros (1965) suggested operative delivery in cases with initial score of 3 or less as such score predicts high perinatal mortality. Low score is associated with prolongation of first stage in multipara and prolongation of both first and second stages in nullipara. This suggests that 'alert' and 'action' guidelines on cervicograph may be gainfully used in selecting cases of breech presentation for operative delivery.

Material and Methods

Labour in 266 singleton breech cases with gestational period of 34 weeks or

above was analysed. Those for whom cesarean section was decided without any observed period of labour or those admitted in second stage were excluded. All cases were scored according to Zatuchni-Andros (1965) scoring system on the basis of findings on admission.

Cervicograph was plotted by recording progress of cervical dilatation in cms. against time in hours, considering time of admission to hospital as zero time. 'Alert' line was plotted at the rate of one cm. dilatation per hour starting at 3 cm. dilatation.

In any individual case admitted in latent phase, on first detection of 3 cms. dilatation the graph was transferred by an arrow to the starting point of alert line. 'Action' line was drawn parallel to alert line and two hours on its right (Philpott 1979). Full data on active phase was obtained if patient was admitted with cervical dilatation of 3 cms. or less. If parturient was admitted in active phase after 3 cms. dilatation, case was analysed only for the purpose of rate of cervical dilatation.

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Observations

Two hundred and sixty-six singleton cases were available for relevant data. Zatuchni-Andros Score was 3 or less in 75 (28.2%), out of 266 cases whom 49 (65.3%) were nulliparae. As this score is weighed in favour of multipara, low score is more frequent in nullipara. Forty-nine out of 112 nulliparae i.e. 43.75% had score 3 or less.

Mean duration of labour was 14.47 ± 5.38 hours in nulliparae with low score compared to 11.52 ± 4.74 hours in those with high score. Some significant difference was found in multiparae also.

Latent phase was more than 8 hours in 52.94% of nulliparae with low score and 27.58% with high score. This difference was statistically significant. It was more than 4 hours in 69.57% of multiparae

with low score compared to 37.5% with high score (Table I). Significant difference was found also in mean rate of cervical dilatation in active phase (Table II). In nulliparae rate of cervical dilatation was 1.28 cm. per hour in those with low score and 1.5 cm. per hour in those with high score. In multiparae it was 1.89 cm. per hour in those with low score and 2.36 cm. per hour in those with high score. Second stage also tended to be longer in parturients with low score (Table I).

Prolonged Latent Phase

For cephalic presentation mean latent phase (including period unobserved in hospital) in primigravida is 8.6 hours and in multipara 5.3 hours according to Friedman (1954 and 56). If latent phase observed in hospital exceeds this duration it is considered prolonged (Philpott,

TABLE I
Latent Phase and Second Stage in Breech Labour in Relation to Zatuchni-Andros Score

	Primigravida				Multipara			
	Low Score		High Score		Low Score		High Score	
	No.	%	No.	%	No.	%	No.	%
<i>Latent Phase</i>	34	100	29	100	23	100	40	100
0-4	5	14.70	7	24.14	7	30.43	25	62.5
More than 4 hours	29	85.30	22	75.86	16	69.57	15	37.5
More than 8 hours	18	52.94	8	27.58	7	30.43	2	5.0
<i>Second Stage</i>	43	100	72	100	23	100	116	100
Less than 30 min.	18	41.06	43	59.72	16	69.56	102	87.94
More than 30 min.	25	58.94	29	40.28	7	30.44	14	12.06

TABLE II
Mean Rate of Cervical Dilatation in Cm./Hour in Active Phase in 266 Cases of Breech Labour

Parity	Low Score			High Score		
	No.	Mean	S.D.	No.	Mean	S.D.
Primigravida	49	1.28	0.64	73	1.5*	0.66
Multipara	26	1.89	1.04	118	2.36*	1.09

* Statistically significant difference (P less than 0.05).

TABLE III

Frequency of Prolonged Latent Phase According to Zatuchni-Andros Score in 126 Breech Cases

Duration of Latent Phase	Primigravida				Multipara			
	Low Score		High Score		Low Score		High Score	
	No.	%	No.	%	No.	%	No.	%
Normal	34	100	29	100	23	100	40	100
Prolonged	15	44.11	21	72.42*	10	43.48	27	67.5
	19	55.89	8	27.58*	13	56.52	13	32.5

Prolonged Latent Phase—More than 8.6 hours in Primigravida.

—More than 5.3 hours in Multipara.

i.e. mean according to Friedman (1954 & 56).

* Statistically significant by Chi-square test with Yates correction.

1979). Data for latent phase was available in 126 parturients. It was more often prolonged in low score group in both nullipara and multipara (Table III). However, statistically significant difference was found only for nullipara. This data indicates that for breech presentation also latent phase should be considered prolonged if it exceeds 8.6 hours in nullipara or 5.3 hours in multipara.

Protracted Active Phase

Cervical dilatation at less than 1.2 cm. dilatation per hour in nulliparae and less than 1.5 cm. in multiparae in active phase is considered abnormal by Friedman (1967). Defined as such 50% of nulliparae and 42.86% of multiparae with low score had protracted active

phase compared to 34.2% of nulliparae and 22.03% of multiparae with high score, difference was significant only for multiparae. (Table IV).

Cervicographic progress in relation to alert and action guidelines (Table V):

70% of nullipara and 75% of multipara with high score progress well in active phase, cervicograph does not cross alert line even. Cervicograph in low Zatuchni-Andros score group did cross alert line in 63.12% (12 out of 19) of nullipara and 72.7% (8 out of 11) of multipara proving the validity of low score in predicting slow labour. This also explains higher frequency of augmentation of labour with syntocinon and caesarean section in low score group (Table VI).

TABLE IV

Incidence of Protracted Active Phase According to Zatuchni-Andros Score in 266 Cases of Breech Labour

Duration of Active Phase	Primigravida				Multipara			
	Low Score		High Score		Low Score		High Score	
	No.	%	No.	%	No.	%	No.	%
Normal	48	100	72	100	28	100	118	100
Protracted	24	50	47	65.28	16	57.14	92	77.97*
	24	50	25	34.72	12	42.86	26	22.03*

Protracted Active Phase—Mean rate of cervical dilatation less than 1.2 cm./hr. in primigravida or less than 1.5 cm./hr. in multipara i.e. low limit by Friedman (1967) for normal labour.

TABLE V
Cervicographic Analysis of 104 Cases of Breech Labour According to Zatuchni-Andros Score

Cervicograph	Low Score				High Score			
	Primi.		Multi.		Primi.		Multi.	
	No.	%	No.	%	No.	%	No.	%
Never Crossed	19	100	11	100	30	100	44	100
Alert Line	7	36.8	3	27.3	21	70	33	75
Crossed Alert	5	26.4	3	27.3	7	23.33	6	13.64
Line								
Crossed Action	7	36.8	5	45.4	2	6.67	5	11.36
Line								

TABLE VI
Frequency of Interference in 266 Cases of Breech Labour According to Zatuchni-Andros Score

	Low Score		High Score	
	No.	%	No.	%
Total Cases	75	100	191	100
Augmentation	20	26.66	26	13.61*
Caesarean Section	9	12.00	4	2.09*
Breech Extraction (For fetal distress or cord prolapse)	1	1.33	4	2.09*

* Statistically significant by proportion test.

Fetal outcome in relation to Zatuchni-Andros score, in cases of uncomplicated breech (Table VII):

Besides predicting prolonged labour, low Zatuchni-Andros Score in present study has been found to be associated with high perinatal mortality (11.27%) and depressed babies (39.44%), while high score group has only half the perinatal mortality and low appgar score

TABLE VII
Fetal Outcome Among Low and High Zatuchni-Andros Score Cases of Uncomplicated Breech (233)

	Low Score		High	Score
	No.	%	No.	%
Total Cases	71	100	162	100
Uncorrected PNM	10	14.08	28	17.28
Corrected PNM	8	11.27	8	4.94
1 Min. A/s Less than 6	28	39.44	32	19.75*
5 Min. A/s Less than 6	13	18.31	16	9.87

* Statistically significant by Proportion test.

babies as compared to low score group.

However, high score group also has still fairly high corrected perinatal mortality of nearly 5% and 10% depressed babies, emphasising the need to assess the progress of labour and to revise the line of treatment.

Discussion.

Zatuchni-Andros Score is an excellent way for initial screening of breech labour, but if caesarean section is considered in all low score cases it would increase the rate by additional 30-40%. Zatuchni-Andros score on admission was 3 or less in 43.75% of nullipara and 16.9% of multiparae. Disadvantage in basing decision only on low Zatuchni-Andros score is that a significant number with high score also have abnormal progression of labour. It is important to watch out for protracted labour and find guidelines to alert the physician.

Dysfunctional labour in breech adds significantly to perinatal mortality. Up till now there is little data regarding various phases of labour and whether the same criterion based on Friedman's curve as for vertex can be applied to breech.

Philpott (1979) considered latent phase after admission in hospital prolonged if it was more than 8.6 hours in nullipara and 5.3 hours in multipara; and as such in present study if was found in half of low score and a quarter of high score parturients. Breech starts from a higher station at onset of labour and this may explain more often prolonged latent phase.

A prolonged latent phase as such may not affect the fetal outcome but in breech it should be considered as an early warning as half the cases with prolonged latent phase were followed by protracted

active phase in present study, compared to only 19% (one fifth) where latent phase was normal. Prolonged latent phase even with vertex presentation is more often followed by slow progress in active phase too and needs augmentation with ARM and Syntocinon (Philpott, 1979). Prolonged latent phase is specially significant in breech as often it is associated with early rupture of membranes. Active phase is significantly prolonged with early rupture of membranes.

O'Leary (1979) believes breech starts at higher station at onset of labour but experiences similar rate of cervical dilatation as vertex. Progress of labour in active phase is normal in 70% of nullipara and 75% of multipara with high score in present study. Low Zatuchni-Andros Score however, predicts a slow rate of cervical dilatation in active phase, specially in nullipara. Friedman (1956) considered minimum rate of cervical dilatation as 1.2 cm./hour in nullipara and 1.5 cm./hour in multipara; 50% of nullipara with low score had such slow cervical dilatation.

However, even with high score 34.7% of nullipara and 22.2% of multipara do progress slowly in active phase. Augmentation of labour in such cases may be considered. Partographic record with guidelines as suggested by Philpott (1979) revealed that 70-75% of high score cases did not cross alert line. He plotted alert line at the rate of dilatation of cervix of 1 cm. per hour. Cervicograph crossed action line more often with low initial Zatuchni-Andros Score (i.e. 40%) but also in 9% with high score parturients. Timely caesarean section in these cases with dysfunction in labour would lower perinatal mortality. In parturients with low initial score, 26.66% required augmentation, 12% caesarean

section with perinatal mortality 11.27% and 5 min. Apgar score less than 6 in 18.31% compared to 13.61% augmentation and 2.09% caesarean section rate with High Zatuchni-Andros Score. Perinatal mortality of 4.94% and 5 min. Apgar score less than 6 in 9.87% cases with high score might have been improved if augmentation or action had been considered earlier. It is probable that fetal outcome may be improved if alert line in multiparae is plotted at rate of 1.5 cm. instead of 1 cm. per hour as the cases where fetus escaped with undilated cervix had show rather slow progress though 'alert' line had not been crossed.

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