

ACTIVE MANAGEMENT OF LABOUR

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SUMMARY

Seventy cases of primigravidae and 30 second gravidae were managed actively during labour to find out the effect on duration of first and second stages. An equal number of cases were observed in their labour as controls. Alternate cases were selected for study and controls and they matched in all respect. Cases were actively managed by ARM and syntocinon drip (2.5 units per pint) at 2 cm cervical dilatation. Both groups received Epidosin 3 amps at 20 minutes interval. Pethidine 50 mg with Sparine 50 mg was given to all at 4-5 cm dilatation stage. The average duration of first stage in primis was 3.8 ± 1.2 hrs and 8.9 ± 2.6 hrs in actively managed and control group respectively. This was 2.7 ± 0.8 hrs and 5.7 ± 3.0 hrs in corresponding second gravidae. The difference in both was found to be statistically significant. The difference in duration of second stage in primi gravidae, though apparent, was not statistically significant, being 31.5 ± 15.0 mins and 48.8 ± 24.5 mins in study and control group, whereas this was so in the second gravidae (8.7 ± 1.4 mins and 19.8 ± 11 mins). The nature of delivery, Apgar score at birth and birth weights were almost similar in both groups. Neonatal jaundice occurred with equal frequency in both groups of babies. It is concluded that active management of labour definitely shortens the duration of labour, thus minimizing the maternal and foetal suffering.

Introduction

The process of labour puts great strain on the mother and on the foetus as well. Hellman and Prystomsky (1952) have conclusively proved that, in primi, the perinatal loss mounts rapidly when the first stage of labour exceeds 20 hours and the second stage 2 hours. Acceleration of labour to shorten its duration without jeopardising the maternal and foetal con-

dition would, therefore, minimise the maternal and foetal morbidity and mortality. Prof. O'Driscoll (1973) founded the concept of active management of labour.

The present study was carried out to find out the effect of amniotomy, oxytocin drip, Epidosin and Pethidine and Spartine on the duration of labour and its outcome.

Material and Methods

During a period of 4 months, all normal primi and second gravida women with spontaneous onset of labour were selected

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for active management with the help of above procedure. Alternate cases were selected for study and control. At 2 cm dilatation of cervix, a drip with 2 units of Syntocinon per pint of fluid was started and the membrane were artificially ruptured at the same time. Epidosin 3 ampoules were given at 20 minutes intervals. When the cervix was dilated 4-5 cms, Pethidine 50 mg and Spartine 50 mg were injected together, intramuscularly. The control cases were given the above sedation only. The maternal and foetal conditions and the progress of labour were continuously monitored clinically. The duration of first and second stages were noted. The outcome of labour was also recorded. The results were analysed statistically.

Observations

The study comprised of 200 cases of primi and second gravid women in labour. The distribution of cases is shown in Table I.

TABLE I
Case Distribution

	Primi Gravid	Second Gr.	Total
Study group	70	30	100
Control group	70	30	100
Total	140	60	200

TABLE II
Duration of First Stage

Case group	Range in hours	Mean in hours	S.D.	Z test
<i>Primi</i>				
Study Group	2-6	3.8	1.2	≥ 2
Control Group	4-14	8.9	2.6	$P < .05$
<i>Second Group</i>				
Study Group	1-3.5	2.7	0.8	≥ 2
Control Group	3-11	5.7	3	$P < .005$

Duration of first stage: The range and mean duration of the first stage of labour is shown in Table II.

In the primis, the mean duration of first stage was 3.8 ± 1.2 hrs and 8.9 ± 2.6 hrs in study and control cases respectively. When analysed through Z test, this difference was very significant. Similarly, this difference in duration in the second gravidae was also significant, being 2.7 ± 0.8 hrs in the study cases and 5.7 ± 3 hrs in the controls.

Duration of second stage: This is outlined in Table III.

It will be seen that the difference in duration of second stage in primi with and without active management (31.5 ± 15 mins and 48.8 ± 24.5 mins) was not statistically significant, though seems to be apparently so. In second gravidae, this duration was 8.7 ± 1.4 mins and 19.8 ± 11 mins and the difference was very significant.

Outcome of Labour

The outcome of labour is depicted in Table IV.

In both gravidae, spontaneous delivery occurred more frequently and the operative delivery less so, in the actively managed cases than in the controls. This

TABLE III
Duration of 2nd Stage

Case group	Range in min.	Mean in min.	S.D.	Z test
<i>Primi</i>				
Study Group	10- 60	31.5	15	<2
Control Group	23-120	48.8	24.5	P>.05
<i>2nd Gravid</i>				
Study Group	7- 10	8.7	1.4	>2
Control Group	15- 14	19.8	11	P>.05

TABLE IV
Outcome of Labour

Type of Delivery	Active management			Control		
	Primi No. (%)	G2 No. (%)	Total No. (%)	Primi No. (%)	G2 No. (%)	Total No. (%)
S.V.D.	53 (75.7)	30 (100)	83 (83)	46 (65.7)	24 (80)	70 (70)
Forceps/V.E.	14 (20)	0	14 (14)	19 (27.1)	4 (13.3)	23 (23)
L.S.C.S.	3 (4.3)	0	3 (3)	5 (8.2)	2 (6.7)	7 (7)

TABLE V
Apgar Score

Apgar Score	Active management		Control	
	Primi	G2	Primi	G2
< 5	7	0	6	0
5-7	8	0	8	0
More than 7	55	30	56	30
Total	70	30	70	30

finding was found to be statistically significant. Wherever operative intervention was required, during active management, the decision could be taken earlier to the great advantage of both mother and the foetus.

To determine the effect of acceleration of labour on the neonate, Apgar score was

carried out at 1 min and 5 mins after birth.

As can be seen from the above table, there were 29 babies born with Apgar score below 7, 13 of them having score less than 5. There was no difference between babies in study and control group as regards this score. All these babies were revived easily with no ill effect in the neonatal period.

Complication in Labour and Puerperium

Deep transverse arrest occurred in 2 cases of primi in each group. All 4 had C.S. One case of primi in the control had a 3° perineal tear. There was no major complication in the puerperium. Distribution of birth weight in both groups was similar. There was no difference in the incidence of neonatal jaundice.

Discussion

Theobald (1948) was the foremost among Obstetricians to favour amniotomy in accelerating labour. Amniotomy is a useful measure in reducing the duration of labour. Oxytocin helps to reduce the latent phase and improve the intensity of uterine contractions. Pethidine and Spartine together allay the anxiety of the patient. Ulrich Beck (1956) first reported the cholinolytic, spasmolytic and muscolotropic action of Epidosin. Its favourable action in shortening the 1st and 2nd stages of labour has been reported by Mitra *et al* (1978); Bhan (1979) and Srivastav *et al* (1979). In the present study, the shortening of duration of 1st and 2nd stages of labour compare well with that of Desai *et al* (1984) and Gupta *et al* (1984). Though Desai *et al* did not find any difference in the type of delivery between control and accelerated labours, this was significantly so in the present study. This confirms the observation made by Gupta and Sahai (1984).

Conclusions

One hundred labours comprising of 70 primi and 30 second gravidae were actively managed. Equal number of observations served as control. The duration of both first and second stages of labour were significantly shortened in the study group. Incidence of spontaneous vaginal delivery was more and operative delivery significantly less in actively managed labours.

Amniotomy and Oxytocin infusion early in labour and supported by Epidosin definitely shortens the duration of labour. Thus it lessens the strain both on the mother and the foetus. A great advantage of active management of labour is that decision for intervention can be taken early before any harm occurs to the mother or foetus.

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