

## ACTIVE MANAGEMENT OF LABOUR

by

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In the Department of Obstetrics and Gynaecology, Gauhati Medical College, active management of labour was done in 125 cases randomly selected during a period of fifteen months from August, 1977 to November 1978. The aim of the study was reduction of the duration of labour, specially in primigravida, to reduce the incidence of prolonged labour, to detect dystocia early, to reduce the incidence of difficult vaginal delivery and caesarean section and lastly to reduce both maternal and foetal morbidity and mortality.

### *Material and Methods*

A total of 125 pregnant women admitted at term or in labour after 37 weeks of gestation upto a maximum of 42 weeks were selected at random for the study and were subjected to active management of labour during a period from August, 1977 to November, 1978.

### *Selection of cases*

The age of the patients ranged between 16 to 30 years, all being of average height. Primigravidae and also cases upto gravida 3 with previous normal obstetric history were selected. All were single preg-

nancies with vertex presentation, of normal obstetric history and no medical disease. Cases with long years of infertility were not selected. Pelvis should be adequate in all the cases, though cases with suspected borderline cephalopelvic disproportion were included in the study.

### *Diagnosis of labour*

This is the most important aspect to be judged before selecting a case for acceleration of labour. That the woman is in labour should be confirmed otherwise cases where labour is not established will not be successful. Cases with cervical effacement of atleast 30 per cent or more with cervical dilatation of  $\frac{1}{2}$  cm. to 4 cm. were taken for the study when they did not progress within 2. hours following admission. The duration of labour was recorded from the time of admission or from the time when the woman started having regular and painful uterine contractions in cases where cervical dilatation on admission was more.

### *Procedure of acceleration*

On admission the state of the cervix was noted by Bishop's scoring system. Patients whose labour did not progress within 2 hours of admission were accelerated. When on admission cervical dilatation was 2 cm to 4 cm. labour was ac-

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celerated after a minimum interval of even 1 hour.

An enema was given to all cases. A careful record of pulse, blood pressure gestational size, station of the head, regularity of the foetal heart sound and type and frequency of uterine contractions was made before artificial rupture of membranes and starting the syntocinon drip.

When everything remained normal, ferewater amniotomy was performed in all cases where possible followed by infusion of syntocinon drip. If amniotomy could not be done earlier, it was done later following the syntocinon drip when possible. The dose of syntocinon varied according to the cervical state and parity. Low dose was used in case with high Bishop's score and high parity and vice versa. The maximum dose of syntocinon used was 5 units in 500 ml. of plain dextrose. The drip rate was started at 10 drops per minute and increased every 15 minutes by 5 drops upto a maximum of 60 drops till one contraction appeared every 2 to 3 minutes. Five units of syntocinon per 500 ml. of plain dextrose were used in 3 cases, 4 units in 20 cases, 3 units in 72 cases and 2 units in 28 cases.

The progress of labour was recorded in a partograph noting cervical dilatations and descent of head in centimetres against time in hours following admission which ranged upto 12 hours. There should be a progress of cervical dilatation of at least 1 cm. per hour following acceleration. In presence of unsatisfactory progress at the end of 6 to 7 hours, a careful reassessment of the patient was done and a decision was made regarding waiting for 1 to 2 hours for vaginal delivery or doing a caesarean section. The aim was to deliver the patient within 8 hours from the start

of the procedure, the maximum limit being 12 hours.

A control group of 200 cases of primigravidae were studied where no active management of labour was employed.

#### Results and Observation

Amongst 125 cases, 95 were primigravidae and 30 were second or third gravida. The Bishop's score on admission and that preceding acceleration varied from 2 to 8 and 2 to 11 respectively. In 62 cases amniotomy was done first followed by syntocinon drip. In 10 cases amniotomy was done after starting the syntocinon drip and 23 cases had spontaneous rupture of membranes before starting the drip. The maximum and minimum dose of syntocinon used was 23.4 mu/minute and 5.8 mu/minute respectively.

#### Acceleration-Delivery Interval

It is shown in Table I. The maximum and minimum acceleration delivery interval was 11 hours 5 minutes and 25 minutes respectively. It was less in cases with high Bishop's score and vice versa.

TABLE I  
Average Acceleration-Delivery Interval According to the Strength of Syntocinon Used

Units of syntocinon per 500 ml.	Acceleration-delivery interval			
	Primi		Multi	
	Hrs.	Mts.	Hrs.	Mts.
5	2	49	—	—
4	3	37	—	—
3	3	35	2	46
2	3	25	2	14

#### Duration of Labour

91.6 per cent of primigravidae and all multigravidae delivered within 12 hours. Only 8.4 per cent of primigravidae had duration of labour of more than 12 hours,



but they delivered within 15 hours. The range of duration of labour is shown in Table II.

TABLE II  
Duration of Labour

Hours	Primi		Multi	
	No. of cases	%	No. of cases	%
<8	59	62.1	26	86.7
8-10	21	22.1	1	3.3
10-12	7	7.4	3	10.0
10-12	8	8.4	—	—

The average duration of labour in the control group and in the accelerated group is shown in Table III which is significant.

TABLE III  
Average Duration of Labour in the Control Group and Accelerated Group

No. of cases	Duration of labour in			
	Primi		Multi	
	Hrs.	Mts.	Hrs.	Mts.
Accelerated group 125 cases	7	33	6	2
Control group 200 cases	15	44	—	—

#### Mode of Delivery

It is shown in Table IV along with that of the control group, the difference being significant. The indications for forceps delivery in the accelerated group were pre-eclamptic toxæmia (7 cases), hypertension (6 cases), delayed second stage exceeding 40 minutes due to sedated mother (2 cases) and foetal distress in second stage (4 cases). In the control group, 23.5 per cent cases had delayed second stage due to uterine inertia. The indications for caesarean section in 4 cases of accelerated group were previous-

ly undiagnosed cephalopelvic disproportion in 3 cases and unfavourable progress due to abnormal uterine action in 1 case.

TABLE IV  
Mode of Delivery in the Accelerated Group and Control Group

Mode of delivery	Accelerated group		Control group	
	No. of cases	%	No. of cases	%
	Normal delivery with episiotomy	72	75.8	69
Low forceps with episiotomy	19	20.0	90	45.0
Lower segment C.S.	4	4.2	41	20.5

#### Complications of Labour

It is shown in Table V. The incidence of foetal distress, maternal distress, in-

TABLE V  
Complications of Labour in Primi in the Accelerated and in the Control Group

Complications of labour	Accelerated group		Control group	
	No. of cases	%	No. of cases	%
	1. Foetal distress	4	4.2	45
2. Maternal distress	—	—	10	5.0
3. Inefficient uterine action	—	—	49	24.5
4. Abnormal uterine action	1	1.05	2	1.4
5. Unfavourable progress due to cephalopelvic disproportion	3	3.1	15	7.5
6. Deep transverse arrest	—	—	7	3.5
7. Prolonged labour	1	1.05	14	7.0
8. Retained placenta	—	—	3	1.5
9. Postpartum haemorrhage	—	—	5	2.5

for. Thus it seems that in near future the value of active management of labour will be realised by most of the obstetricians and it will be accepted as a routine procedure for better and more efficient management of labour, thus reducing its various complications.

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