INDUCTION AND ACCELERATION OF LABOUR

(Three Years Study)

by

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Introduction

Our responsibility as obstetricians has become most critical as the demand for using the best professional experience in providing the society a healthy mother with an undamaged and healthy child out of pregnancy after the delivery, has become indispensable. None expects and desires to own a living child with grossly damaged intellectual organ and physically invalid and sick body. This will just add to the burden of the family, society and nation. Therefore, one has to accomplish the delivery in the shortest possible time (Mohendra N. Parikh *et al*, 1978) compatible with the safety of the mother and foetus. The old saying of 'masterly inactivity' should thus be replaced by 'masterly activity.' Many are of the same opinion (Philpot and Castle, 1972; O'Driscoll, 1972) specially in a primigravida. This paper gives three consecutive years' study on the subject.

Material and Methods

Since 1966, we have been using oxytocics (Pitocin/syntocinon) 1 in 250 to 1 in 50 concentration I.V. drip alone or, after rupturing the membranes routinely to induce and accelerate labour after properly selecting the cases without any hazards to the mother and child. Methergin/ergometrine is also used routinely at the end of the second stage which further facilitate to minimise third stage blood loss and early regain of the maternal health in the puerperium. This often saves the patient from operative delivery as well (Jeffcoate *et al*, 1952).

Induction and acceleration of labour in 1835 pregnant women of different ages, parity and gestational periods were carried out at the Women Hospital, Imphal from 1974 to 1976 with a total hospital delivery record of 6992 during the same period thus the remaining 5157 cases taken as control. Of these, 528 were primigravida and 1307 were multigravida. A.R.M. followed by I.V. syntocinon/pitocin drip 1.200 to 1.50 concentration, was administered to 678 cases for induction of labour with acceleration subsequently. Seven hundred and twenty-five cases were accelerated with I.V. oxytocic drip (syntocinon/pitocin) and only A.R.M. was done in 332 cases. All these cases were examined thoroughly and strictly assessed clinically for the

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suitability of the procedure and also to exclude any contra-indications. All of them have to satisfy the following criteria:—

(A) *Mother*:

(a) Absence of any contra-indication;

(b) Normal and adequate pelvis;

(c) Cervix prepared with the os at least 2 cm, specially for primigravidae;

(d) No hypersensitivity to the oxytocics used;

(e) Both the husband and wife should agree.

(B) *Foetus*:

(a) Lie of the foetus should be longitudinal, preferably with vertex presentation;

(b) Maturity should have reached at least 38 weeks by date or, the estimated birth weight should not be below 2.75 kg. when no other maternal disease (systemic) is ilicited.

(c) No detectable foetal defect

If there is any history of previous repeated still births or, neonatal deaths and in the elderly primigravida, we try to avoid such procedure and even if we proceed, early discontinuance with the full preparedness for early operative interference, if necessary, are the motto in this group.

Table I gives the overall picture of the hospital statistics with the total hospital deliveries, different types of operative deliveries of primi and multi with other statistics. This includes all the cases in this study and the rest which forms the control. Table II shows the cases, methods adopted in them and the percentage.

TABLE I

Three Years' Hospital Statistics (W.H., Manipur)

Year	1974	1975	1976	Total
Total Deliveries	2102	2046	2844	6992
Multi	1499	1358	1906	4763
Primi	603	688	938	2229
C.S.	58	66	68	192
Forceps	12	14	22	48
Maternal Deaths	1	1	1	3
Still Births	51	48	59	158
Perinatal Deaths	10	17	6	31

TABLE II

Induction and Acceleration of Labour

Total No. of cases	Primi	Multi	A.R.M. followed by Syntocinon drip		Syntocinon		A.R.M.	
			Primi	Multi	Primi	Multi	Primi	Multi
1835	528 (29.8%)	1307 (70.2%)	266 (14.49%)	412 (22.45%)	311 (16.9%)	414 (22.5%)	121 (6.5%)	211 (11.5%)
Dilatation of Cervix Cm.	2 to 4 = 3	2 to 8 = 5	<3	<4	<2	<5	>3	>6
Mean Duration in Hr.	7	4½	6	3	6½	3½	8	5

Results

So far we have quite satisfactory results except in 22 cases. In 20 of them (11 primi, 9 multi) the procedure had to be abandoned and underwent C.S. because of unsatisfactory progress of labour resulting in foetal distress; 2 of the primi had the delivery with low forceps. In 75 cases, we had to repeat the same for the second time and in 17 of them with thick cervix, the induction failed. Table III gives the details of the result in our experience. There were 11 perinatal deaths from prematurity and 12 still births with no maternal deaths in this series. All the cases of still births were already confirmed cases of I.U.D. In 21 cases, we have to abandon the procedure as the delivery could not be accomplished as calculated but all these cases had normal vaginal delivery after 4 to 8 hours' complete rest under sedation.

TABLE III

Results of the Induction and Acceleration

Failure		Repeat Procedure		C.S.		Forceps		Foetal and Maternal Deaths	
Primi	Multi	Primi	Multi	Primi	Multi	Primi	Multi	Primi	Multi
8	9	63	12	11	9	2	Nil	Nil	Nil

Discussion

From what we have observed in this study, it can be concluded that acceleration and induction of labour with I.V. syntocinon/pitocin alone or, after A.R.M. in suitably selected cases are quite safe and can be used routinely (Mahendra N. Parikh *et al*, 1978). This active and timely intervention of the pregnancy and labour could thus replace the olden days obstetrician's dictum of 'masterly inactivity'. This will thus save every pregant woman from all the hazards associated with postdate foetus at birth and after birth. We could still recollect what Philpot and Castle (1972) and O'Driscoll *et al* (1973) observed earlier. It is to be stressed that, cases for such procedure should be carefully selected (Embrey and Anselmo, 1972; Theobald, 1963 and Munsick, 1965) and the response to oxytocics of the gravid uterus often shows variation from patient to patient (Douglas and Bosnes, 1957; Embrey, 1962). The comparative study of other agents like Prostaglandin F2 Alpha in the induction of labour (Hingorani *et al*, 1977) and deaminooxytocin (Mathur *et al*, 1977) also shows the safety of this procedure. In this series, we followed it as a routine in 678 selected cases for induction and subsequent acceleration of labour, in 725 cases for acceleration alone after the onset of spontaneous labour and in 332 cases, induction was obtained by A.R.M. alone. The average dose of oxytocin was 10 units with a mean duration of the labour, 7 and 4 hours among primi and multi respectively, as seen in Table III. Only 17 cases (0.90%) failed even on the second day repeat procedure.

Thus we can safely adopt A.R.M. and syntocinon either alone or, combined as an accepted part in the management of normal labour when there is no contra-indication.

Summary

A.R.M. and I.V. syntocinon/pitocin for induction and or, acceleration of labour in suitable normal cases have been studied. Results have been observed and literature reviewed. The role of active management of labour as demanded to-day, against the 'masterly inactivity' of olden days discussed. The procedure appreciably hastened the labour process without any additional hazards to the mother and foetus. Follow up of all these cases showed no adverse effect on the health of the mother and children. It rather gives the impression of more acuteness and allertness in the mental activity of the children than those of control.

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References

1. Bajaj, A. K., Singh, D., Bhargava, V. L. and Hingorani, V.: J. Obstet. Gynec. India. 27: 502, 1977.
2. Dauglas, R. G. and Bosnes, R. W.: West, J. Surg. Obstet. Gnec. 6: 89, 1957.
3. Embrey, M. P. and Anselmo, J. F.: J. Obstet. Gynec. Brit. C'wealth. 69, 918, 1962.
4. Gayatri, V. and Jain, S.: J. Obstet. Gynec. India. 28: 206, 1978.
5. Jeffcoate, T. N. A., Baker, K. and Martin, R. N.: Surg. Gynec. Obstet. 95: 257, 1952.
6. Mathur, V. S.: J. Obstet. Gynec. India. 27: 136, 1977.
7. M. N. Parikh, Companywala, R. and Hansotia, M.: J. Obstet. Gynec. India. 28: 806, 1978.
8. O'Driscoll, K. Proceeding of Royal Society of Medicine. 65: 697, 1972.
9. O'Driscoll, K. Stronge, M. J. and Minoque, M.: Brit. Med. J. 3: 135, 1973.
10. Philpot, R. H. and Castle, W. H. Brit. Med. J. 4: 163, 1972.