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Induction of Labour vs Expectant Management for Pregnancies beyond 40 Weeks of Gestation a Prospective Comparative Randomised Study

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Introduction

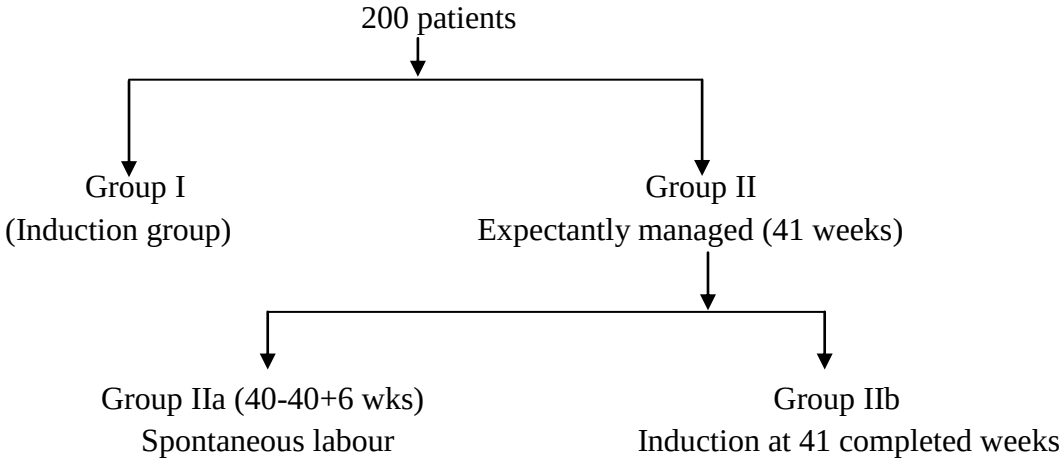
Term pregnancy is defined as pregnancy lasting between 37completed weeks and 41 weeks + 6 days. Pregnancy that reach or continue beyond 294 days (42weeks) are described as post terms. Prolonged pregnancy is between 41 – 42 weeks and occurs in approximately 5 – 10% of pregnancies. The estimated date of confinement or due date for normal pregnancy is calculated as 38 weeks after conception or 40 weeks after first day of normal LMP (assuming 28 days menstrual cycle). The Commonest cause is error in calculation of gestational age. Nulliparity, advanced age, obesity are the strongest risk factors. Before deciding the best course for the management of prolonged pregnancy it is imperative to reconfirm the gestational age by a dating scan performed in first half of pregnancy. Increasing availability of USG has significantly improved accuracy of pregnancy dating and detection of fetal anamolies, so extremely long gestations are rare. WHO recommends a policy of routine induction of labor at 41 completed weeks. An earlier induction can potentially expose the mother to a greater risk of operative intervention and subsequent morbidity, while delaying induction increases chances of fetal distress and perinatal morbidity.

Aims and Objective

- To analyse the optimum period of intervention in pregnancy without compromising fetomaternal outcome.
- To evaluate the maternal and perinatal outcome when labour is induced at 40 weeks of gestation.
- To evaluate the maternal and perinatal outcome when the labour is induced 1 week beyond expected date of confinement.

Material and Methods

This study was conducted in Obs and Gynae Department of Katihar Medical College, Katihar, Bihar, from a period of August 2017 to June 2018, 200 Low risk primigravida at 40 weeks of gestation were included in the study and randomised in two groups of 100 patients each. Fetomaternal surveillance was started and continued till delivery.



Inclusion Criteria

1. Singleton Pregnancies with cephalic presentation with 40 weeks of gestation
2. Primigravida
3. Bishop score <6
4. Patient not in labour
5. No PROM at admission

Exclusion Criteria

1. Scarred uterus (LSCS, Myomectomy)
2. Non Cephalic Pregnancy
3. Multifetal pregnancy
4. IUGR
5. Oligohydromnios/Polyhydromnios
6. APH
7. CPD
8. Anamolous babies
9. Comorbid conditions

Outcome measures

Maternal

1. Mode of Delivery – SVD, LSCS, Instrumental
2. Hyperstimulation, Tachysystole, Fetal distress
3. PROM
4. Colour of liquor
5. PPH

Neonatal Outcome

- APGAR score at 1 and 5 minutes
- weight of baby
- NICU admission

Fetal surveillance test in conservative management

1. NST (Non Stress test)
2. CST (Contraction stress test)
3. BPP (Biophysical profile)
4. Doppler study
5. Fetal kick count

Bishop Score

Score	Dilation (cm)	Cervical Lenght	Head Station (-3 to +2)	Consistency	Position
0	Closed	>4	-3	firm	-
1	1-2	3-4	-2	Medium	Posterior
2	3-4	1-2	-1,0	Soft	Mid
3	≥5	0	+1,+2	-	Anterior

IOL is successful when Bs ≥6

Results

In group I all patient were induced at 40 + 0 to 40 + 6 weeks of gestation, where as in group II a all patients went in to spontaneous labour without any induction and in group IIb, 94.02% were induced at 41 weeks, 5.7% were induced at >41weeks and this was statistically significant. 64% of group I Patients had caesarean section, 3% had instrumental delivery and 33% had normal vaginal delivery. Where as in group II 65 patients

delivered before 41 weeks, out of which 15.3% had caesarean section and 84.6% had normal vaginal delivery. Out of 35 patients who had reached 41 weeks and were induced 34.2% had caesarean delivery 65.7% had normal delivery (Table 1)

Mode of delivery	Group I (100)	Group II (100)	
		Observation till 41 weeks (N=65) IIa	Induction at 41 weeks (N=35) IIb
SVD	33 (33%)	55 (84.6%)	23 (65.7%)
Vacuum – forceps	3 (3%)	0	0
LSCS	64 (64%)	10 (15.3%)	12 (34.2%)
Total	100	65	35

29 patients had MSL in group I, of which 2 delivered vaginally and 27 underwent caesarean section, where as group IIa 6 had MSL of which 2 delivered vaginally, 4 LSCS. In group IIb, 5 had MSL, 5 underwent LSCS (Table 2)

Colour of liquor	Group I (N=100)		Group II (N=100)			
			Observation till 41 weeks (N=65) IIa		Induction at 41 weeks (N=35) IIb	
	SVD (33)	Operative delivery (67)	SVD (55)	LSCS (10)	SVD (23)	LSCS (12)
Clear liquor	31	40	53	6	23	7
MSL	2	27	2	4	0	5
Total	33	67	55	10	23	12

In group I only 36 had favourable bishops score. Group IIa out of 65, 40 had Bishops score > 3 and in group IIb, 20 had bishops score >3. In group I, 68 patients had reactive CTG and remaining had nonreactive CTG. In group IIa out of 65, 57 had reactive CTG in group IIb 30 out of 35 had reactive CTG. Only 14 patients had prelabour rupture of membranes in group IIa. 41 babies in group I, II in group IIa and group IIb were admitted in NICU (Table 3)

Table 3 Comparison of Bishop Score, CTG, PROM and NICU admission

	Group I (N=100)	Group IIa (N=65)	Group IIb (N=35)	Significance (p)
Bishop Score (>3)	36	40	20	0.002
CTG (Reactive)	68	57	30	0.02
PROM	0	14	0	0.001
NICU admissions	41	11	11	0.05

Maternal complications like hyperstimulation (3 patients), uterine atony (2 patients), Chorioamnionitis (1patient) were noted in group I, while in group II no complications were noted. The most common indication of Caesarean section in group I and II was fetal distress, followed by failure of induction of labour.

Discussion

It is well known that the successful induction of labour is related to cervical ripeness. Compared with spontaneous onset of labour, elective induction of labour in primigravida at term with an unfavourable Bishop score is associated with an increased risk of caesarean delivery. When a pregnant woman crosses her EDD the patient becomes anxious and the obstetrician keeps her finger crossed. Problem with Pregnancy that cross EDD are the mothers are anxious and fear danger for fetus, there is increased risk of post maturity, fetal distress, MSL, Meconium aspiration syndrome. While induction of labour may be associated with PPH, instrumental delivery, blood transfusion, increased hospital stay.

Successful IOL is related to cervical ripeness compared to spontaneous onset of labour. So IOL optimally in otherwise uncomplicated pregnancies at 41 weeks is associated with reduced maternal

morbidity and no adverse effect on perinatal outcome.

Conclusion

Our study suggests that induction of labour should be reserved for cases where maternal and perinatal benefits outweigh the complications. Elective induction of labour with unfavourable cervix should be discouraged and waiting till 41 weeks with proper feto-maternal surveillance and then inducing has been seen to improve maternal and fetal outcome.

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