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Original Research Article

Prelabour rupture of membranes at term: Expectant Management vs Induction of labour

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Abstract: Prelabour rupture of membranes is defined as rupture of membranes before labour and occurs in 0.8% of all pregnancies at term. This study was conducted at Government Maternity hospital, Sultanbazar, Hyderabad from April 2015 to December 2015 over a period of 8 months on a total of 120 term PROM women to compare maternal, fetal outcome and Caesarean section rates with expectant management and induction of labour. 60 were managed conservatively and 60 were induced labour. After confirming leakage of membranes, patients were randomly assigned to expectant or induced group. Patients in conservative group were observed to await onset of labour pains for at least 24 hours. Patients in induction group were induced with either PGE1 (misoprotol) 25 mcg four hourly orally or I.V. oxytocin infusion. PROM delivery interval <12 hours in 68.3% in induced group and 10% in expectant group. LSCS rate is 11.7% in expectant group, 15% in induced group. Increase in sepsis rate and hospital stay was noted in expectant group. This study concludes that immediate labour induction in term PROM shortens delivery interval, hospital stay, and reduction of sepsis.
Keywords: Term PROM, Induction of labour, expectant management

INTRODUCTION:

Normal labour is a process that leads to childbirth. It begins with onset of regular uterine contractions and ends with delivery of newborn and expulsion of placenta [1]. PROM is the rupture or loss of integrity of fetal membranes before onset of labour and resulting leakage of amniotic fluid [2, 3]. Membrane rupture without spontaneous uterine contractions complicates approximately 10% of all pregnancies of which 80% occur at term [4]. The management of PROM at term is still a matter of debate. While induction of labour has resulted in decreased incidence of sepsis, it is associated with higher Caesarean section rate due to fetal distress and hyper stimulation. Furthermore, it resulted in greater maternal satisfaction. Kappy *et al.;* reported excess caesarean deliveries in term pregnancies with ruptured membranes managed with labour stimulation compared with those expectantly managed [5] .Approximately 60-70% of term PROM cases are followed by spontaneous onset of labour within 24 hours [6]. Induction of labour with unfavourable cervix remains a challenge. However, with the advent of prostaglandins for the past 15 years, PGE2 and PGE1 cause cervical ripening and myometrial stimulation. Patients in expectant group with prolonged hospitalisation without active intervention with uncertain fetal and neonatal prognosis leads psychological sequelae [7].

MATERIALS AND METHODS:

The study was conducted over a period of 8 months on term PROM women as per following selection criteria:

Inclusion criteria:

1. Gestation 37-40 weeks
2. Age 20-30 years
3. Singleton pregnancy
4. Adequate pelvis
5. Vertex presentation

Exclusion criteria:

1. Age <20 , >30 years
2. Gestation <37 , >40 weeks
3. Multiple pregnancy
4. Chorioamnionitis
5. Medical disorders
6. Obstetric complications
7. Grandmultipara

8. Meconium stained liquor
9. Previous LSCS
10. Cephalopelvic disproportion
11. Malpresentation

After proper history taking, a thorough general and systemic examination was done to exclude exclusion criteria. A detailed obstetric examination, including speculum examination, Bishop scoring was done. An ultrasound and CTG performed. All patients received I.V. antibiotics of 1 gm cefotaxime, 100ml metronidazole till delivery. After informed consent, patients randomly assigned to either active or expectant management.

Patients assigned to active management were induced according to Bishop's score. PGE1 (misoprotol) 25 mcg given orally if Bishop's score is <5, followed by repeat PGE1 after 4 hours or I.V. oxytocin. If Bishops's score is >6 , I.V. oxytocin is started at 5 units in 500 ml Ringer Lactate /Normal Saline for primigravidas and 1 or 2 units for multigravidas , and the drip titrated till optimal response is seen. These patients were monitored for temperature, pulse rate, fetal heart rate, uterine contractions, and descent of fetal head.

Patients in expectant group were kept for observation with a fresh pad for 24 hours to await onset of labour pains. Temperature , pulse rate , uterine contractions , fetal heart rate , colour of liquor was monitored .Unnecessary vaginal examination was avoided and done only if uterine contractions were good , to decide progress of labour . In this group, many patients went into labour within 24 hours. Induction of labour was done after 24 hours if there were no uterine contractions. Emergency LSCS was done for fetal distress, non progress of labour, failed induction, chorioamnionitis.

Mode of delivery was noted as normal delivery, ventouse/ forceps, LSCS. Baby was evaluated for Apgar score, birth weight. Patients were followed up in puerperium to assess maternal pyrexia and neonatal sepsis.

RESULTS:

Table 1: Parity distribution

	Expectant management		Induced	
	Number	%age	number	%age
Primi	27	45%	32	53.3%
Multi	33	55%	28	46.7%

Table 2: Comparison of mode of delivery

	Expectant		Induced	
	Number	%age	number	%age
Vaginal delivery	50	83.3%	46	76.7%
Ventose/outlet forceps	3	5%	5	8.3%
LSCS	7	11.7%	9	15%

Table 3: PROM delivery interval

	Expectant		Induced	
	number	%age	number	% age
<12 hours	6	10%	41	68.3%
12-24 hours	38	63.3%	15	25%
>24 hours	16	26.7%	4	6.7%

Table 4: Comparison of maternal morbidity

	Expectant		Induced	
	number	% age	number	%age
Fever	3	5%	2	3.3%
PPH	4	6.7%	6	10%
Nil	53	83.3%	52	86.7%

Table 5: Comparison of neonatal outcome

Birth asphyxia	Expectant		Induced	
	number	% age	number	%age
Mild : Apgar <7	12	20%	9	15%
Severe : Apgar <5	4	6.6%	5	8.3%
Sepsis	1	11.7%	0	0%
Stillbirth/early neonatal death	0	0%	0	0%
Nil complications	43	71.7%	46	76.7%

DISCUSSION:

The women in this study in both groups were comparable with respect to mean maternal age, gestational age, parity, educational status, socioeconomic status. Therefore differences in outcome are primarily due to different management plans and not due to demographic differences. In our study, vaginal delivery occurred in 88.3 % in expectant management group as compared to 85% in active management group. So LSCS rate is 11.7% in expectant group, 15% in active group. In a study by Shanti et al (Tirupati), the LSCS rate is 5.7 % in expectant group compared to 12% in active group [8].

In the present study intrapartum pyrexia was 3.3% in induced group and 5% in expectant group as compared to a study by Sumaira Yasmin *et al.;* (Peshawar) which was 2-4% in induced group and 16% in expectant group [9]. In the present study PPH was seen in 6.7% of expectant group and 10% in induced group. This may be because; induction of labour has a higher incidence of PPH.

In the present study the PROM delivery interval was more than 24 hours in 6.7% in induced group as compared to 26.7% in expectant group. In a study by Shah Krupa *et al.;* (Udipi) it was 12% in induced group compared to 22% in expectant group [3].

In the present study, severe birth asphyxia requiring resuscitation was 6.6% in expectant group compared to 8.3% in induced group. Neonatal sepsis was noted in 11.7% in expectant group, none in induced group. This is because of prolonged PROM delivery interval in expectant group. No stillbirths or early neonatal deaths were noted in either group.

The benefit of active management in cases of PROM at term has shown to reduce latency and better maternal satisfaction [7]. This reduces neonatal and maternal infection without much increase in LSCS rate. It is very clear that nearly 73% of term PROM enter labour without induction within 24 hours. The method of induction, whether misoprostol or oxytocin depends on cervical findings/Bishop's score.

CONCLUSION:

In this study, the PROM-delivery interval was shortened in induced group and has more maternal satisfaction. The expectant group had more maternal and neonatal sepsis, were in hospital for longer time , increasing anxiety of both mother and clinician. The LSCS rates were only marginally increased in induced group :15% compared to 11.7% in expectant group .

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