



ACTIVE VERSUS EXPECTANT MANAGEMENT OF PROM AT TERM

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ABSTRACT

Premature rupture of membranes (PROM) refers to the loss of integrity of membranes before onset of labor, with resulting leakage of amniotic fluid and establishment of communication between the amniotic cavity and the endocervical canal and vagina. In spite of many studies available in the literature, the clinical management is surprisingly controversial. The aim of the study was to compare the fetal and maternal outcomes of actively managed and expectantly managed term PROM.

Methods: In this observational study we included 200 women with diagnosed prelabour rupture of membranes. All women had gestational age >36 weeks and <40 weeks with singleton pregnancy and vertex presentation. Study excluded all patients with previous uterine scar or with any medical or surgical disorder. They were randomly divided in two groups with 100 women each: Group A which was induced with PGE1 or oxytocin depending on their cervical score and Group B which was managed expectantly and late induction after 24 hours was done. Both the groups were given intravenous antibiotics. They were evaluated on the basis of fetal and maternal outcomes.

Results: In this study we found that 96 women who were managed expectantly went in labour within 24 hours of PROM. But PROM to delivery interval was longer in expectantly managed as compared to actively managed or induced group. Rate of cesarean was more in induced group but was statistically insignificant when compared in both the groups. So was NICU admission more in expectant group but was statistically insignificant when compared in both the groups.

Conclusions: Expectant management can be done in patients with PROM to reduce the cesarean rate with proper antibiotic prophylaxis. There was no significant difference in maternal and fetal outcomes of both the management.

KEYWORDS :**INTRODUCTION:**

Premature or Prelabour Rupture Of Membranes is classically defined as the rupture of integrity of the fetal membranes before the onset of labour and resulting in leakage of amniotic fluid .

PROM occurs in approximately 5–10 % of all pregnancies, of which approximately 80 % occur at term. Pre-labour rupture of membranes without spontaneous uterine contractions complicate approximately 10 % of all pregnancies, out of which 80 % occurs at term.

PROM occurs when intrauterine pressure overcomes membrane resistance. This happens as a result of weakening of membrane either congenital or acquired (smoking and vitamin C deficiency), or because of damaging factors, either mechanical (amniocentesis or amnioscopy) or physical-chemical damage by infection (Trichomonas group B Streptococci, bacterial vaginosis, etc.).

Failure of mechanical support such as cervical dilatation can lead to PROM, favoring bacterial contamination as well.

While induction of labour has resulted in decreased incidence of maternal & fetal sepsis, but it is also associated with a higher incidence of caesarean section rate due to fetal distress and uterine hyperstimulation. Many complications like prolonged labor, dry labor, chorioamnionitis, congenital pneumonia, neonatal infection, and even death of neonate might occur.

PROM can be diagnosed by direct methods as well as indirect methods. Direct method includes observation of pooled amniotic fluid deep in vagina with the help of speculum, indirect methods include assessment of ferning of sample collected from posterior fornix under the microscope or testing of pH of similarly collected sample by Nitrazine Paper.

The major question regarding management of these patients is whether to allow them to enter labor spontaneously or to induce labor as there is a major maternal risk of intrauterine

infection which is a most serious complication associated with PROM for the mother and the neonate. The risk of chorioamnionitis with PROM has been reported to be less than 10 per cent and to increase to 24 per cent after 24 hours of PROM

The management of PROM still remains a dilemma, so the present study is aimed to compare the maternal and perinatal outcome of early induction versus expectant management in women with PROM at term gestation.

AIM AND OBJECTIVES:

- To study the effect of expectant management on fetal maternal outcomes in PROM
- To study the effect of active management on fetal maternal outcomes in PROM
- To study and compare the effect of fetal-maternal outcome in expectant and active management of prom.

MATERIALS AND METHODS :

The study was conducted at the department of Obstetrics and Gynecology Rohilkhand medical college and Hospital, Bareilly over a period of 12 months. 200 Patients with diagnosis of pre labor rupture of membranes with term gestation (37-40) weeks having PROM irrespective of gravidity and parity.

Inclusion Criteria

- Women at term gestation (37 - 40) weeks having
- Singleton Pregnancy
- Pregnancy with Vertex Presentation

Exclusion Criteria

- Women less than 37 Weeks of gestation and more than 41 Weeks of gestation.
- Women with medical disorders
- Women with obstetric high risk factors like Diabetes, Pregnancy induced hypertension, heart disease complicating pregnancy, Antepartum hemorrhage etc.
- Women with congenital anomalous fetus, abnormal presentation, intra uterine death and previous uterine

scar

- Women did not give consent to participate in the study
- Women with sign and symptoms of chorioamnionitis, leucocytosis, fever more than 100° F at the time of admission
- Women with meconium stained liquor, fetal distress or non reassuring CTG at the time of admission

The Ethical committee clearance was taken before initiation of the study. All term pregnant women reporting with complaints of watery vaginal discharge, fulfilling above inclusion criteria were included in the study. An informed written consent was taken. All the information and results were recorded in the predesigned proforma. Detailed history was taken and clinical examination done. Demographic information, height and weight were recorded to calculate the body mass index.

Speculum examination with all aseptic precautions was done to observe for pooling of liquor. Vaginal examination was done to know the length, dilatation and effacement of the cervix and station of presenting part. Bishop scoring was done. Gestational age was determined from last menstrual period (LMP) and/or early ultrasonography. An obstetric ultrasonography was done for gestational age, presentation of baby, any congenital anomaly and baby weight, placental grading, amniotic fluid index.

Blood sample was collected for complete blood counts and Rh typing and other routine investigations.

Active management (Group A)

- After initial assessment, in the immediate induction group labor was induced with oral misoprostol 25 mcg 4th hourly maximum upto 5 doses. Depending on progress of labor, augmented with oxytocin drip if required.
- Patient were monitored for any hyperstimulation or tachysystole or hypertonus associated with fetal distress.
- Labor induction was considered successful, if women delivered within 24 hours of initiating induction method or if there was a definite change in cervical score after hours of induction.
- Any surgical intervention and cause for it was evaluated. Any complication arising during induction, labor or after delivery was noted.
- Maternal and fetal monitoring was done by using partographs.
- Immediate fetal outcome was monitored by the help of APGAR score.

Expectant management (Group B)

- Patients was kept under constant supervision. Maternal pulse, B.P and temperature was recorded 4th hourly. Patients were particularly observed for symptoms and signs of chorioamnionitis.
- No unnecessary P/V examinations was carried out. P/V whenever required was done maintaining strict aseptic measures.
- If patient fails to go into labor within 12 hours, re-assessment of cervical findings was done and labor was augmented with oxytocin or induced with oral misoprostol 25 mcg depending on Bishop score.

The outcomes of this study was

Maternal outcome

- Time to onset of active labour
- Duration of labour
- Development of chorioamnionitis
- Presence of meconium stained liquor
- Spontaneous vaginal delivery
- Operative vaginal delivery
- Caesarean section.

Neonatal outcome

- Apgar score
- Resuscitation with oxygen
- Ventilation after initial resuscitation
- Stay in nursery ICU if required
- Neonatal infection.

RESULT:

Out of the two hundred, 100 subjects were induced with misoprostol (Group A) and 100 were managed expectantly (Group B).

The subjects were similar with respect to mean age, parity and estimated gestational age at entry.

At the time of induction the mean bishop score of Group A was 3.5 ± 4.9 and mean value of group-B was 3 ± 5.4 .

The induction to labour interval was significantly shorter in the misoprostol group with P-value = 7.81 (Table-I).

Percentage of cases delivered within 12 hours in group-A was 96.67% while in group-B, it was 83.33%. However, percentage of cases delivered between 12 to 24 hours of induction in group-A was 3.33% while in group-B, it was 13.33%. Only one case of Expectant management was delivered after 24 hours i.e., 3.34%.

There was no statistically significant difference in the duration of labour of both groups (Table-II).

In group-A, rate of normal vaginal delivery was found to be 86.67%, while in group-B, it was 73.33%.

Instrumental delivery rate was 3.33% in group-A and 10% in group-B. In group-A, rate of Cesarean section was 10% and in group-B 16.67%.

The chi-square test indicates that there is no significant difference in mode of delivery between two groups (Table III). Regarding indications for caesarean sections, there were 3 patients with indication of fetal distress in group A while 2 patients in group B. No case of non-progress of labour in group A and 2 cases in group B. There was one case of failed induction in group-A.

No case of prolonged labour, hyperstimulation of uterus and antepartum haemorrhage (APH) was noted in either group.

Fever was noted in 3.33% cases of Group A and in 10% of Group B. Tachysystole was noted in 6.67% of Group A and in 10% of Group B. No Case of postpartum haemorrhage (PPH) was found in Group A while it occurred in 3.33% cases of Group B. No complication observed in 90% cases of Group A and 76.66% of Group B so there was a significant difference regarding maternal complications between two groups.

Passage of meconium was 10% in Group A and 16.66% in Group B. There was no significant difference in passage of meconium in both groups.

Out of 100 babies of mothers induced with misoprostol, 20 had Apgar Score of 6-7 after 5 minutes and 80 had Apgar Score of 8-9, while 14 babies of mothers with expectant management, had Apgar Score of 6-7 and 86 had 8-9 (Table IV). There was no significant difference between two groups as far as Apgar Score at 5 minutes is concerned.

In group A 13.37% neonates were admitted to ICU and in group-B, the rate was 20%. The chi-square test indicates no significant difference in both groups with respect to admission to ICU at 5% level of significance (Table-V). There was no

statistically significant difference in fetal and neonatal complications between two groups (Table-VI). Out of 100 cases induced with misoprostol tablet, 27(27%) needed augmentation with syntocinon, where as 2nd dose of misoprostol tablet was needed after 6 hours in 23 patients.

Table I: Induction to Labour Interval (n=200)

DURATION(HRS)	GROUP A	GROUP B
≤5	97	67
6-10	3	27
11-15	0	3
>15	0	3

Table II: Duration of labour(n=200)

DURATION OF LABOUR(HRS)	GROUP A	GROUP B
1-12	97	83
13-24	3	13
>24	0	4

Table III Mode of Delivery between Two Groups (n=200)

MODE OF INDUCTION	MODE OF DELIVERY		
	NORMAL VAGINAL	INSTRUMENTAL	C-SECTION
GROUP A	87	3	10
GROUP B	73	10	17

Table IV Distribution of cases b ApgarScore at 5 times (n=200)

APGAR SCORE	GROUP A	GROUP B
4-5	0	0
6-7	20	14
8-9	80	86

Table V Admission of Neonate to ICU

MODE OF INDUCTION	ADMISSION TO NICU	
	YES	NO
GROUP A	13	87
GROUP B	20	80

Table VI: Fetal and Neonatal complications observed in two groups(n=200)

MODE OF INDUCTION	FETAL AND NEONATAL COMPLICATIONS			
	FETAL DISTRESS	NEONATAL JAUNDICE	NEONATAL SEPSIS	NONE
GROUP A	10	7	3	80
GROUP B	7	3	10	80

DISCUSSION:

The benefit of active management in cases with PROM at term has been shown to reduce latency following development of PROM. This is beneficial in terms of reduction of maternal [5] and neonatal infection without much fear of increase in LSCS incidence due to labor induction. It is very clear that nearly 70 % of patients with PROM enter in labor within 24 h of expectant management.

In our study, the women in both the Group A (expectant management group) and Group-B (Induced group) were comparable with respect to mean maternal age, gestational age, parity, educational status, socio-economic background, urban-rural distribution. Since their socio-demographic profile was similar, therefore, any difference in outcome in these two groups was primarily due to different management protocols and not due to demographic differences. In our study we observed that vaginal delivery occurred in 87 of Group A and 73 in Group-B (Induced) patients. A study by Shanti K et al. stated LSCS rate as 5.7% in the expected group as compared to 12% in active group . In another study by Suneela K there were 88.3% vaginal delivery in expectant group and 85.0% in active management group i.e. 11.7% LSCS rate in expectant group and 15% in induced group .

CONCLUSION:

Immediate induction of labour in cases of PROM at term using oral misoprostol resulted in shorter induction delivery interval and hospital stay. Maternal morbidity and neonatal morbidity was comparable with induction and expectant line of management. It is concluded that immediate induction is better than expectant management. With active management many patients delivered vaginally within 24 hours without increase in the Caesarean section rate and it decreased the need for oxytocin augmentation. Oral misoprostol in a dose of 25 µg was effective and safe for induction, as there were no major maternal and neonatal drug related complications.

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