



Fetomaternal Outcomes in Premature Rupture of Membranes at Term: A Case Control Study

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Abstract

Background: Premature rupture of membranes (PROM) also known as pre-labor rupture of membranes (PROM) is defined as spontaneous rupture of the membranes any time beyond 28th week of pregnancy but before the onset of labor.

Methods: 200 patients who entered labour room at term with PROM were taken as cases and those with intact membranes as controls. Investigations are sent, and prophylactic antibiotics were given. Progress of labour, PROM delivery interval, method of induction, mode of delivery along with maternal and fetal outcomes, total duration of hospital stay was noted and compared with controls.

Results: 12% pyrexial fever, 4% chorioamnionitis and 3% wound infection and 2% accounted to UTI in our study. In our study out of 100 cases studies, 24% accounted for respiratory distress syndrome, 15% septicemia in study group. while conjunctivitis, neonatal jaundice (hyperbilirubinemia) and intraventricular hemorrhage accounted for 2%, 3% and 2% each.

Conclusion: From the above study, it can be concluded that PROM can be associated with poor fetomaternal

outcome. Early diagnosis and prompt management is required for better outcome of mother and baby.

Keywords: Chorioamnionitis, Maternal and perinatal morbidity, PROM.

Introduction

Premature rupture of membranes (PROM) also known as pre-labor rupture of membranes (PROM) is defined as spontaneous rupture of the membranes any time beyond 28th week of pregnancy but before the onset of labor. When rupture of membranes occur beyond 37th week but before the onset of labor it is called term PROM and when it occurs before 37 completed weeks, it is called preterm PROM (PPROM)¹ The “latent period” is the interval between membrane rupture and the onset of active labour.² The incidence of PROM is about 10% of all pregnancies and 70% of them occur at term.³ At term, the onset of labour occurs within 24 hours after membrane rupture in 80% to 90% of patients. Among patients with PROM prior to term, latent periods occur longer. Latent periods of more than 24 hours occur in 57% to 83%, of more than 72 hours in 15% to 26%, and of 7 days or more in 19% to 41%. There is an inverse relationship between gestational age and the proportion of patients with latent periods longer than 3 days. For pregnancies between 25 and 32

weeks, 33% had latent periods longer than 3 days, whereas for pregnancies of 33 to 34 and 35 to 36 weeks, the corresponding values were 16% and 4.5%, respectively.⁴

Patient with PROM presents with leakage of uid, vaginal discharge and pelvic pressure, but they are not having contraction. During the latency period, the ascent of pathogenic microorganisms from the lower genital area could create complications such as intrauterine 4-8 infections. Since PROM is associated with lower latency from membrane rupture until delivery, it is an important cause of perinatal morbidity and mortality, including respiratory distress syndrome, neonatal sepsis, umbilical cord prolapse, placental abruption, and foetal ⁵

Material and methods

This was a prospective case control study conducted on 200 patients who entered labour room of medical college Hospital, Bhilwara with history of leaking P/V as cases and patients with intact membranes were taken as their controls. All women are counselled about the study and informed written consent is obtained.

Inclusion criteria

- Gestational age > 37 weeks confirmed by dates, clinical examination and ultrasound.
- Lack of uterine contractions for atleast 1 hour from PROM
- Cervical dilatation 3cms
- Single live pregnancy in vertex presentation
- PROM confirmed by
- Direct visualization
- Fern test whenever required.

Exclusion criteria

- Gestational age 3cms
- Previous caesarean section
- Malpresentation/multiple gestation
- Meconium stained liquor

- Contracted pelvis/Cephalopelvic disproportion

The study variables were age, booked/unbooked status, address, occupation, socio-economic status, literacy, ABO/Rh, serology, mode of delivery, indication of LSCS, weight of baby, Apgar score, NICU admission, sex of baby, neonatal morbidity, neonatal mortality, congenital abnormalities, presence of fever, PPH, maternal mortality etc. Data was collected after obtaining consent from the patient. All the cases in the study group were subjected to a complete obstetrical work-up including history, general physical examination and systemic examination and relevant laboratory investigations. The observation of the study was recorded in Microsoft excel 2007 and the data were analyzed using SSPS software version ver. 21.0 and described using mean and percentages.

Results

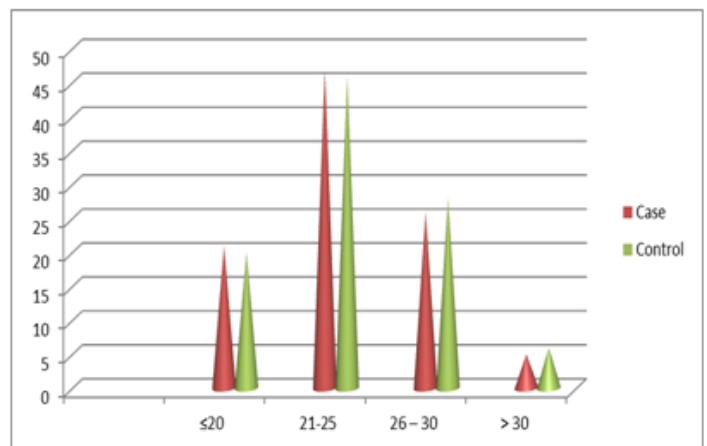


Figure 1: Age wise distribution

Table-1: Risk factors for PROM

Risk factor	Case	Control	p-value
Unknown	71	0	0.001
History of recent coitus	5	2	$\chi^2=9.32$
Previous history of PROM	10	3	df=4
Polyhydraminos	9	4	
UTI	4	1	

(P = 0.001 , Highly Significant)

Table-2: Type of delivery wise distribution

Mode of delivery	Case	Control	p-value
Vaginal delivery	67	78	0.023
LSCS delivery	33	22	$\chi^2=8.36$
Total	100	100	df=1

(P =0.023 , Significant)

Table-3: Maternal morbidity

Maternal morbidity	Case	Control	p-value
Chorioamnionitis	4	0	0.001
Puerperal fever	12	3	$\chi^2=9.37$
Wound infection	3	1	df=3
UTI	2	0	
Total	21	4	

(P = 0.001 , Highly Significant)

Table-4: Neonatal morbidity

Neonatal morbidity	Case	Control	p-value
Respiratory distress syndrome	24	6	0.001
Septicemia and Pneumonia	12	0	$\chi^2=9.80$
Jaundice	3	3	df=4
Conjunctivitis	2	0	
Intraventricular hemorrhage	2	0	

(P = 0.001 , Highly Significant)

Discussion

Premature rupture of membranes is fairly a common complication of pregnancy and can lead to increased maternal complications, operative procedures, neonatal morbidity and mortality. The present study was undertaken to identify risk factors causing PROM and to study labor outcome, maternal morbidity and perinatal morbidity and mortality associated with PROM.

In our study shows that out of 100 patients 47% were from 21-25 Yrs age group, 26% were from 26-30 Yrs age group, 21% were from ≤ 20 Yrs age group and 5% were from more than 30Yrs age group.

These findings correlated with study of Umaid et al⁶ who found that 40.33% of 300 cases of PROM belong to age group between 21- 25 years.

12% pyrexial fever, 4% chorioamnionitis and 3% wound infection and 2% accounted to UTI in our study.

Devi A et al.⁷ found that 1.7% of his patients developed fever within 24 hours of PROM, 18.6% after 48 hours.

In our study out of 100 cases studied, 24% accounted for respiratory distress syndrome, 15% septicemia in study group. while conjunctivitis, neonatal jaundice (hyperbilirubinemia) and intraventricular hemorrhage accounted for 2%, 3% and 2% each.

Lieman J M et al,2005⁸ was observed that composite neonatal minor morbidity such as hyperbilirubinaemia and transient tachypnoea of the newborn was significantly higher among pregnancies delivered at 34 weeks of gestation or less compared with those delivered at 36 weeks. Composite major neonatal morbidity including respiratory distress syndrome and intraventricular haemorrhage was not significantly different.

Conclusion

From the above study, it can be concluded that PROM can be associated with poor fetomaternal outcome. Early diagnosis and prompt management is required for better outcome of mother and baby.

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