



FETOMATERNAL OUTCOMES IN PREMATURE RUPTURE OF MEMBRANES AT TERM: A CASE CONTROL STUDY

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Conflicts of Interest: Nil

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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: 100 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: In our study out of 100 cases studies, 22% accounted for respiratory distress syndrome, 13% 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 is an enigmatic condition associated with high risk of maternal and perinatal morbidity and mortality and has management strategies that are often diverse and controversial. Premature rupture of membranes is defined as spontaneous rupture of fetal membranes beyond 28 weeks of pregnancy but before the onset of uterine contractions.¹ It occurs in approximately 10% of all pregnancies and in 70% of the cases it occurs in pregnancies at term.^{1,2} Premature rupture of membranes results from accelerated membrane weakening by various factors through an increase in local

cytokines and an imbalance between MMPs and TIMPs, increased protease and collagenase activity and factors that cause increased intrauterine pressure.³ Although vaginal GBS colonization does not appear to be associated with PROM, GBS bacteruria has been associated with preterm PROM and low birth weight infants.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 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 foetal⁵

Material and Methods:

This was a prospective case control study conducted on 100 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:

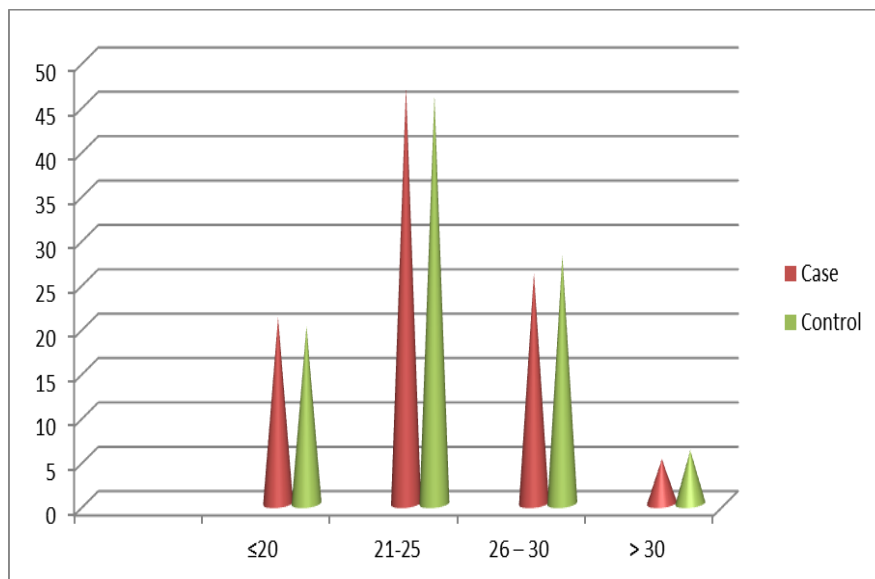


Figure 1: age wise distribution

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.

Table1: 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	65	74	0.021
LSCS delivery	35	26	$\chi^2=7.34$
Total	100	100	df=1

(P =0.021, 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)

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

Table 4: Neonatal morbidity

Neonatal morbidity	Case	Control	p-value
Respiratory distress syndrome	22	7	0.001
Septicemia and Pneumonia	13	0	$\chi^2=9.80$
Jaundice	2	3	df=4
Conjunctivitis	3	0	
Intraventricular hemorrhage	2	0	

(P = 0.001, Highly Significant)

In our study out of 100 cases studied, 22% accounted for respiratory distress syndrome, 13% septicemia in study group. while conjunctivitis, neonatal jaundice (hyperbilirubinemia) and intraventricular hemorrhage accounted for 2%, 3% and 2% each.

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 t et al⁶ who found that 40.33% of 300 cases of PROM belong to age group between 21- 25 years.

12% puerperal 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 studies, 22% accounted for respiratory distress syndrome, 13% 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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