



MATERNAL AND FETAL OUTCOME IN TERM PROM- A CASE CONTROL STUDY

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ABSTRACT **Introduction** For a pregnancy to proceed normally and to have a healthy result, the foetal 'membranes' proper growth, structural integrity, and function are crucial. Foetal membranes, however, fail to maintain their structural integrity in 10% of term pregnancies, leading to prelabor rupture and, in 95–98% of instances, precipitating labour within 48 hours. Objectives and goals Sociodemographic factors, mother health, and foetal outcome in term PROM are all studied. Method of study THIS PROSPECTIVE CASE CONTROL STUDY in pregnant patients with leaking P/V after 37 weeks of pregnancy as cases and patients with intact membranes after 37 weeks of pregnancy in labour taken as controls. **Result** High incidence of PROM seen in lower Socioeconomic group. Majority of the women in study group were primigravida, who ranged in age from 21 to 25. Most common known preceding event for PROM was lack of personal hygiene. Rate of LSCS is more in cases as compared to controls. Maternal morbidity was seen more in cases. Puerperal sepsis being the commonest cause. 25% of cases had perinatal mortality. Respiratory distress was the most typical reason for perinatal morbidity. Rate of perinatal death was noted in 4%. **Conclusion** Women with lower socioeconomic level are more likely to experience PROM linked with increased risk of maternal and perinatal death.

KEYWORDS : Case control study, LSCS, Socioeconomic**Introduction**

Premature rupture of membrane (PROM)[1] is the term for the rupture of the foetal membranes before to the onset of labour, which causes a spontaneous flow of amniotic fluid. Preterm PROM is described as occurring before 37 weeks of gestation, whereas term PROM is defined as occurring beyond 37 weeks of gestation. Significant morbidity and mortality among pregnant women and fetuses are associated with PROM. To prevent maternal and foetal morbidity and mortality, early risk factor identification and therapy of term PROM are strongly recommended. Consequently, the current study is being conducted to examine the maternal and perinatal outcome of term pregnancy.

Aims and objectives

To investigate sociodemographic factors, maternal health, and foetal development during term PROM.

Materials and methods

In this prospective case control research, pregnant patients with a history of leaking P/V after 37 weeks of pregnancy served as the cases, and patients in labour with intact membranes after 37 weeks of pregnancy served as the controls. All of the women received counselling regarding the study, and formal informed consent was acquired.

Inclusion criteria having Gestational age 37 weeks with lack of uterine contractions for 1 hour from PROM, cervical dilatation <3cms and single live pregnancy in cephalic presentation.

Exclusion criteria were Gestational age <37 weeks with women in labour or uterine contractions <1 hour of rupture of membranes, cervical dilatation >3cms, previous caesarean section, malpresentation/multiple gestation, meconium stained liquor, abnormal CTG on admission and contracted pelvis/Cephalopelvic disproportion.

Result and observation

The study group was split into two groups: Group 1 included cases with PROM. Patients in Group 2 who don't have PROM serve as controls.

Table 1 shows distribution of patients according to sociodemographic Parameters

Sociodemographic Parameters	Group one	Group two	P value
age in years on average	21.09 ± 4.84	26.45 ± 3.21	0.034 (Significant)

Gravida	Primi- 46	Primi-29	0.024 (Significant)
	Multi- 54	Multi-71	
ANC status	Booked- 41	Booked- 57	0.0001 (significant)
	Unbooked- 59	Unbooked- 43	
Educational	Illiterate- 26	Illiterate- 1	0.0001 (Significant)
	Higher- 26	Higher- 35	0.0001 (Significant)
Socioeconomic status	6	7	
Upper Middle			
Lower Middle	13	30	
Upper lower	35	44	
Lower	46	19	

Table 1 shows mean age group in group 1 were 21+ .4 years and in group 2 mean age were 26+ .3 years. 46% in group 1 & 29% in group 2 belonged to primigravida & 54% in group 1 & 71% group 2 belonged to multigravida. In the group 1 majority of them were unbooked patients i.e 59 were unbooked and 41 were booked while in group 2 majority of them were booked i.e. 57 and 43 patients were unbooked. Among the group 1, 26% were illiterates and 26% studied up to higher education. In group 2, 1% were illiterate and 35% studied up to higher education. In group 1 majority of them were in the lower socio economic group comprising of 46 candidates as compared to 19 in group 2.

Table 2 shows risk factors associated with PROM

Risk Factors associated with PROM	Frequency	Percentage
Lack of general hygiene	25	25
Previous induced abortion, previous PROM or preterm labour	10	10
Sexual intercourse	9	9
Maternal malnutrition/ low BMI	8	8
Genitourinary infection	6	6
Tobacco consumption, smoking & caffeine	1	1
Diagnostic procedure like amniocentesis	1	1
Unknown	40	40

Table 2 shows risk factors associated with PROM in decreasing order of their frequency were lack of general hygiene (25%), previous history of abortion, preterm labour or PROM (10%), history of sexual intercourse (9%), maternal malnutrition (8%), genitourinary infection (6%) and tobacco consumption and diagnostic procedure 1% each contributing to 2%.

Table 3 shows patient distribution by delivery method

Delivery method	Group 1	Group 2	P value
Normal vaginal delivery	52	84	0.0001 (significant)
Caesarean section	45	13	
Instrumental	3	3	

Table 3 shows that in group 1, 45 patients underwent caesarean section as compared to 13 patients in group 2. There were an equal incidence of instrumental deliveries in both the group i.e. 3 patients each.

Table 4: Distribution of babies based on the foetal outcome

Outcome		Group one	Group two	P value
Apgar score in one minute	4-7	35	8	0.0001 significant
	8-10	65	92	
Apgar score in five minute	4-7	20	6	0.003 significant
	8-10	80	94	
Respiratory distress	14	2		0.002 significant
Neonatal sepsis	6	1		
Early neonatal death	4	2		
Neonatal Jaundice	1	0		
Healthy	75	95		

At one minute, 8 babies in group 2 and 35 babies in group 1 each had an APGAR score ranging from 4 to 7. 65 infants in group 1 and 92 infants in group 2 each had an APGAR score between 8 and 10. At five minutes, 20 infants in group 1 and six in group 2 had APGAR scores ranging from 4 to 7. 80 infants in group 1 and 94 in group 2 each had an APGAR score of 8 to 10. Nearly 85% of newborns in group 1 and 95% of newborns in group 2 were healthy. Respiratory distress syndrome affected 14% of those in group 1 and 2% of those in group 2. 10% in group 1 and 1% in group 2 both experienced septicemia of group 1 infants experienced newborn jaundice. 4% of the sample had neonatal death.

Table 5 shows patient distribution by maternal outcome

Outcome of the Mother	Group one	Group two	P value
Wound infection	4	3	0.7 (Non significant)
Subinvolution of uterus	8	1	0.017 (significant)
Requirement of higher antibiotics	23	4	0.0001 (significant)
Puerperal sepsis	12	1	0.002 (significant)
Chorioamnionitis	3	0	0.081 (Non significant)
Mean duration of hospital stay in days	6.97	2.72	0.04 (Significant)

Table 5 shows distribution of patients according to maternal outcome in both the groups. It was found that in group one in comparison of group two more patients had subinvolution of uterus i.e. 8 patients with requirement of higher antibiotics in 23 patients, puerperal sepsis and chorioamnionitis were seen in 12 and 3 patients respectively. Hence mean duration of hospital stay were 6.97 days as compared to 2.72 days in group 2.

Discussion

In our study comprising of total participants, Group 1 had a mean age group of 21+ 4 years and in group 2 had mean age of 26+ 3 years which is comparable to the study conducted by Suprajan Shetty[2] While the controls were on average 26.6 years old, the PROM group's mean age was 27.4 years. Monira Jamal[3] in their study found Six percent patients were illiterate. Number of illiterates present in case were higher as compared to control group. In our study the majority of the women 81 in group 1 were from the low socioeconomic class (IV

and V). Amulya et al (2019) [4] in their study reported 80% of the cases falling in low socio economic category which is comparable to our study. In our research, we discovered that 59% of all cases and 43% of all controls were unbooked when they arrived at our hospital. Our results agreed with Anjana Devi's research [5]. In the PROM group, 59% of reservations were not made, compared to 47% in the control group. More primigravida individuals with PROM were found among all participants, which is consistent to Anjana Devi's study [5]. 37% of women had many pregnancies, whereas 63% had just one. In 2002, Singhal P. [6] The main risk variables were genital tract infections (17%), malpresentations (14%) and recent coitus (10%). In our study, poor personal cleanliness came in second place behind a history of abortion/PROM, etc. as a risk factor. According to Swati Pandey's (7) study, 12% of the control group underwent a caesarean section, compared to 31% of the study group. In studies by Anjana Devi (5) and Singhal (49%), which were comparable to our study, there were more patients delivered via caesarean section in group 1. In the participants of our study, it was found that 95% of neonates in group 2 and 75% of neonates in group 1 had healthy perinatal outcomes. Babies were admitted to the NICU in 27% of babies in group 1 and just 8% of babies in group 2. In group 1, respiratory distress accounted for 14% of all perinatal morbidities, followed by neonatal sepsis (6) and newborn jaundice (1%). In group 2, 1% of the infants experienced neonatal sepsis and 2% had respiratory distress. 4% of newborns in group 1 and 2% of newborns in group 2 both experienced perinatal death. Neonatal morbidity was determined to be 58.53% by Kodkany RS et al. (8). The most frequent type, occurring in 29.5% of cases, was birth asphyxia. In our study, 12% of women in the PROM group experienced puerperal sepsis, 12% had uterine subinvolution, 4% had wound infections, 3% had chorioamnionitis, and 23% needed stronger antibiotics. According to a study by Ankita Kasliwal et al. (9), febrile illness was the most common cause of maternal morbidity, accounting for 28% of all cases. In the study by Begum(10), 11% of patients exhibited clinical signs of chorioamnionitis, and about 54% of patients developed maternal problems.

Conclusion

Prelabor rupture of membranes continues to be one of the difficult situations for practising obstetricians to handle and a significant factor in maternal and foetal morbidity with a rise in caesarean section deliveries. The mother's long-term morbidity and healthcare expenses are raised by LSCS. Between the ages of 21 and 26, primigravida account for the majority of PROM cases. For a better outcome for the mother and foetus, it is also crucial to educate the expectant mother about timely antenatal checkups, cleanliness advice, and coitus. This is in addition to the early identification and fast treatment of term PROM.

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