

To Determine Maternal and Fetal Outcome in Premature Rupture of Membrane: An Institutional Based Study

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ABSTRACT

Background: PROM is associated with fetal abnormalities, pulmonary hypoplasia, respiratory distress syndromes, intrauterine growth restriction, intrauterine fetal death, fetal/neonatal sepsis, presence of meconium. The present study was conducted to determine Maternal and fetal outcome in premature rupture of membrane.

Materials and Methods: The present cross-sectional descriptive study was conducted to determine maternal and fetal outcome in premature rupture of membrane. 190 pregnant women with preterm pre-labor rupture of the membrane were recruited from the inpatient of the labor ward. After admission, full history was taken. Rupture of the membrane was diagnosed by history of a gush of fluid from the vagina or continued leakage of fluid from the vagina. Statistical analyses of the results were obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS Inc, Chicago, IL, USA).

Results: The present study was conducted with 190 patients to study maternal and fetal outcome in premature rupture of membrane (PROM). 67.36% of patients delivered in between 16-20 hrs. While 25.26% and 7.36% of patients delivered after 20 hrs and <16hrs respectively. The most common maternal morbidity was Presence of Fever (7.89%) followed by Chorioamnionitis (5.26%), puerperal sepsis (2.10%). 73.69% neonates were healthy while the rate of neonatal morbidity was 26.31% in our study. The most common neonatal morbidity was Early onset sepsis (10.52%) followed by Neonatal Jaundice (4.73%), neonatal infection (4.21%).

Conclusion: The present study concluded that hat maternal morbidity and neonatal morbidity was associated with PROM. The most common maternal morbidity was Presence of Fever followed by chorioamnionitis. The most common neonatal morbidity was Early onset sepsis followed by Neonatal Jaundice.

KEYWORDS: Premature Rupture of Membrane, Maternal Outcome, Fetal Outcome.

INTRODUCTION

Premature rupture of membrane (PROM)¹ refers to the disruption of fetal membranes before the beginning of labor, resulting in spontaneous leakage of amniotic fluid. PROM, which occurs prior to 37 weeks of gestation, defined as preterm PROM as PROM that occurs after 37 weeks gestation defined as term PROM. PROM occurs in approximately 5%–10% of all pregnancies, of which approximately 80% occur at term.² Premature rupture of membrane is associated with a high risk of maternal morbidity and mortality. It is characterized by spontaneous rupture of chorioamnion before the onset of

uterine contractions which leads to progressive cervical dilatation. It occurs in approximately 8% of all pregnancies. In developing countries, the incidence of premature rupture of membrane is about 18-20%.^{3,4} Maternal complications include intra-amniotic infection, which occurs in 13%–60% of women with PROM, placental abruption, and postpartum endometritis. While pre-term birth, infection, hypertensive disease, and asphyxia are cited as the most common contributors to maternal and fetal mortality in developing countries.^{5,6} The present study was conducted to determine Maternal and fetal outcome in premature rupture of membrane.

MATERIALS AND METHODS

The present cross-sectional descriptive study was conducted at Department of Obstetrics and Gynaecology, ESI Post Graduate Institute of Medical Science and Research, Andheri (E), Mumbai, Maharashtra (India) to determine maternal and fetal outcome in premature rupture of membrane. Written informed consent was taken from the patient/ guardian. 190 pregnant women with preterm pre-labor rupture of the membrane were recruited from the inpatient of the labor ward. Females of age between 18-35 and Pregnancy duration of 28 to 36 weeks 6 days were included in the study. Both primi and multi gravid women, who agreed to participate in this study, labor was included in this study. Females with Pregnancy 37 completed weeks with established labor and Pregnancy 37 completed weeks with ante partum hemorrhage and infection were excluded from the study. After admission, full history including duration of pregnancy, time and onset of rupture of membranes, past history of rupture of membranes, past obstetric history was taken. Rupture of the membrane was diagnosed by history of a gush of fluid from the vagina or continued leakage of fluid from the vagina and demonstration of membranes rupture has to be made by a sterile speculum examination visualizing flow of amniotic fluid from the cervical os and / or it's pooling in posterior vaginal fornix spontaneously or by fundal pressure and demonstrating alkaline PH of vaginal fluid by litmus paper. Statistical analyses of the results were obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS Inc, Chicago, IL, USA).

Table 1: Distribution of patients according to rupture of membrane to delivery interval

Rupture of Membrane (Hrs)	N (%)
<16	14(7.36%)
16-20	128(67.36%)
>20	48(25.26%)
Total	190(100%)

Table 2: Shows distribution of patient according to maternal morbidity

Maternal Outcome (N=190)	N (%)
Presence of Fever	15(7.89%)
Clinical Chorioamnionitis	10(5.26%)
UTI	2(1.05%)
Puerperal Sepsis	4(2.10%)
Adherent Placenta	3(1.57%)
Wound Infection	2(1.05%)
PPH	2(1.05%)
Maternal Mortality	0(0%)

Table 3: Distribution of patients according to neonatal outcome

Neonatal Outcome (N=190)	N (%)
Neonatal Infection	8(4.21%)
Early Onset Sepsis	20(10.52%)
Neonatal Jaundice	9(4.73%)
Respiratory Distress	4(2.10%)
Hypoglycemia	5(2.63%)
Late Onset Sepsis	2(1.05%)
Congenital Abnormalities	2(1.05%)
Neonatal Mortality	0(0%)

RESULTS

The present study was conducted with 190 patients to study maternal and fetal outcome in premature rupture of membrane (PROM). 67.36% of patients delivered in between 16-20 hrs. While 25.26% and 7.36% of patients delivered after 20 hrs and <16hrs respectively. The most common maternal morbidity was Presence of Fever (7.89%) followed by Chorioamnionitis (5.26%), puerperal sepsis (2.10%). 73.69% neonates were healthy while the rate of neonatal morbidity was 26.31% in our study. The most common neonatal morbidity was Early onset sepsis (10.52%) followed by Neonatal Jaundice (4.73%), neonatal infection (4.21%).

DISCUSSION

PLROM is defined as spontaneous rupture of the membranes before the onset of labor; preterm prelabor Rupture of Membranes (PPLROM) includes those women presenting with PROM before 37 weeks' gestation. Mid-trimester PROM applies to those with premature membrane rupture at 14-26 weeks' gestation.⁷ ACOG (2007) have suggested that PPLROM complicates 2 to 4% of all singleton and 7 to 20% of twin pregnancies. Getahun D et al reported 5% incidence of PLROM.⁸

The present study was conducted with 190 patients to study maternal and fetal outcome in premature rupture of membrane (PROM). 67.36% of patients delivered in between 16-20 hrs. While 25.26% and 7.36% of patients delivered after 20 hrs and <16hrs respectively. The most common maternal morbidity was Presence of Fever (7.89%) followed by Chorioamnionitis (5.26%), puerperal sepsis (2.10%). 73.69% neonates were healthy while the rate of neonatal morbidity was 26.31% in our study. The most common neonatal morbidity was Early onset sepsis (10.52%) followed by Neonatal Jaundice (4.73%), neonatal infection (4.21%). 64% of the study population delivered within 24 hrs in a study conducted by Patil S et al.⁹ Khashoggi (2004) Reported maternal morbidity including chorioamnionitis (20.9%), postpartum endometritis (6.8%), abruption placenta (4%) and septicemia (0.5%).¹

In study by Sanyal perinatal morbidity was 32% and mortality was 5%.¹¹

Khashoggi 2004 reported the prenatal survival rate was 94.5% whereas neonatal outcomes included neonatal mortality (5.5%), respiratory distress (15.9%), sepsis (7.7%), and necrotizing enterocolitis 1%).¹²

CONCLUSION

The present study concluded that hat maternal morbidity and neonatal morbidity was associated with PROM. The most common maternal morbidity was Presence of Fever followed by Chorioamnionitis. The most common neonatal morbidity was Early onset sepsis followed by Neonatal Jaundice.

REFERENCES

1. Ladfors L. Prelabour rupture of the membranes at or near term. Clinical and epidemiological studies. 1998. Available: www.gu.se/handle/2077/12395
2. Duff P. Premature rupture of membranes in term patients: induction of labor versus expectant management. Clin Obstet Gynecol. 1998;41:883-91.
3. ACOG Committee on practices Bulletins –Obstetrics. ACOG practice Bulletin No. 80: premature rupture of membranes. Clinical management guidelines for Obstetrician-gynecologists. Obstet Gynecol. 2007;109:1007-10.
4. Liu J, Feng ZC, Wu J. The incidence rate of premature rupture of membrane and its influence on fetal-neonatal health: A report from Mainland China. J Trop Pediatr. 2010;56(1):36-42. doi:doi: 10.1093/tropej/fmp051.
5. ACOG Committee on Practice Bulletins-Obstetrics. ACOG Practice bulletin No. 80: Premature rupture of membranes. Clinical management guidelines for obstetrician-gynecologists. Obstet Gynecol 2007;109:1007-19.
6. Moore RM, Mansour JM, Redline RW, Mercer BM, Moore JJ. The physiology of foetal membrane rupture: Insight gained from the determination of physical properties. Placenta 2006;27:1037-51.
7. Yang LC, Taylor DR, Kaufman HH, Hume R, Calhoun B. Maternal and Fetal outcome of spontaneous

preterm premature rupture of membranes. JAOA: Journal of the American Osteopathic Association. 2004;104(12):537-42.

8. Getahun D, Ananth CV, Oyelese Y, Peltire MR, Smulian JC, Vintzileos AM. Acute and Chronic respiratory diseases in pregnancy: associations with spontaneous premature rupture of membranes. Journal of Maternal-fetal and Neonatal Medicine. 2007; 20(9): 669-75.

9. Patil S, Patil V. Maternal and foetal outcome in premature rupture of membrane IOSR. J Dent Med Sci. 2014;(13):56-83

10. Veleminsky M, Pradna J, Veleminsky M, Tosner J. Relationship of amniotic-type placenta inflammation to pPROM, PROM and risk of early onset neonatal sepsis. Neuro endocrinology letters. 2008;29(4):447- 50.

11. Sanyal M, Mukherjee T. premature rupture of membranes; an assessment from a rural medical collage of west Bengal; J. Obstet Gynecol. 1990;40(5):623-8.

12. Khashoggi TY. Outcome of pregnancies with preterm premature rupture of membranes. Saudi medical journal. 2004;25(12):1957-61.

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