PRETERM PRELABOUR RUPTURE OF MEMBRANE: 1 YEAR STUDYTh. Digel Singh¹, Ratana Usham², Helen Kamei³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: OBJECTIVE: This study was conducted to find out the incidence, aetiology and maternal and fetal outcome of preterm prelabour rupture of membrane during a period of one year
METHODS: This prospective study was conducted during a period of one year from July 2006 to June 2007 among those patients admitted in the labour room with preterm prelabour rupture of membrane (PPROM) in a tertiary care center. **RESULTS:** The present study shows the incidence of PPRM was 2.01%. PPRM occurs most commonly in unbooked patients (75%). Incidence is more in primigravida (60%). Anemia was found to be the most common associated medical disorder. **CONCLUSION:** Preterm prelabour rupture of membrane is an important problem in the developing world. It is one of the most common causes of perinatal mortality. Incidence and associated complications can be reduced with improve socioeconomic status and regular antenatal checkup.
KEYWORDS: PPRM, perinatal mortality, incidence.

INTRODUCTION: The average length of pregnancy is 40 weeks. But many babies are born well before term. The shorter the gestation the greater is the risk of perinatal morbidity and mortality. Prelabour rupture of membrane (PROM) is defined as rupture of membrane before the onset of labour. Preterm prelabour rupture of membrane (PPROM) is defined as the spontaneous rupture of membrane from viability to 37 weeks of gestation and prior to the onset of labour.¹

PPROM occurs in approx 0.7% to 2% of all pregnancies and is responsible for 1/3 rd of all preterm births.² It is more common in women with previous PPRM, previous history of repeated abortions. Preterm neonates contribute to only 8-10% of live births, but accounts for 90% of neonatal deaths. There is a substantial increase in the survival rate of preterm infants due to creation of specialised neonatal and obstetrics care centres. Maternal complications include the risk of chorioamnionitis, higher incidence of operative deliveries, psychological and lactational problems.

MATERIAL AND METHODS: This prospective study was carried out on women attending labour room with complain of watery discharge with gestational age between 28 weeks to 36 completed weeks. The other inclusion criteria were cervical dilatation less than 3cm and confirmation by per speculum examination

Patients with bleeding P/V and IUFD were excluded.

RESULTS: Of the total 9120 deliveries 184 were diagnosed as case of PPRM (2%). Of the 184 cases 139(75%) were unbooked. Most of the patients were from low socioeconomic status (77%) and primigravida (60.8%). Majority of patients were in the age group of 20-30 years.

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Associated medical disorders	No. of cases	Percentage
Anemia	76	41.3
UTI	24	13
PIH	18	10
GDM	2	1

Table 1: Association with medical disorders

Anemia was found to be the most common associated medical disorders followed by UTI.

Mode of delivery	No. of cases	Incidence (%)
Spontaneous vaginal	159	87
Forceps	8	4
Prolonged 2 nd stage	4	2
Fetal distress in 2 nd stage	4	2
LSCS	17	9
Fetal distress	10	5.4
BOH	4	2
Malpresentation	3	1.6

Table 2: Mode of delivery

Most of the cases presenting with PPRM had spontaneous vaginal delivery. Most common cause for intervention was fetal distress.

Perinatal Complications	No. of cases	Incidence (%)
Hyperbilirubinemia	44	24
RDS	9	5
Birth asphyxia	20	11
Hypothermia	0	0

Table 3: Perinatal complications

Hyperbilirubinemia was the most common perinatal complication.

Weight in grams	Total no. deliveries	Total no. of babies died	Mortality rate (%)
500-999	5	5	100
1000-1499	21	12	57
1500-1999	39	5	12
≥2000	119	2	1.6

Table 4: Perinatal mortality and birth weight

Neonatal deaths were more if the birth weights were less than 1500gms.

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Gestational age	No. of babies delivered	No. of babies died	Mortality rate (%)
28-29	13	10	77
30-31	37	8	21
32-33	70	5	7
34-35	46	1	2
<37	18	0	0

Table 5: Gestational age and perinatal mortality

The lesser the gestational age the greater the perinatal mortality rate.

Only two patients who had undergone LSCS had wound infection. No other significant maternal morbidity and mortality were noted in the study.

DISCUSSION: PPRM remains an important problem obstetrics causing 20-30% of preterm labour and 19% of perinatal mortality.³ The incidence of PPRM in the present study was 2%. Obi SN et al³ (2007) observe 2.5% incidence, Smith G et al⁴ (2005) noted 2.3% incidence of PPRM. Incidence varies from country to country due to effects of socioeconomic status, environmental factors, and percentage of antenatal checkup.

Inadequate antenatal care has 3.11 times chance of PPRM. Gosserlink CA (1993) and Phupong Voru et al (2002) found association between inadequate antenatal care and PPRM as in our study which had an incidence of 75% PPRM in unbooked cases.

The study shows the incidence of PPRM was more in low socioeconomic status groups (77%). Similar finding was found in study conducted by Tahir S et al⁵ (2002).

Primigravidas were found to have higher incidence of PPRM in the study (60.8%). similar observation was found in study conducted by Tahir S et al⁵ (2002). in contrast Dars S et al⁶ found PPRM to be more common in multigravidas.

In this study the commonest associated medical disorders were found to be anemia. This is similar to data from NFHS, 2003 survey which found the incidence of anemia in pregnant women in Assam to be 60%. Another common medical disorders associated with PPRM was UTI. Davison J et al⁷ 1995 found the incidence of asymptomatic bacteriuria in pregnancy to be 2-10% and symptomatic UTI complicates 4% of pregnancy.

Neonatal hyperbilirubinemia was the most common perinatal complication in the study. 24% of babies delivered of PPRM suffered from neonatal jaundice. This observation was much lower than the incidence observed by Maherban Singh which was 60.7%.the present study observed rate of RDS was 5%. A study by Maherban Singh observed the rate of RDS to be 5.7%. JD steinfeld et al 1999 observed 2.8 % of RDS.

Cox and Leveno et⁸ al and Tahir S et⁵ al showed caesarean section rate of 12% and 14% respectively which was comparable with our study which shows caesarean section rate of 9%. However in some studies caesarean section rate was as high as 34 % (Muller H; 1994).⁹ The differences may be due to exclusion of PPRM cases between 24-28 weeks in the present study. The other reason may be that due to availability of facilities for testing lung maturity and advance treatment facilities, many institutions go for LSCS in preterm babies.

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CONCLUSIONS: Preterm prelabour rupture of membranes is an important obstetric problem in developed and developing countries. The present study shows the incidence of preterm prelabour rupture of membrane was 2.01%. The most important factors associated with PPRM were low socioeconomic factors and absence of antenatal checkup. The other risk factors which may be associated with PPRM were preterm delivery and abortions. The most common perinatal complication was hyperbilirubinemia and the second most common complication was birth asphyxia. Routine antibiotics decrease the chance of maternal and fetal infections. Although this condition is not totally preventable, good antenatal care, improved socioeconomic and well equipped neonatal care center will help a lot for this problem.

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