

**MATERNAL AND FETAL OUTCOME IN PRE-LABOUR RUPTURE OF MEMBRANES
IN A TERTIARY CARE CENTRE****Dr. Prateek Suren and *Dr. Urvashi Sharma**

India.

***Corresponding Author: Dr. Urvashi Sharma**
India.
Email Id: urvashi_dr@yahoo.com.

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INTRODUCTION

Premature rupture of membrane (PROM) is linked to significant maternal and prenatal mortalities and morbidity. Delivery of a healthy baby from a healthy mother is the ultimate aim of each and every pregnancy but some complications in pregnancy if not managed adequately will result in poor maternal and fetal outcome. One of a very common problem faced by obstetricians is *Premature Ruptures Of Membranes (PROM)*.

PROM remains the single most common cause in approximately 1/3rd of preterm deliveries and a major contributor to perinatal morbidity and mortality.^[1]

Definition

PROM is defined as spontaneous rupture of fetal membranes before the onset of regular uterine contractions irrespective of the gestational age. It is also referred to as Prelabour rupture of membranes.^[2]

Preterm – PROM(PPROM) is defined as spontaneous rupture of fetal membranes before 37 weeks of gestation age.^[2] Prolonged PROM greater than 24 hours is associated increased complications.^[2]

Incidence

- Overall incidence of PROM is 3-18.5%.^[3]
- The incidence in India is ranging from 7-12%.^[4]

The range of variability is due to different incidence of PROM in different population studied. Out of which at least 60% cases of PROM occurs at term.^[5]

PROM also accounts for 35% of preterm deliveries.^[6] It is more commonly seen in lower socioeconomic class and in those presenting with higher incidence of STI.

Risk Factors**Remediable**

1. Cervicovaginitis
2. Incompetent cervix
3. Cigarette smoking
4. Drug abuse
5. Amniocentesis, CVS
6. Coitus
7. Multiple bimanual examination
8. Mineral and vitamin deficiency
9. Low socioeconomic status

10. Low body mass

Non-remediable

1. Prior PROM or preterm delivery
2. Prior cervical surgical procedure
3. APH
4. Multiple gestation
5. Polyhydramnios
6. Vaginal bleeding in 1st and 2nd trimester
7. Ehlers danlos syndrome

Symptoms of PROM

The following are symptoms of PROM. However each woman may experience symptoms differently. They include - Leaking or gush of watery fluid from vagina and Constant vaginal wetness.

The differential diagnosis include urinary incontinence, excessive vaginal discharge such as physiological discharge or bacterial vaginosis and cervical mucus(show) as a sign of impending labor.

Complications**Maternal complications**

1. Acute chorioamnionitis
2. Subclinical chorioamnionitis
3. Premature placental separation
4. Post partum endometritis
5. Increased cesarean rate

Fetal complications

1. Hyaline membrane disease
2. Non reassuring fetal status
3. Fetal infection
4. Pulmonary hypoplasia
5. Cerebral palsy
6. Musculoskeletal morbidities
7. Intrauterine fetal demise

Management

Its management remains one of the most controversial and enigmatic problem and a wide range of management options have been proposed from time to time.

Currently most authorities accept a plan of active management which includes prevention of infection, delay of delivery until foetal maturity is achieved and active intervention by induction if labour is no longer preventable or if early infection is suspected.^[7]

AIMS AND OBJECTIVES

- To study the maternal and fetal outcome of PROM.
- To study the incidence of PROM.

Inclusion Criteria:	1. Gestational age between 28-42 weeks 2. Primigravida/ multigravida 3. Singleton/twin pregnancy 4. Malpresentations 5. Polyhydramnios 6. Mothers with medical disorders 7. Confirmation of PROM by history, examination and specific clinical tests (if required)
Exclusion Criteria:	1. Gestational age less than 28 weeks and more than 42 weeks 2. Fever diagnosed otherwise 3. Congenital anomalies 4. IUFD 5. Previous LSCS 6. Patients with uterine contractions

OBSERVATIONS AND RESULTS

Table 1: Incidence of PROM.

Total number of deliveries	5362
Total cases of PROM	357
Incidence of PROM	6.65%

The table number one shows that total number of deliveries were 5362 in the given duration. Out of which cases of PROM were 357. So the incidence in our study was 6.65% of prom.

Table 2: Distribution of cases according to parity of patients.

PARITY	No.	%
P0	126	67.4
P1	48	25.7
P2	6	3.2
P3	3	1.6
P4 and Above	4	2.1
Grand Total	187	100.0

	Parity
Mean	0.5
SD	0.8

Maximum number of cases i.e 67.4% were nulliparous which was followed by 25.1% with para one, there was decrease in incidence with increase in parity. The mean parity was 0.5 with standard deviation 0.8.

- To identify the risk factors for PROM.

MATERIALS AND METHODS

Study period - January 2017 to June 2018.

Study Area - Mahatma Gandhi Medical College Hospital is situated in sitapura, Jaipur. It serves patients of both urban and rural background. It is a 1100 Bedded Hospital with annual data as follows

Study Group – Consisted of 187 patients with confirmed prelabor rupture of membranes.

Table 3: Distribution of patients according to their socio-economic class.

Socio-economic class	No.	%
Lower	73	39.0
Middle	94	50.2
Upper	20	10.69
Grand Total	187	100

The above table shows the distribution of patients according to socioeconomic status. In our study 50.2 percent cases belonged to middle socioeconomic status. Lowest number of cases was seen in upper middle class i.e. 10.69 percent.

Table 4: Distribution of patients according to Gestational Age.

Gestational Age (weeks)	No.	%
28-32	9	4.8
33-36	38	20.3
≥37	140	74.9
Grand Total	187	100.0

	GA
Mean	37.5
SD	2.5

In this study, maximum number of cases i.e. 74.9 percent cases belonged to the group with gestational age more

than or equal to 37 weeks that is term pregnancy. Preterm PROM was accounted for 25.1 percent cases. The mean gestational age was 37.5 with standard deviation 2.5.

Table 5: Distribution of Risk factors for PROM.

Risk Factors	No.	%
H/O PROM	28	15.0
ITCHING	7	3.7
UTI	23	12.3
Vaginal Discharge	13	7.0
Polyhydramnios	3	1.6
PV examination	10	5.3
H/O Coitus	34	18.2
Grand Total	84	44.9

Above table shows the various possible risk factors. There was history of genito-urinary infections in 23% patients with most common complaints being UTI, vaginal discharge followed by vaginal itching. The second most common cause was h/o coitus accounting for 18.2% cases followed by H/O PROM accounting for 15% cases.

Table 6: Distribution of patients according to Latent Period.

Interval between ROM and start of pains	No	%	Preterm <37 weeks	%	Term >37 weeks	%
0-12 hrs	141	75.4	22	11.7	119	63.6
13-24 hrs	17	9.1	12	6.4	5	2.6
25-48 hrs	9	4.8	3	1.6	6	3.2
49-72	6	3.2	6	3.2	0	0.0
>72	5	2.7	5	2.6	0	0.0
Grand Total	178	95.2	48	25.6	130	69.5

Above table shows distribution of patients according to latent period. In the study 84.5% went into labour within 24 hours. In term group 66.2% patient went in labor within 24 hours as compared to 18.1% patients in preterm group.

Table 7: Distribution of patients according to Mode of Delivery.

Mode of Delivery	No	%
Caesarean	61	32.6
VD	116	62.0
Instrumental	10	5.3
Grand Total	187	100.0

Above table depicts that in our study most of the patients delivered vaginally i.e 62.0 percent. The incidence of caserean section was 32.6 percent.

Table 8: Distribution of patients according to Indication of Caesarean Section.

Indication of CS	No	%
Breech	5	8.2
CPD	4	6.6
Failed Induction	9	14.8
FD	29	47.5
NPOL	5	8.2
PIH	2	3.3
Oligohydramnios	5	8.2
Twin pregnancy	2	3.3
Grand Total	61	100.0

The above table depicts the various indications of caserean sections. The most common indication of caserean section in our study was fetal distress accounting for 47.5 perecent cases followed by failed induction i.e 14.8 percent.

Table 9: Distribution of patients according to Maternal Morbidity.

Complications	No	%
Chorioamnionitis	7	3.7
P.sepsis	15	8.0
PPH	5	2.7
UTI	6	3.2
Wound Infection	14	7.5
Grand Total	40	21.4

Total maternal morbidity in our study was 21.4 percent. The incidence of chorioamnionitis was found to be 3.7 percent. Puerperal sepsis and wound infection was more commonly seen with an incidence of 8.0% and 7.5% respectively.

Table 10: Distribution of patients according to Neonatal Morbidity.

Neonatal Morbidity	No	%
RDS, Died	9	4.81%
Asphxia, RDS, DIED	3	1.60%
Asphyxia	6	3.20%
Asphyxia, MAS	7	3.74%
Asphyxia, Pneumonitis, Septicaemia	2	1.06%
Asphyxia, Septicaemia	5	2.67%
Asphyxia, RDS	5	2.67%
RDS	13	6.95%
Septicaemia	2	1.06%
Septicaemia, Meningitis	2	1.06%
Septicaemia, Pneumonitis, Died	2	1.06%
Septicaemia, Pneumonitis, Meningitis, Died	3	1.60%
RDS, Septicaemia	2	1.06%
Grand Total	61	32.6

Total neonatal morbidity in our study was 32.6 percent, overlapping was seen of various morbidities and co morbidities.

SUMMARY AND CONCLUSION

Prelabor rupture of membranes is one of the most confusing and controversial dilemma in obstetrics today and the present study was motivated by growing concern to know maternal outcome of labor morbidity, mortality and fetal outcome in cases of pre labor rupture of membrane and methods to improve them.

This study was carried out in Department of Obstetrics and Gynecology, Mahatma Gandhi Medical college and Hospital, Jaipur and included the 187 cases of prelabor rupture of membrane.

The study revealed many facts some of which were conclusive and others merely suggestive and still others which require further evaluation.

1. Incidence of PROM in our study was 6.65% in the study period.
2. Most of the cases 67.4% in our study were nulliparous. Mean Parity of the study group was 0.5 ± 0.8 weeks.
3. Majority of cases 50.2% belonged to middle socioeconomic class.
4. Only 2.1 percent patient in our study had multifetal pregnancy.
5. Malpresentation was seen in 5.87% of cases
6. Significant risk factors for PROM were with h/o genital tract infection, recent coitus, PROM in previous

pregnancy with incidence of 23%, 18.20% & 15% respectively.

7. In present study 84.50% of total cases had latent period less than 24 hours. The maximum latent period in our study was 138 hours

8. Caesarean section rate was 32.6% in our study and most Common indication of caesarean section in study group was foetal distress 47.50% followed by failed induction 14.8%.

9. Incidence of chorioamnionitis was found in 3.7% in our study. A total of 21.4% morbidity was found in the puerperal period in the study.

10. Total neonatal morbidity was significantly high in PROM in those patient with interval between rupture of membranes to delivery was more than 24 hours. The leading cause of neonatal morbidity in study group was respiratory distress (16.04%) followed by septicaemia (9.62%) and birth asphyxia (6.95%).

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