



ASSESSMENT OF MATERNAL OUTCOME IN PREMATURE RUPTURE OF MEMBRANES

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KEYWORDS :

INTRODUCTION:

Premature rupture of membranes (PROM) is defined as rupture of fetal membranes before onset of labour. If it happens between 37 completed weeks and 42 weeks of gestational age, it is called term premature rupture of membranes (TPROM), while that occurring between 24 weeks and 37 weeks is called preterm premature rupture of membranes (PPROM). Rupture of membranes for > 24 hours before delivery is called prolonged rupture of membranes.

PROM is one of the most common complications of pregnancy that has major impact on fetal and maternal outcomes. Preterm labor and thereby prematurity is the major contributing factors for perinatal morbidity and mortality.¹ PROM occurs in 1.5 - 5% of pregnancies. Among these, 20% are the cases of pPROM. PROM causes 30-40% of preterm labours.^{2,3} Labor almost always follows within 24 hours in 90% of PROM's and 50% of pPROM cases.

Fetal membranes are made of an outer four to six layered chorion attached to a collagen rich connective tissue and an inner single cell layer amnion.¹ Weakness in the chorioamnion membrane is the overall mechanism of PROM, which may be due to deficiency of type III collagen, reduced size of the membrane at the affected site and reduced collagen content.^{4,5,6,7} In addition, it may be caused by proteolytic enzymes from bacteria.⁸

A number of risk factors e.g. smoking have been identified to be directly associated with PPRM. However, the cause is uncertain and it is believed to be multifactorial.⁹ Patients with premature rupture of membranes may present with leakage of vaginal fluid or vaginal bleeding but without contractions. If infection sets in, patients may also present with symptoms and signs of chorioamnionitis. Diagnosis of PPRM is made through history from the woman and by a sterile speculum vaginal examination. Pooling of liquor in the posterior vaginal fornix or leakage of it from the cervical os confirms the diagnosis. Ferning of liquor as observed on the microscope or change of nitrazine paper to blue because of the alkalinity of the amniotic fluid is supportive of the diagnosis of premature rupture of membranes.

Preterm premature rupture of membranes is one of the significant causes of preterm delivery and is associated worldwide with increased rates of neonatal and maternal morbidity and Mortality.^{9,10,11,12}

The present study was conducted to analyze the maternal outcomes in premature rupture of membranes at term.

AIMS AND OBJECTIVE:

To assess the maternal outcome in patients premature rupture of membranes.

MATERIALS AND METHODS:

A prospective cross-sectional study was conducted at Obstetrics and Gynaecology Department of Consultant Anand Surgical and Infertility Research Center, Islampur, Maharashtra over a period of 2 years from Jun 2015 to May 2017.

All patients attending the outpatient department and causality with

history of leak PV were admitted and were enrolled as cases in the study. All cases were examined in detail and confirmed by per speculum examination and Ultrasonography.

A detailed history of leak per vagina, menstrual and obstetric history obtained by questioning and detailed clinical obstetric examination was done.

Condition of vagina and cervix was noted by speculum examination. Cervical swab was taken and sent for gram stain and culture and sensitivity.

INCLUSION CRITERIA

- Singleton pregnancy more than 37 weeks of gestation.
- Includes both Primi and multi gravida.
- Age group 18-40 years.
- Leaking from cervix confirmed by speculum examination.
- Cervix dilatation less than 3cm.
- Lack of uterine contractions.

EXCLUSION CRITERIA

- Multiple pregnancies.
- Maternal complications interfering with active management of PROM like PIH, heart disease, previous LSCS, GDM.
- Immunocompromised cases including HIV, HBsAg positive cases.

RESULTS:

The age group range in the study was 18-40 years, according to the incidence of age in PROM the most common age group in the study was 20-29 years (81.66%) followed in order by age less than 20(12.5%) and 30-40 years (5.83%) (Table 1).

Table No-1 Age

Age at incidence	No of cases	%
<20	4	12.5
20-29	49	81.66
30-40	3	5.83
Total	60	100

Study showed majority of them belong to low socioeconomic status (80%), 13.33% were belonging to middle socioeconomic status and 6.66% were belonging to higher socioeconomic status (Table 2).

Table No-2 Socioeconomic status

Socioeconomic status	Number of cases	%
Low (IV and V)	48	80
Middle (III)	8	13.33
High	4	6.66
Total	60	100

Out of 60 cases booked (40.82%), and (59.16%) were not booked. This does not have any impact on antenatal care and incidence of PROM in the study result (Table 3).

Table No-3 Antenatal Care

Antenatal care and PROM	Number of cases	%
Booked	25	40.83
Unbooked	35	59.16
Total	60	100

According to the parity incidence 71.16% of cases were primigravidas, 19.16% were 2nd gravida, 5.83% were 3rd gravida and 3.33% of cases were 4th gravid (Table 4).

Table No-4 Parity

Parity	Number of cases	%
G1	44	71.16
G2	12	19.16
G3	4	5.83
G4	60	3.33

(59.16%) cause was unknown, whereas (15.83%) showed it was due to infections, history of coitus was in (18.33%) and mal presentation in (6.66%) (Table 5). (15.83%) has positive cervical swab culture.

Table No-5 Aetiological Analyses in PROM

PROM cause	No of cases	%
Infection	11	15.83
H/O coitus	11	18.33
Mal-presentation	3	6.66
H/O cervical surgery	0	0
Not known	35	59.16
total	60	100

In present study, it is observed that (27.05%) had gone for spontaneous labour and delivered normally, (56.50%) delivered by induction of labour and (20%) were delivered by LSCS (Table 6).

Table No-6 Mode of Delivery

Mode of Delivery	Number of cases	%
Spontaneous labour	16	27.5
Induction labour	32	52.50
LSCS	12	20
Total	60	100

The rate of maternal morbidity was 16.6% of which febrile morbidity accounting to maximum with (9.6%) followed by wound infection in (3.33%) and others were PPH and puerperal sepsis (1.66% each) and clinical chorioamnionitis in (0.83%) (Table 7).

Table No-7 Maternal Morbidity

Morbidity	No of cases	%
Febrile morbidity	5	9.16
Clinical chorioamnionitis	1	0.83
PPH	1	1.66
Wound Infection	2	3.33
Puerperal sepsis	1	1.66

DISCUSSION:

PROM is a common complication of pregnancy which leads to increased maternal complications, operative procedures, maternal mortality and morbidity. In present study the commonest age group was 20-29 years (85%) which correlates with the findings in the study of Kodkany BS et al and Devi A et al.^{13,14} PROM is more common in unbooked cases rather than booked cases and which is similar to findings in many studies all over the world.¹⁵

It is observed in present study that PROM was high in cases of low socioeconomic status (80%) which might be due to many reasons like, poor nutritional status, anemia, and increased genitourinary infections due to poor personal hygiene, all these causes increased risk of PROM. Many studies reported low socioeconomic status associated with PROM.¹⁶

Study showed normal delivery is the commonest mode of delivery and the result is 80%, which is similar to V Kamala et al study. 11 LSCS rate in study group is 20%, which is similar to Sita Ram Shreshtha et al study.¹⁸ Ray P et al and Jayaram VK et al who reported an incidence of

31.5% of LSCS in their studies.^{17,18,19} In comparison to above mentioned 2 studies, rate of vaginal delivery was more in present study. This could be due to active management of labour, timely induction and augmentation, strict monitoring of fetal heart rate and judicious use of oxytocics, and instruments during delivery. In a study by Kshama Vishwakarma, Vaginal delivery was the commonest mode. Out of 347, 218 (62.8%) women delivered vaginally, rest of women had caesarean section (37.2%).²⁰

The rate of maternal morbidity was 16.6% of which febrile morbidity accounting to maximum with 9.6% followed by wound infection 3.33% and others were PPH (1.66%) and puerperal sepsis (each 1.66%). In a similar study by Kshama Vishwakarma, there was some or other type of maternal morbidity in 14.9% cases (52 women in 347); 6.3% patients had wound infection, around 3% patients developed fever and abdominal distension, whereas 2.1% patients had symptoms of chorioamnionitis.²⁰ In a study by Kadikar GK, Gandhi MR wound infection accounted for 03%, maternal pyrexia accounted for 02%, and UTI for 03% of cases. Chorioamnionitis was rare complication affecting only 1% of cases.²¹

CONCLUSION:

Our study shows that majority of patients with PROM belonged to the age group of 20- 29 years. Primigravida presenting with PROM was more common than the multigravida, with no significant difference in patients who were booked and un-booked. Incidence of PROM resulting in maternal morbidity was noted to be 16.6% with no maternal mortality. Hence it is concluded that timely diagnosis, evaluation and effective management of PROM will result in favourable outcome of pregnancy and reduce maternal morbidity considerably.

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