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Analysis of factors increasing the risk of prelabour rupture of membranes and its effect on fetomaternal outcome

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ABSTRACT

Background: Perinatal morbidity and mortality due to prelabour rupture of membranes (PROM) is 18-20% and 21.4% respectively. Multiple risk factors are associated with the development of PROM. Limited data is available on the risk factors of term PROM and relation of its duration with adverse maternal and fetal outcomes from India.

Aims and Objective: To assess factors increasing the risk of PROM and effect of duration of rupture of membranes on fetomaternal outcome.

Materials and Methods: Five hundred and ten patients presented with term PROM in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital, Gandhi Medical College, Bhopal, Madhya Pradesh (M.P.) from December 2018 to February 2019 were studied. After the detailed history, sociodemographic details, risk factors for PROM and neonatal outcomes were recorded.

Results: PROM was more common in women with age 21-25years (73.3%), who were housewife (92.5%), were underweight (21.37%), were from the rural area (58.4%), belong to lower SES (62.8%) and were primigravida (59.2%). Majority were leaking for 13-24 hours (70.2%). Majority (85.64%) of patients had spontaneous onset of labour in less than 24 hours of PROM and 28(14.35%) went into spontaneous labour after 24 hours of PROM. Most common risk factor was malpresentation (46.52%) followed by history of PROM (30.04%), Polyhydramnios (13.19%), multiple pregnancy (10.99%) and febrile illness (6.96%). Out of 312 women who had vaginal delivery, labour was induced in 87.82% women. The most common indication for Caesarean section was previous 1 LSCS (13.1%), followed by fetal distress (8.6%), breech presentation (7.3%) and cephalopelvic disproportion (2.9%). Most of the women presenting with PROM were delivered vaginally (61.2%), while 38.8% women underwent caesarean section. Out of 529 babies, 6.24% were admitted in NICU. Majority of the neonates were admitted for 3 days (39.39%).

Conclusion: PROM is associated with poor fetomaternal outcome and timely diagnosis and prompt management is required for better outcome.

1. Introduction

The optimal approach to diagnosis and treatment of women with term prelabour rupture of membranes (PROM) is a challenge. PROM complicates approximately 5% to 10% of all pregnancies, of which approximately 80% occur at term.PROM is a matter of concern for all obstetricians as it is associated with significant maternal and fetal morbidity and mortality. PROM causes 18-20% of perinatal morbidity and 21.4% perinatal mortality. Three common causes of fetal death associated with PROM are sepsis, asphyxia and pulmonary hypoplasia. Maternal complications include intra amniotic infection which is seen in 13-60% of women, placental abruption and postpartum endometritis. [1]

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There are numerous risk factors for PROM such as, lower socioeconomic status, smoking during pregnancy, illicit drug use during pregnancy, low body mass index (BMI) and malnutrition, concomitant infection, history of PROM in previous pregnancy, sexually transmitted infections, inadequate prenatal care, polyhydramnios and multiple gestation. Maternal and fetal outcomes in PROM depends on factors like gestational age, interventions (antibiotics, steroids) done, duration of labour, development of intrapartum chorioamnionitis.[2]

Hence, timely diagnosis and management is key to limit the various maternal and fetal complications. Following preliminary assessment, some clinicians may reasonably elect for a short trial of expectant management in highly selected and well supervised cases. The use of routine antibiotics in women with term PROM needs to be weighed against the increased risk of antibiotic resistance, but in women with latency longer than 12 hours, prophylactic antibiotics are associated with significantly lower rates of chorioamnionitis by 51% and endometritis by 88%.[3]

The main objective for the obstetrician in managing PROM is early detection of possible factors predisposing to PROM during antenatal period, their management, correct and timely diagnosis of rupture of the membranes and timely delivery that gives a high rate of successful vaginal deliveries without a rise in neonatal and maternal morbidity and mortality.

However, there is limited data on the risk factors of term PROM and relation of its duration with adverse maternal and fetal outcomes from India. This study was done to study the profile of women presenting with the term PROM, identify the risk factors, timing of presentation to the health facility and relationship of the duration of PROM with maternal and fetal outcomes.

2. Materials and Methods

A prospective observational study was conducted on 510 patients presented with term PROM in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital, Gandhi Medical College, Bhopal, Madhya Pradesh (M.P.) from December 2018 to February 2019 after the approval from Ethical committee.

Pregnant women with gestational age 37 completed weeks and above with spontaneous rupture of membranes and giving consent were included. Pregnant women with gestational age less than 37 completed weeks with PROM and patients of term prelabour rupture of membranes presenting with Antepartum hemorrhage (abruption) were excluded.

Detailed history was taken with respect to PROM and its risk factors. Detailed examination including Per Speculum examination was done and PROM was confirmed by Per Speculum examination. In women not having frank leaking of amniotic fluid USG done to confirm liquor volume. The patients were managed as per the Departmental Protocols for the management of PROM.

Antibiotic prophylaxis was given to all the patients presenting with PROM. Bishops score was calculated and patients induced as per the departmental protocols for induction of labour. Details of progress of labour and mode of delivery including indication for caesarian section was recorded, and patients were discharged as per the departmental protocols. In postpartum period patients were followed up till day 42 of delivery. Patients were advised to visit hospital 6 weeks postpartum and any postpartum complications in terms of puerperal pyrexia, wound sepsis, chorioamnionitis, Urinary tract infections were noted. In patients who were unable to come, then they were contacted telephonically. The neonatal outcomes were recorded in terms of jaundice, RDS, neonatal sepsis, conjunctivitis, neonatal seizures, meconium aspiration syndrome, perinatal asphyxia, NICU admission, length of NICU stay, mortality.

All the data were entered into the Microsoft Excel sheet and tabulated. Analysis was performed using IBM SPSS (Statistical Package for Social Sciences) version 20 software. Frequency distribution and cross tabulation was performed to prepare the tables. All the categorical data was expressed as number and percentage. Chi Square test was used to compare the percentage and P value of less than 0.05 was considered as statistically significant.

3. Results

Most common associated medical condition was hypertension [126 (24.70%)] followed by anaemia [113 (22.15%)], urinary tract infection [18(3.53%)], fever [5 (0.98%)] and jaundice [2 (0.39%)].

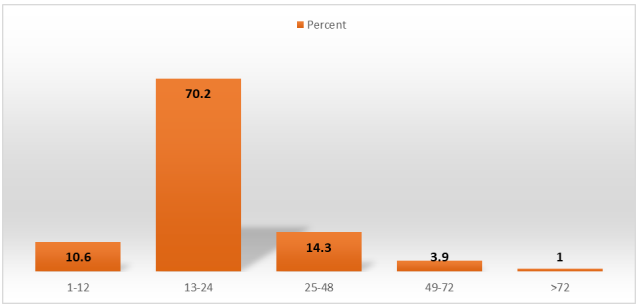

Fig. 1: Distribution of patients according to duration of PROM

Majority of the women presented at gestational age between 37-39 completed weeks [401 (78.6%)] whereas 109 (21.4%) women presented at gestational age ≥40 weeks. Majority [315 (61.8%)] of the women the labour was induced.195 (38.2%) women had spontaneous onset of labour.

Out of 148 patients, in whom labour was induced, 71 (47.97%) were primigravida, 52 (35.14%) were multipara, 22 (14.86%) had history of ≥ 1 abortion and 3 were grand

Table 1: Characteristics of the study population

Parameters		Frequency	Percent	P value
Age (years)	<21	35	6.9	0.772
	21-25	374	73.3	
	26-30	51	10	
	31-35	40	7.8	
	>35	10	2.0	
Occupation	Housewife	472	92.5	<0.001
	Working women	38	7.5	
BMI (kg/m^2)	Normal (18.5-24.9)	399	78.24	0.001
	Underweight (<18.5)	109	21.37	
	Overweight (>25-29.9)	2	0.39	
	Obese (≥30)	0	0	
Residence	Rural	298	58.4	0.662
	Urban	212	41.6	
SES	Lower class	320	62.8	0.021
	Upper Lower	167	32.7	
	Lower Middle	21	4.1	
	Upper Middle	2	0.4	
ANC provider	Specialist	413	81.0	<0.001
	ANM worker	97	19.0	
Gravid state	Primigravida	302	59.2	0.032
	Multigravida	203	39.8	
	Grand multigravida	5	1	

SES; socioeconomic class, ANC; antenatal care, BMI; body mass index,

Table 2: Relation of duration of PROM with labour progression

Duration of PROM	Labour progression				P value
	Spontaneous onset of labour		Induction of labour		
	N	Percentage	N	Percentage	
≤24hours	167	85.64	245	77.78	0.056
>24 hours	28	14.36	70	22.22	0.128
Total	195	100.00	315	100.00	

multigravida. This was statistically significant. Patients presenting with PROM, 273 (53.53%) patients had no risk factors whereas 237(46.47%) patients were found to have risk factors for PROM. This was found to be statistically non-significant.

Majority [394 (77.25%)] of the patients had cephalic presentation in occipito-anterior position. 127 (46.52%) patients had malpresentation/malposition. Among these breech presentations, 97(19.02%) was the most common malpresentation followed by occipitoposterior position 04(0.78%). This relation was found statistically significant.

Most of the women [312 (61.2%)] presenting with term PROM were delivered vaginally, while 198(38.8%) women underwent caesarean section [198 (38.8%)] including all patients of term PROM with transverse lie. This was found statistically significant.

It was found that 57(11.14%) patients presenting with PROM had some intrapartum complications and among these complications, fetal distress was the most common complication which was seen in 44 (8.6%) patients followed by non-progress of labour seen in 5(0.98%) patients. 4

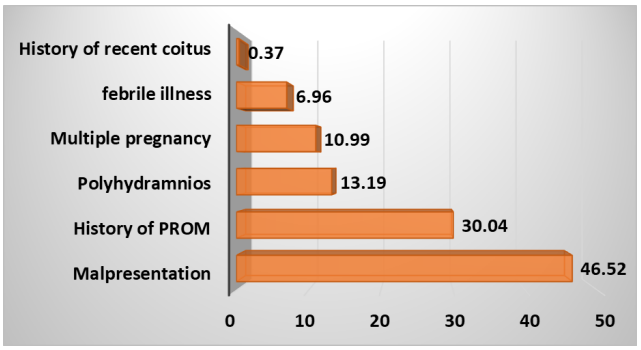

Fig. 2: Distribution of risk factors in PROM

(0.78%) patients had deep transverse arrest and 4 (0.78%) patients had abruption. The distribution was statistically significant.

Most of the patients with PROM the vaginal swab culture report showing growth of no organism. Among vaginal swab culture reports which showed growth of the organisms, staphylococcus [51(10%)] was found to be the

Table 3: Relationship of labour progression and mode of delivery in PROM

Labour progression	Mode of delivery				P value
	Vaginal delivery		Caesarean section		
	N	Percentage	N	Percentage	
Induction of labour	274	87.82	41	20.71	<0.001
Spontaneous onset of labour	38	12.18	157	79.29	0.001
Total	312	100.00	198	100.00	

Table 4: Indication of Caesarean section in patients with PROM

Indication of C section	Frequency	Percent	P value
Previous 1 LSCS	67	13.1	0.012
Fetal distress	44	8.6	
Breech presentation	37	7.3	
Cephalopelvic disproportion	15	2.9	
Contracted pelvis	13	2.5	
Transverse lie	7	1.4	
Twin pregnancy with first twin non-cephalic	6	1.2	
Non-progress of labour	5	0.98	
Deep transverse arrest	4	0.8	
Total	198	38.8	

most common organism followed by E.Coli [35(6.86%)], Pseudomonas [20 (3.92%)] and Acinetobacter [10 (1.96%)]. This was found statistically significant.

Among patients of term PROM with positive vaginal culture 79(68.10%) patient presented to the hospital for more than 24 hours of leaking while 37(31.90%) patient presented for less than 24 hours of leaking. This was found statistically significant.

Most common maternal complication was puerperal pyrexia [66 (12.94%)] among which 50(9.80%) patients had leaking for more than 24 hours while 16(3.14%) patients had leaking for less than 24 hours, followed by wound sepsis [36 (7.05%)] among which 31(6.08%) patients had leaking for more than 24 hours while 5(0.97%) patients had leaking for less than 24 hours. All patient who developed chorioamnionitis [11 (2.15%)] and urinary tract infection (UTI) [3 (0.58%)] had leaking for more than 24 hours. Thus, patients of term PROM presented to the hospital for more than 24 hours of leaking developed more maternal complications in comparison to those who had leaking for less than 24 hours. This was found statistically significant.

Out of 529 babies, 33 (6.24%) were admitted in NICU for jaundice, RDS, early neonatal sepsis, conjunctivitis, neonatal seizures, meconium aspiration syndrome, perinatal asphyxia. It was found statistically significant. Majority of the neonates were admitted for 3 days [13 (39.39%)]. 8(24.24%) neonates required admission in NICU for <3days and 12(36.3%) neonates required NICU admission for >3days.

Among neonatal complications, jaundice developed in [15 (2.83%)] of neonates followed by RDS [8 (1.51%)], early neonatal sepsis [3 (0.57%)], Conjunctivitis [2 (0.38%)] and Neonatal seizures [2 (0.38%)]. This was found statistically significant. We found no any correlation of NICU admission with the duration of PROM.

4. Discussion

The present study was conducted in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital and Gandhi medical college, Bhopal from December 2018 to February 2019. The study included all antenatal women with term PROM admitted in the institute during the study period.

In our study majority of the patients (73.3%) belonged to age group of 21-25 years followed by 26-30 years (10%) and 31-35 years (7.8%). In the study done by Nagaria T et al. in the year of 2016 most of the women with PROM were in the age group of 20-25 years.[4] According to Endale T et al., majority of the women (74.6%) belonged to age g 18-35 years.[1] In a study from India by Jalli Padmaja et al, author concluded that most of the patients of PROM belonged to age group of 21- 25 years (73.3%).[5]

In our study majority were housewives than the working women (92.5% Vs. 7.5%) respectively. In our study, 399 out of 510 (78.24%) patients were having normal BMI (18.5-24.9 Kg/m^2). Whereas 21.37% patients and 0.39% patients were of underweight and overweight, respectively. None was of Obese. In contrast**,** Ekachai et al (2000) found that BMI <20 was significantly different between the PROM group and the control group. Underweight women were significantly more prone for the PROM.[6]

In present study out of 510 women, 58.4% were from the rural area and 41.6% were from urban area. In a study done by Endale T et al. in Ethiopia, it was seen that out of 185 women, 70.3% belonged to rural and 29.7% were

from urban.[1] This difference may be because in our institute around 60% patients came from urban area.

The socioeconomic status (SES) was measured by modified Kuppuswamy scale. In present study majority belong to lower class (62.8%) followed by upper lower class (32.7%) and lower middle class (4.1%). Surayapalem S et al, noted that the incidence of PROM was high in cases of low SES (64%).[7] Revathi V et al reported that majority of PROM cases belong to lower class (62%), followed by higher SES (10%).[8] In contrary study done by Lawan ZM et al, only 12% of the participants with PROM were of low SES.[9] The higher occurrence of PROM in lower SES patients may be explained by the fact that poor nutrition leads to decreased antibacterial activity and which predisposes to increased defects in fetal membranes.[10]

For majority of the women the ANC provider were specialist (81%) followed by 19% patients in whom the antenatal care was provided by ANM workers. In Shrestha SR et al. study almost all the patients had ANC check-up.[11] Devi Anjana et al. noted 52% ANC attendance in PROM.[10] In Surayapalem S et al. study the occurrence of PROM was more in booked cases (62%) than un-booked cases.[7] No literature was found which compared the outcome in terms of PROM, in patients in whom the antenatal care was provided by specialist or ANM workers. However, in majority of women with PROM antenatal care was provided by specialist, this may be because the women at risk of PROM or any other risk factors usually attend the centers with specialist availability.

In present study majority of the women were primigravida (59.2%) followed by multigravida (39.8%). Similar finding was reported by Surayapalem S et al. In their study 58% cases were of primigravida.[7] In Jalli Padmaja et al. study, primigravida was 77.3% and multigravida was 22.7%.[5] Endale T et al found that 69.7% of the women were primigravida.[1]

In present study around half of the women (51.76%) had some coexisting medical illnesses. Most common associated medical illness was hypertension (24.70%) followed by anaemia (22.16%), 0.98% women had febrile illnesses and 0.39% women had jaundice. In study by Jalli Padmaja et al recorded anaemia in 20% of PROM cases.[5] This may be because in our hospital maximum patients were admitted with the hypertensive disorders followed by anaemia.

In our study we had catagorized women presenting with PROM into five groups. Among these, most of the women (70.2%) presented within 13-24 hours of leaking to the facility. 10.6%women presented to the hospital within 12 hours of leaking. 18.2% women present after 24 hours but within 72 hours of leaking to the hospital. Only 1% women presented to the hospital after 72 hours of leaking. This finding may have importance in our study as despite of the fact that 50% of the women with PROM belong to urban area still, they do not reach the facility within 12 hours. This may be because most of the sociocultural believe in India support that leaking is a sign of labour and the women will deliver spontaneously if labour establishes spontaneously. Surayapalem S et al. found that the most number of cases delivered within 12-24 hours (65%) followed by 25.5% within 24-48 hours and only 1.5% of cases after 48 hours.[7] While in Endale T et al. study maximum number of cases (53.7%) delivered after 24 hours of leakage and 47% delivered before 24 hours.[1]

In current study 78.6% of the women had delivered during the gestational age between 37 completed weeks -39 weeks and 6 days whereas 21.4% women had gestational age ≥40 weeks. Similar result was noted in Agarwal M et al study according to gestational age, 52% of the patients belongs to 37-39 wks, 28% belongs to 39-40 weeks, 20% belongs to above 40 weeks and below 42 weeks.[12] In Nagaria T et al study 66.4% of the women had delivered during the gestational age between 37-40 weeks and whereas 4.3% women had gestational age ≥40 weeks.[4] These findings may be because as 90% of labour occur after 36 completed weeks of gestation.

Term PROM complicates 8%–10% of pregnancies. When PROM occurs at term, labour typically ensues spontaneously or is induced within 12–24 hours. In present study majority (61.8%) of the women labour induction was required whereas in 38.2% women had either spontaneous progression of labour or caesarean sections was done of different indications after admission. In study done by Jalli Padmaja et al, 45% patients went into spontaneous labour and 55% needed induction or augmentation.[5] Which is like our study. 45.45% patients were delivered spontaneously and 54.55% went into induction labour in the study of Vaishnav J et al.[13] Study done by Endale T et al reported that 85.4% of the women was required spontaneous labour whereas in 14.6% of women had induction labour, which is much lower than our study.[1]

In our study significant association was observed between duration of PROM and labour progression that is 85.64% women had spontaneous progression of labour within 24 hours of PROM.in Vaishnav J et al. study no correlation of labour progression with duration of leaking was observed.[13] In Mukharya J et al study significant difference was found in the PROM to delivery interval of patients in active and expectant management group. As PROM to delivery interval was significantly more in expectantly managed group.[14] This may be because majority of patients (84.5%) in our study presented within 12-48 hours of PROM. It has been seen that in 95% of patients labour starts within 24 hours.[15]

Present study was found that out of 148 patients with induction of labour, 71 (47.97%) were primigravida, 52 (35.14%) were multipara, 22 (14.86%) had history of ≥ 1 abortion whereas 3 were grand multigravida. It was seen

that most of the primigravida patients required induction of labour. Vaishnav J et al in their study observed no correlation of mode of delivery with gravid status of the patient.[13] In Mukharya J et al study no significant difference is found in the parity of patients of actively managed group and expectantly managed group, as both the groups include maximum numbers of primigravida patients.[14]

PROM is associated with increased risk of chorioamnionitis, unfavourable cervix and dysfunctional labour, increased caesarean rates, postpartum haemorrhage, and endometritis in mother. In the fetus, there is increased occurrence of sepsis, cord prolapse, fetal distress due to increased fetal wastage. Thus, earlier the gestational age at the time of PROM longer is the latency and more the complications. 46.47% women with PROM did not have any risk factor while 53.53% women had one or more than one risk factors. Most common risk factor in present study was malpresentation (46.52%) followed by 30.04% women had history of PROM, 13.19% women were found to have polyhydramnios and 30 (10.99%) women had multiple pregnancy. Padmaja et al in their study major risk factors was anaemia (20%), UTI was 10%, lower genital infections were 8%, cervical stich was 2%, mal-presentations were 4%, hydramnios were 4% and there were no risk factors in 27% of the patients. History of term PROM was seen in 15% of the patients.[5] The commonest risk factor of PROM was malpresentation (36.2%). Patil S et al in their study reported that malpresentation was 13% and history of coitus was 10%, UTI and previous history of PROM constitute to 6%.[16] Major risk factors for PROM in Shrestha SR et al study was antecedent coitus, hydramnios, smoking, cephalo-pelvic disproportion, and previous abortion.[17]

Our study found that 78.03% women had Vertex [(Occipitoanterior + Occipitoposterior) Position] presentation. 97 (19.02%) women had breech presentation. Mohan SS et al in their study observed that 39.3% women had breech position and 7.5% had transverse lie.[18] In Patil S et al study the most common indication is breech i.e., 22.22%.[16]

In the present study 61.2% of women presenting with PROM had vaginal delivery while 38.8% women delivered by caesarian section. Similar outcomes were observed by Nagaria T et al, the most common mode of delivery was vaginal i.e., 68% followed by LSCS (35%). (Nagaria 2016) Agarwal M et al studied that 69.33% of cases delivered vaginally while instrumentation and LSCS was required in 22.66% and 5.33% respectively. (Agarwal M 2016) Shrestha SR et al in their study showed 70% spontaneous, 3.5% instrumental and 27% caesarean section delivery in PROM group.[11]

In the present study out of 312 vaginal deliveries, labour was induced in 87.82% women and out of 198 C-section in 20.71% of cases induction of labour was done. Vaishnav J et al in their study found that out of 52 vaginal deliveries, 53.8% had induction of labour and 46.2% had spontaneous labour, whereas out of 14 LSCS 42.9% had spontaneous labour and 57.1% had induction of labour. There is no correlation with type and mode of delivery in the study.[13] In patients undergoing c-section, in present study only 20.71% of cases induction of labour was done in rest of the cases direct c-section was done for indications like previous c-section, malpresentation, contracted pelvis, cephalopelvic disproportion.

The most common intrapartum complication in present study was fetal distress (8.6%) followed by 5 (0.98%) women who had non-progress of labour (NPOL), 4 (0.78%) women had deep transverse arrest and 4 (0.78%) women had abruption. Similarly, in Shetty S et al study most common intrapartum complication was fetal distress.[19]

In current study most common indication for Caesarean section was Previous 1 LSCS with PROM [67 (13.1%), 44 (8.6%) women had fetal distress, 37 (7.3%) women had breech, 15 (2.9%) had cephalopelvic disproportion (CPD), 13 (2.5%) had Contracted Pelvis, 7 (1.4%) women had transverse lie, 6 (1.2%) had twin pregnancy with first twin non cephalic, 5 (0.98%) women had nonprogress of labour and 4 (0.8%) women had deep transverse arrest. Failure to progress was the most common indication for LSCS observed in both primi and multigravidas (45.45%) followed by fetal distress (32.73%) and intrapartum sepsis was the least common indication (1.82%).[7] Jageswor G found fetal distress in 21% cases in PROM. Hannah ME et al in their study found fetal distress in 10.2% cases in PROM.[20] In our institute Previous c-section with PROM patients are not induced so, patients presenting with previous c-section with PROM who do not go in spontaneous labour are taken for c-section.

In the present study 25.68% patients vaginal swab culture report showed growth of some microorganism. The most common microorganism was gram positive staphylococcus (10%) followed by E coli (6.86%), Pseudomonas (3.92%) and Acinetobacter [10 (1.96%)]. Other microorganism, which was also seen were Chlamydia, Trichomonas, Group B Streptococcus, Enterococcus. Similar result was observed in Surayapalem S et al study, 51% of women has positive cervical swab culture. No bacterial growth was observed in 49% of cases in the study and the predominant isolate from the cervical swab was Escherichia coli (19%) followed in order by Staphylococcus aureus (11%), Klebsiella pneumoniae, Coagulase negative staphylococcus (each 7%) and Citrobacter group B streptococcus (each 2%) in the study.[7]

In our study most common postpartum maternal complication was puerperal pyrexia (12.94%) followed by wound sepsis (7.05%), chorioamnionitis (2.15%) and UTI (0.58%). Similar finding was observed by Endale T et al, in their study the most common cause of maternal morbidity and mortality was puerperal sepsis.[1] Surayapalem S et al

reported that the rate of maternal morbidity was 17.5%, febrile morbidity accounting to maximum with 8% followed by wound infection 2.5% and others were LRTI (2%) UTI, PPH, MRP and puerperal sepsis (each 1%).[7]

When mothers are malnourished or having some ailment, or when they receive inadequate maternity care, their children also face high risks of disease and death. In our study neonatal complications seen in 6.24% cases. The most common neonatal complication was jaundice (2.83%) followed by RDS (1.51%), Early neonatal sepsis (0.57%), Conjunctivitis (0.38%) and Neonatal seizures (0.38%). The neonatal mortality rate was (0.19%) in our study, which is similar to findings of Noor S et al.[21] While Kifah Al et al in their study reported higher rates of morbidity and mortality.[22] The rate of perinatal morbidity in Surayapalem S et al. study was 26% with birth asphyxia contributing the maximum cause (14%) and other less common were septicemia (4%), convulsions (3%), umbilical cord sepsis (2%), LRTI (1%), malformations (1%) and MAS (0.5%). Perinatal mortality was 3% with birth asphyxia being the major cause in 5 cases and 1 with septicemia.[7]

Present study found that, out of 529 babies, 33 (6.24%) were admitted in NICU for jaundice, RDS, early neonatal sepsis, conjunctivitis, neonatal seizures, meconium aspiration syndrome, perinatal asphyxia. Most of them had admission for 3 days [13 (39.39%)]. 8 (24.24%) had NICU stay for <3 days and 12 (36.3%) had stay for >3 days. Similarly, in Shetty S et al study out of the 75 patients who presented with PROM 25.3% babies had NICU admissions, 45.3% have an average hospital stay of 4-6 days.[19] Endale T et al. noted that 25.4% fetus needed NICU, majority of them (54.6%) had hospital stay less than 3 days, 32.7% had NICU stay for 3-7 days.[1] In Agarwal M et al study only 6% cases needed NICU admissions.[12]

5. Conclusion

PROM was seen in pregnant women of all age groups and more commonly in 21-25 years. Housewives residing in rural areas belonging to economically poor class were mostly affected. PROM was commonly seen in Primigravida between 37 completed weeks to 39 weeks 6 days of gestational age. Induction of labour was done in majority of cases. Common risk factors associated were malpresentation and history of PROM. Common intrapartum complication seen was fetal distress and non-progress of labour. Common indication for Caesarean section were previous 1 LSCS with PROM, fetal distress, breech presentation and cephalopelvic disproportion.

In vaginal swab culture most common microorganism grown was gram positive staphylococcus followed by E. coli, Pseudomonas and Acinetobacter. Most common postpartum maternal complication was puerperal pyrexia followed by wound sepsis, chorioamnionitis and UTI. Common neonatal complications were jaundice followed by RDS. NICU admission seen in 6.48% neonates. To conclude, PROM is associated with poor fetomaternal outcome and timely diagnosis and prompt management is required for better outcome.

6. Source of Funding

None.

7. Conflict of Interest

None.

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