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ORIGINAL ARTICLE

Assessment of maternal outcome in patients with premature rupture of membrane

Sonali Navani

Assistant Professor, Department of Obs & Gynae, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India

ABSTRACT:

Background: Preterm premature rupture of membranes (PPROM) is the spontaneous rupture of membranes before 37 weeks of gestation. The present study was conducted to assess maternal outcome in patients with premature rupture of membrane. **Materials & Methods:** 70 cases of premature rupture of membrane with > 37 weeks of gestation were enrolled. Maternal outcome was recorded. **Results:** The indication for LSCS was malpresentation in 5, failed induction in 4 cases, failure to progress in 20 and fetal distress in 6 cases. Rupture of membrane to the delivery interval was <16 hours seen in 20, 16-20 hours in 42 and >20 hours in 8 cases. The difference was significant (P< 0.05). Maternal outcome was adherent placenta in 3, wound infection in 2, PPH in 3, fever in 25, puerperal sepsis in 10, UTI in 4, chorioamniotis in 21, and maternal mortality was seen in 2 cases. The difference was significant (P< 0.05). **Conclusion:** A longer PROM period was linked to maternal morbidity. Fevers, puerperal sepsis, UTIs, chorioamniotis, adherent placentas, wound infections, PPH, and maternal death were the maternal outcomes.

Key words: Premature rupture of membrane, adherent placenta, fetal distress

Corresponding author: Sonali Navani, Assistant Professor, Department of Obs & Gynae, Saraswathi Institute of Medical Sciences, Hapur, Uttar Pradesh, India

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INTRODUCTION

Preterm premature rupture of membranes (PPROM) is the spontaneous rupture of membranes before 37 weeks of gestation, is a relatively common complication in pregnancy.[1] It occurs in about 5 to 7% of pregnancies and accounts for one-third of preterm births.[2] Chorioamniotic membrane rupture may have several underlying causes, although in many cases PROM and PPROM will not have recognized etiologies.[3,4]

It has been established that the pathophysiology leading to PROM at term differs from the pathophysiology leading to PPROM. At term, physiologic changes and the shearing forces brought on by contractions may cause the membranes to weaken.[5] Premature membrane rupture has made it more challenging to pinpoint generalized membrane weakening. Instead of a broad weakness of the membranes, PPROM could be caused by a localized defect.[6] Maternal morbidities are found in terms of chorioamnionitis which leads to endometritis, puerperal pyrexia, wound infection and placental abruption. Further, consequences may increase due to obstetric interventions in terms of instrumental deliveries and caesarean sections.[7] The present study was conducted to assess maternal outcome in patients with premature rupture of membrane.

MATERIALS & METHODS

The present study comprised 70 cases of premature rupture of membrane with >37 weeks of gestation. All subjects gave their written consent to participate in the study.

Data such as name, age etc. was recorded. Parameters such as discharge, leaking p/v and colour of liquor were recorded. The consistency, effacement, dilatation of cervix, position of cervix, presence or absence of membrane, the station of the vertex with its position, the presence of caput, molding and pelvic assessment were noted. Then swab was taken from amniotic fluid for gram stain culture and sensitivity. Maternal and neonatal outcome was recorded. Results were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Patients characteristics

Parameters	Characteristics	Number	P value
Indication for LSCS (35)	Malpresentation	5	0.02
	Failed induction	4	
	Failure to progress	20	
	Fetal distress	6	
Rupture of membrane to delivery interval (hours)	<16	20	0.05
	16-20	42	

	>20	8	

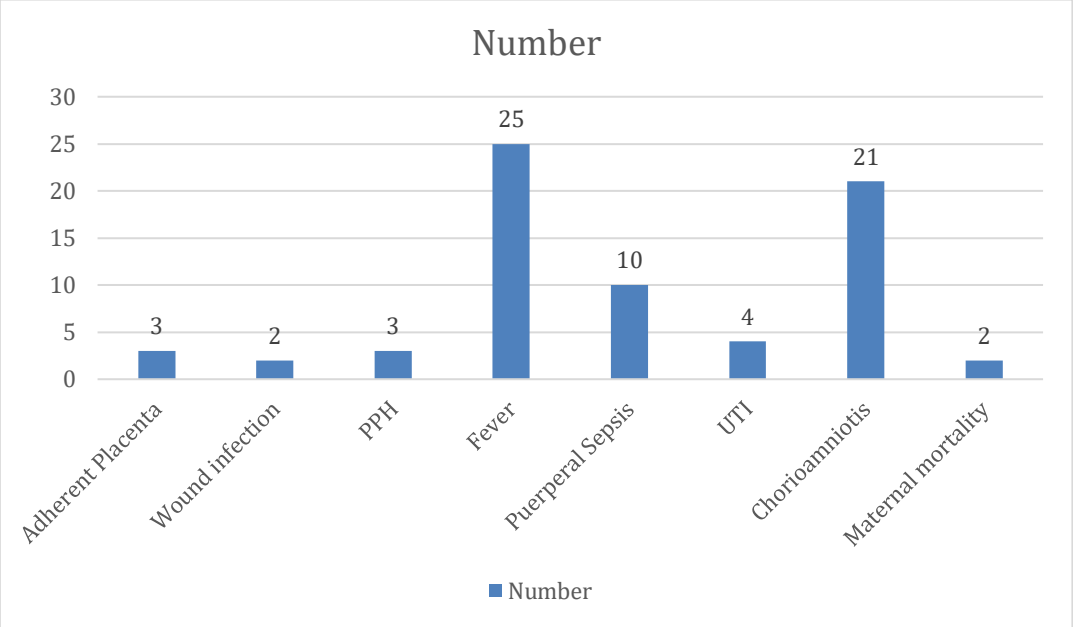
Table I shows that indication for LSCS was malpresentation in 5, failed induction in 4 cases, failure to progress in 20 and fetal distress in 6 cases. Rupture of membrane to delivery interval was <16 hours seen in 20, 16-20 hours in 42 and >20 hours in 8 cases. The difference was significant (P< 0.05).

Table II Evaluation of maternal outcome

Maternal outcome	Number	P value
Adherent Placenta	3	0.01
Wound infection	2	
PPH	3	
Fever	25	
Puerperal Sepsis	10	
UTI	4	
Chorioamniotis	21	
Maternal mortality	2	

Table II, graph I shows that maternal outcome was adherent placenta in 3, wound infection in 2, PPH in 3, fever in 25, puerperal sepsis in 10, UTI in 4, chorioamniotis in 21, and maternal mortality was seen in 2 cases. The difference was significant (P< 0.05).

Graph I Evaluation of maternal outcome



DISCUSSION

Labor usually starts spontaneously within 24 hours following term PROM, but up to 4% of cases they will not experience spontaneous onset of labour within seven days. With expectant management, approximately 60- 80% of women with rupture of membrane go into labour within 24 hours, and 95% within 72 hours.[8] If the interval from leaking to delivery exceeds 18 hours, then there is an increase in incidence of neonatal infections and admissions. Premature rupture of membrane is associated with a high risk of maternal morbidity and mortality.[9,10] 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%.[11,12] The present study was conducted to assess maternal outcome in patients with premature rupture of membrane.

We found that the indication for LSCS was malpresentation in 5, failed induction in 4 cases, failure to progress in 20 and fetal distress in 6 cases. Rupture of membrane to delivery interval was <16 hours seen in 20, 16-20 hours in 42 and >20 hours in 8 cases. In a study by Liu et al[13] the total number of deliveries and the number of those complicated by PROM were recorded. The time from initiation of PROM until delivery (latent period), the volume of amniotic fluid at delivery, fetal conditions and neonatal clinical conditions were recorded. The results suggest that the incidence of PROM was 19.53% and it could influence various aspects of the health of fetuses and neonates, including platelet parameters, erythrocyte parameters, neonatal jaundice and myocardial injury.

We observed that maternal outcome was adherent placenta in 3, wound infection in 2, PPH in 3, fever in 25, puerperal sepsis in 10, UTI in 4, chorioamniotis in 21, and maternal mortality was seen in 2 cases. Everest et al[14] found that of 98 pregnancies identified with rupture of the membranes before 24 weeks' gestation, 40 (41%) women progressed to deliver a liveborn infant following a latent period of at least 14 days. Although most liveborn infants required neonatal intensive care including mechanical ventilation (n=38; 78%), the survival rate to hospital discharge was 70% (n=28). Airleak occurred in 7 (25%) survivors and 8 (67%) deaths. Among the survivors, 12 (43%) required supplemental oxygen at 36 weeks' postmenstrual age and no infant had grade 3 or 4 intraventricular haemorrhage. One infant had a postmortem diagnosis of pulmonary hypoplasia and nine others had clinical features consistent with this diagnosis. Low liquor volume was not uniformly associated with a poor outcome.

CONCLUSION

Authors found that a longer PROM period was linked to maternal morbidity. Fevers, puerperal sepsis, UTIs, chorioamniotis, adherent placentas, wound infections, PPH, and maternal death were the maternal outcomes.

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