ORIGINAL ARTRICLE

Maternal and Neonatal Outcome after Prolonged Rupture of Membranes

FAUZIA MONNOO KHAN

ABSTRACT

Objective: Effect of rupture of membranes more than 24hrs on maternal and fetal outcome.
Materials and methods: In this retrospective study, 100 patients with rupture of membranes for more than 24hrs were included. Study was conducted in the Department of Obs. & Gynae, Fatima Memorial Hospital from August 2009 till January 2010. A total of 100 pregnant women pregnancy with single, cephalic presentation and with no contraindications for normal vaginal delivery were included. Women with major medical disorders and twin pregnancy were excluded.
Results: Of 100 cases, 84% patients were admitted through emergency. Mode of delivery was vaginal in 80% of cases. Septic workup send in 100 neonates and culture was positive only in2%.
Conclusions: It was concluded that prolonged rupture of membranes is associated with increased maternal and neonatal complications. It increases the rate of admission of neonates and septic workup. However positive cultures were seen only in two % of neonates.
Key words: Ruptured membrane, maternal and neonatal outcome

INRODUCTION

As the time between rupture of membranes before the onset of labour increases, so may the risk of maternal and fetal infection. If it is prolonged then it is associated with various adverse maternal and neonatal outcome. Maternal outcome includes fever, oilgohydramnios. Fetal complications include intrauterine fetal demise and neonatal admission in intensive care unit. Maternal fever can be antepartum or postpartum. Anteapartum fever is chorioamnionitis and post partum fever is puerperal pyrexia[1]. Chorioamnionitis is the most feared complication and aim of management in such cases is to prevent its development and to terminate the pregnancy if any signs and symptoms develop. Another maternal complication includes oligohydramnios which is associated with fetal hypoxia and passage of meconium in utero and during labour[2]. This can lead to intrauterine or intrapartum fetal demise. The majority of cases of intrapartum fetal demise are attributed to placental abruption, cord prolapsed, cord compression and fetal infection. The risk of placental abruption with PROM at term is 0.4%-1.3%, cord prolapsed is 1.9%[3]. Of the estimated 130 million infants born each year worldwide 4 million die in 1st 28days of life. Infection (36%), preterm births (28%) and birth asphyxia (23%) accounts for 87% of neonatal deaths worldwide.

Department of Obstetrics & Gynaecology, Fatima Memorial Hospital, Lahore
Correspondence to Dr. Fauzia Monnoo Khan Email: lahorehealthcare@hotmail.com

In our study we will look for maternal and neonatal complications and mode of deliveries in women with prolonged rupture of membranes.

MATERIAL AND METHODS

This study was conducted in the Department of Obs. & Gynae, Fatima Memorial Hospital, Lahore for duration of 6 months from August 2009 to 31st January 2010. It was a retrospective descriptive study. All patients who had rupture of membranes at term and single fetus with cephalic presentations are included in this study. All the patients having ruptured membranes at less than 37weeks and indication for elective LSCS, with major medical problems and multiple gestations were excluded from the study. Ruptured membranes were confirmed by clinical examination. Total 100 patients were included in this study. Ages of patients varied from 16 to 40 years with average age, parity ranged from primigravida to Para 6.

RESULTS

Table 1: Age wise distribution of patients (n=100)

Age (in years)	=n	%age
16-20	8	8.0
21-25	38	38.0
26-30	34	34.0
31-35	14	14.0
36-40	6	6.0

Mean age-+ SD: 27.28+-5.13 years.

Table 2: Parity of patients (n=100)

Parity	=n	%age
0-2	65	65.0
3-5	25	25.0
Para 6 or more	10	10.0

Table 3: Mode of admission (n=100)

Admitted through	=n	%age
Outpatient department	16	16.0
emergency	84	84.0

Table 4: Mode of delivery (n=100)

Route of delivery	=n	%age
Vaginal	80	80.0
Abdominal	20	20.0

Table 5: Neonatal outcome (n=100)

	=n	%age
Discharge	50	50.0
Expired	01	1.0
Lama	10	10.0
DOR	39	39.0

Table 6: Septic workup of babies (n=100)

Culture results	=n	%age
Positive culture	2	2.0
Negative culture	98	98.0

Table 8: Weight of babies (n=100)

Weight in kilograms(kg)	=n	%age
Less than 1.5kg	4	4.0
Greater than 1.5kg	96	96.0

DISCUSSION

The latency period ranges from 21-24hours in patients managed expectantly versus 11-16 hours in patients who are induced and our results are comparable to study conducted in Brazil[6] and one local study conducted in services hospital[7].

Prelabor rupture of membranes (PROM) at term is associated with spontaneous onset of labor within 24 hours in most of the cases and if it may be prolonged (more than 24hours) than it is associated with various maternal and neonatal complications. Approximately 5-10% of all the pregnancies are complicated by PROM, 60% of which occurs at term[8]. It is generally considered safer for women with PROM at term to remain in the hospital if they do not want labor induction[9].

Rate of LSCS was 20% in our study which was comparable with a prospective study of 59women with PROM more than 24hours by Gilson et al where it was 20.3%. Neonatal admissions to the nursery ICU was 100% in the patients with PROM more than 24hours and in all these babies septic workup including blood and urine culture was sent and found to be positive only in 2% of babies and the study conducted by Gilson et al showed no infant with culture positive neonatal sepsis although 5-11% had possible infections[10]. All these neonates required antibiotics. The UN recommends LSCS rate of 5%-15% to optimally decrease maternal and neonatal mortality[11,12].

In our study we found that these women with PROM if managed conservatively and carefully, repeated vaginal examinations are avoided and prophylactic antibiotics are given than maternal and neonatal outcome can be very much improved as one international study shows that repeated digital vaginal examinations increase the risk of both maternal and neonatal infection[13].

In many studies it was found that the risk of neonatal infection was increased among mothers colonized with group B streptococcus, other risk factors for neonatal infection include premature rupture of membranes greater than 18 hours, maternal fever during labor and prematurity[14].

Each neonate was admitted to neonatal intensive care with septic workup done including CBC, ESR, Blood film, CRP (on admission and third day of life), Blood Culture and CXR. All of them received intrabenous antibiotic (ampicillen and amikacin) for 3-4 day, then continue oral augmentin drops till blood culture result except for those who showed clinical laboratory evidence of sepsis I.V or antibiotics were continued accordingly[15].

CONCLUSION

Prolonged rupture of membranes may be associated with increased maternal and neonatal complications. How ever culture positive infection was diagnosed only in 2% of neonates after ROM of more than 24 hrs. Extensive and costly investigations plus use of expensive intravenous antibiotic therapy are a burden for poor patients. Also stay of neonate in a seek baby nursery further increases risk of infection. Therefore, this extensive investigation and treatment protocol prior to confirmation of infection needs to be reevaluated.

REFERENCE

1. Cunningham FG,William obst.3rd ed. London :Churchill living stone ,2001:521-532.
2. Arulkumaran S, Symonds I, Fowlie A, eds. Oxford handbook of obstetrics & gynecology.2nd ed. Karachi : Oxford University press,2006:
3. Jesus R,Alvarez Joseph J, Apuzzio FA. Controversies in the management of preterm premature rupture of membranes. progress vol 18;2008:203-222.
4. World health report 2005:Make every mother and child count.Geneva:WHO;2005.
5. ACOG Practice Bulletin. premature rupture of membranes clinical management guidelines for

obstetrician-gynaecologists Number 1 June 1998.American college of obstetrician and gynaecologists Int J Gynaecol obstet 1998;63:75-84.
6. da Grace Krupa, Cecati JG, deCastro Sturit FG et al. Misoprostol versus expectant management in premature rupture of membranes at term. BJOG 2005 sep;112(9):1284-90.
7. kausar M, Hassan S, Tahir. T. Management prelabour rupture of the membranes at term; professional Med Jun 2008;15(2):216-219.
8. Duff P. Premature ROM in term patients senim perinatal 1996;20:401-8.
9. Hannah ,Mary E.MDCM; Hodnett. Prelabour ROM at term :expectant management at home or in hospital ?oct 2000 vol:96-issue 4-p 533-538.
10. Gilson GJ,O Brein ME,Vera RW ,Block A, Gnubb PN ,Expectant management of premature rupture of membranes at term in a birthing centre study. J nurse midwifery 1988;33:134-9.
11. Butta ZA. Maternal &child health in Pakistan: Challenges & opportunities. Oxford University press; 2004.
12. Belian AP, Merialdi M, Laver JA, Bingshun W, Thomas J ,Van look p,et al. Rates of ceasarean section: analysis of global ,regional and national estimates. paediatric perinatal epidemiology 2007;21:98-113.
13. Prelabour ROM from Ronvie Falco s midwife archives feb.2010;11-27.
14. David F Lewis. Antibiotic therapy in preterm rupture of membranes. Are seven days necessary? A preliminary randomized clinical trial. Am J obstet Gynecol. 2003, 188(6) 1413-6.
15. Kifah Al-Qa Qa and Fatin Al Awayshe Pakistan Journal of medical Sciences. Neonatal outcome and Prenatal Antibiotic treatment in Premature Rupture of Membranes. Volume 21, Oct-Dec.2005. Number 4.