



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3730545>Available online at: <http://www.iajps.com>**Research Article****MANAGEMENT OF PATIENTS WITH PRELABOR RUPTURE  
OF MEMBRANES AT TERM****<sup>1</sup>Dr. Umme Habiba, <sup>2</sup>Dr. Farzana, <sup>3</sup>Prof Dr. Syeda Batool Mazhar, <sup>4</sup>Dr. Suresh**

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**Article Received:** January 2020**Accepted:** February 2020**Published:** March 2020**Abstract:**

*Prelabor rupture of membranes (PROM) results in communication between sterile amniotic cavity & vagina with potential implications for mother & fetus. It occurs in approximately 5-10% of all pregnancies of which 80% occur at term. This study shows a high incidence of infection in babies after PROM. The incidence of perinatal mortality and morbidity increases with prom of greater duration. Therefore, there is need of Development and implementation of an effective supervision and training system to improve antenatal care and better outcomes.*

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Please cite this article in press Umme Habiba et al., *Management Of Patients With Prelabor Rupture Of Membranes At Term.*, Indo Am. J. P. Sci, 2020; 07(03).

**INTRODUCTION:**

Prelabor rupture of membranes (PROM) results in communication between sterile amniotic cavity & vagina with potential implications for mother & fetus. It occurs in approximately 5-10% of all pregnancies of which 80% occur at term. [1] It provides a medium for the infections for both the baby and the mother. Therefore, Active induction of labor soon after PROM reduces the risks of maternal and fetal infections and shorter the duration of labor and expedite delivery. There are different prostaglandins used for induction of labor. Among them one of the most commonly used in developing countries is misoprostol cheaper having good results. [2]

Misoprostol is a prostaglandin E1 analogue which has quick absorption. It has been now vastly used due to its properties of cervical ripening as well as utero-tonic activity. there are multiple qualities which favors its wider used included heat stability, cheaper and easy to administration. [3] Therefore, it is a more reliable drug in developing countries. Another prostaglandin used for induction of labor is prostaglandin E2 and in some cases oxytocin is also use for shorten the duration of labor by increasing the uterine contractions. [4]

Regarding the management plans for treating PROM at term any of the two methods can be opted, either manage it conservatively i.e. for 24 to 72 hours and wait for spontaneous onset of labor or the active management i.e. to accelerate cervical ripening and labor process by using oxytocin and prostaglandins in order to reduce chorio amnionitis and neonatal morbidity and mortality. [2,3]

The purpose of our study was to evaluate the neonatal outcome in the cases of PROM reported at term.

**METHODOLOGY:**

A retrospective study was performed over a 6-month period from 1<sup>st</sup> March, 2018 to 31<sup>st</sup> August, 2018. In MCH Unit I obstetric data, management, mode of delivery and fetal outcome was recruited from obstetric case files. Administrative permission was taken from Head of Department (Unit I) to use patient's data. The study was an observational retrospective study of 135 presented with prelabor rupture of membrane at term. For the women with PROM, all the physicians allowed for spontaneous labor to occur within a maximum of 12 hours before initiating the induction of labor. Detailed history, general physical examination, per speculum and per abdominal examination were done in each patient. A high vaginal swab was taken in almost every patient

along with urine routine investigation. The ultrasounds were performed on all patients at presentation for delivery. The diagnosis of PROM was made on the patient's history, including scanty or gush of vaginal amniotic fluid leakage. The diagnosis was confirmed with a sterile per speculum vaginal examination and in some doubtful cases with aminicator. Bishop score was assessed in each case and to rule out umbilical cord prolapse. The patients were immediately admitted to the hospital following the PROM diagnosis. After a comprehensive evaluation of possible obstetric and medical complications and the exclusion of any contraindications to vaginal delivery, the women underwent expectant management for upto 12 hours to let her go into spontaenous labor. If spontaneous labor did not occur within a maximum of 12 hours, induction of labor with misoprostol was initiated. In some cases prostaglandin E2 and oxytocin were also used. Prophylactic antibiotics were started in the form of cephalosporins (i.e. ceftriaxone and azithromycin) just after the confirmation of PROM.

The maternal demographic characteristics considered in the analysis as possible risk factors were maternal age, gestational age at delivery, miscarriage, and parity. The neonatal outcomes were assessed by stay of babies in nursery and occurrence of sepsis.

The data was analyzed by using excel sheet. Data were expressed as the mean  $\pm$  standard deviation (m  $\pm$  s) for continuous numerical variables like age. The categorical variables like mode of delivery, stimulation and neonatal outcome were measured as frequency and percentages.

**RESULTS:**

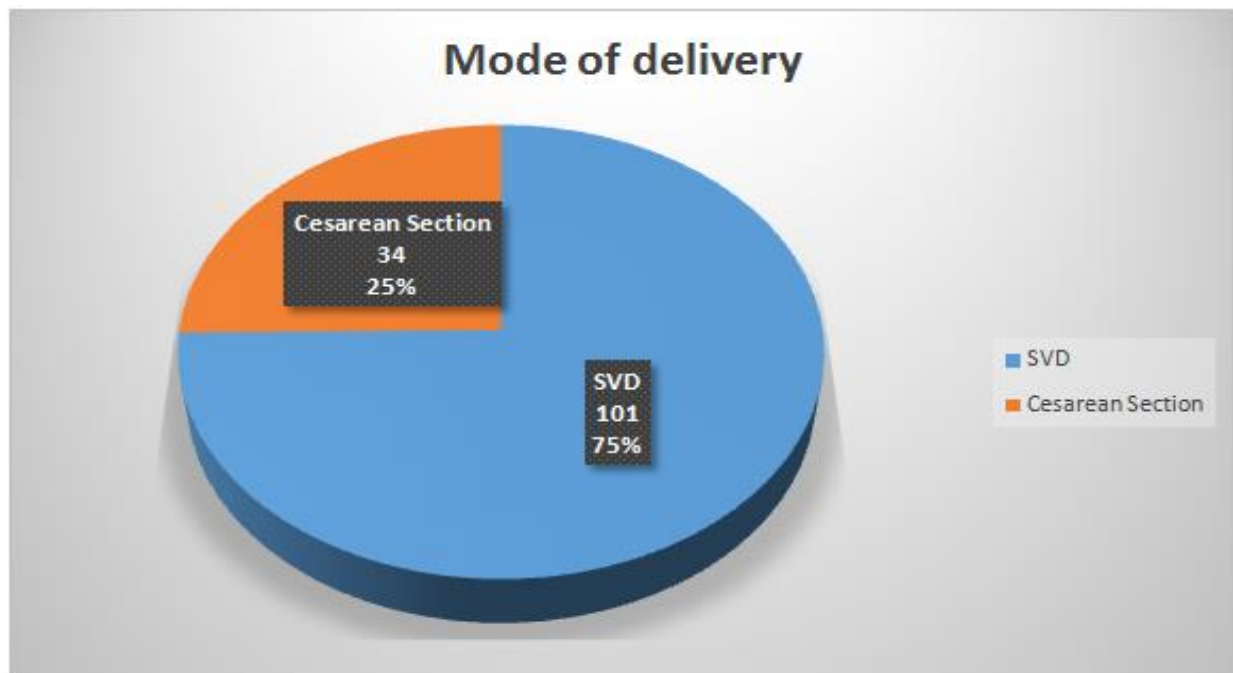
Out of 135 cases, overall mode of delivery was cesarean section in 34 (25.0%) and SVD in 101 (75.0%) cases. (Figure I) Of the total, 26 (18.5%) women delivered spontaneously, 11 (7.5%) had c section due to fetal distress at presentation. In total 98 (72.5%) patients had to be stimulated for labor, 8 (5.9%) patients with oxytocin, the majority 84 (62%) cases with PGE1 and 6 (4.4%) patients with PGE2. Out of the PGE1 induces 45 (53%) received one dose, 20 (23%) had 2 doses and 19 (22%) had 3 doses. (Figure II)

Out of these 75 had delivered vaginally and 23 had cesarean section (6% were due to failed stimulation and 7% were due to fetal distress and non-progress of labor). (Figure III)

Out of total 135 infants, 90 (66%) babies were handed over to mothers at the time of delivery and

were completely well, 45 (33%) babies were kept under observation in nursery. While under observation in the nursery, 15 (11%) babies needed

antibiotics, and 6 (4.4%) babies developed sepsis. (Table 1)



**Figure I: Mode of delivery in the study (n=135)**

**Figure II: Methods of stimulation (n=98)**

**Figure III: Outcome of Stimulation cases (n=98)****Table 1: Neonatal outcome in the study (n=135)**

	Number of cases	%age
Healthy discharged	90	66.6%
Nursery admission	45	33.3%
Developed sepsis	6	4.4%

**DISCUSSION:**

We collected data for pregnant women reported to emergency with PROM at term, its overall rate was 12.5% in this study. The infection rate was also found higher and a reasonable proportion required antibiotic treatment after delivery in this study. PROM can occur due to multiple factors one of the common risk factor is ascending infection of the genital tract which leads to rupture of membranes at pre term and as well as at term. [5] The exactly causes of term PROM are still unknown. [6]

The optimal approach to the management of women with term PROM still not definitive. According to 2013 ACOG guideline it is "For women with PROM at 37 0/7 weeks of gestation or more, if spontaneous labor does not occur near the time of presentation in those who do not have contraindications to labor, labor should be induced".<sup>2</sup> While by giving regards to expectant management or labor induction, the exact time limitation from the PROM to the induction of labor is not defined up till now. Our results indicated that within 12 hours or just after 12 hours of PROM if induction of labor done it had shown good neonatal as well as maternal outcome.

In our study, the incidence of neonatal infection/sepsis in the PROM group was 4.4%. The incidence of neonatal infection in the PROM group in our study was much lower than reports from the literature. Previous evidence also suggests that the most serious complication of term PROM is chorioamnionitis and neonatal sepsis, with an increasing risk of complications observed with prolonged PROM. [7,8] The morbidity of neonatal infection with PROM was 2%-3% which is ten times higher as compared to delivery without PROM, and it had seen even higher when presented with complication of chorioamnionitis.[9] There are two things in our management plans, first administration of prophylactic antibiotics soon after the confirmation of PROM and induction of labor after only 12 hours of waiting for spontaneous onset of labor.

It was stated in literature that early intervention may result in higher incidence rate of CS therefore different authors had set the time interval of waiting for spontaneous onset of labor after PROM that ranges from 12 hours up to maximum of 96 hours.

[10]

In our study good results were observed, 75% women had vaginal delivery and maximum were induced with prostaglandin E1 misoprostol. Misoprostol is a cheaper drug and reduces the maternal infection by expediting the labor. The rate of cesarean section due to PROM in the current study was comparable to other previous studies from the region and at national level. [11,12] In the present study a sizeable proportion of neonates required admission to nursery for temporary observation and almost half of them required antibiotic therapy. Evidence suggests that an immediate management of PROM patient with antibiotic and early plan of delivery reduces the risk of perinatal morbidity. [13] Use of different stimulants can help in reducing the rate of cesarean section and its associated complication in mothers and child.[14] There is a need to develop strategies which can further improve the management of patients with PROM. This can also be dealt by proper monitoring of the pregnancy in the ANC period.

The current study has many advantages, firstly very few evidence regarding PROM is available from the local settings, moreover, the existing data on neonatal outcome is also a plus point of this study. Few limitations were also there; we did not follow-up the patients for a longer period after delivery and thus were not aware of the final outcome of these patients specially, if any late perinatal period mortality occurred or not.

### CONCLUSION:

This study shows a high incidence of infection in babies after PROM. The incidence of perinatal mortality and morbidity increases with prom of greater duration. Therefore, there is need of Development and implementation of an effective supervision and training system to improve antenatal care and better outcomes.

### REFERENCES:

1. Shah K, Doshi H. Premature rupture of membrane at term: early induction versus expectant management. *J Obstet Gynaecol India*. 2012;62(2):172–175. doi:10.1007/s13224-012-0172-6.
2. ACOG Committee on Practice Bulletins-Obstetrics. ACOG Practice Bulletin No. 80: premature rupture of membranes. Clinical management guidelines for obstetrician-gynecologists. *Obstet Gynecol*. 2007;109:1007–19.
3. Practice bulletins No. 139: premature rupture of membranes. *Obstet Gynecol*. 2013;122:918–30.
4. Levy R, Vaisbuch E, Furman B, Brown D, Volach V, Hagay ZJ. Induction of labor with oral misoprostol for premature rupture of membranes at term in women with unfavorable cervix: a randomized, double-blind, placebo-controlled trial. *J Perinat Med*. 2007;35:126–9.
5. Nakubulwa S, Kaye DK, Bwanga F, Tumwesigye NM, Mirembe FM. Genital infections and risk of premature rupture of membranes in Mulago Hospital, Uganda: a case control study. *BMC Res Notes*. 2015;8:573. Published 2015 Oct 16. doi:10.1186/s13104-015-1545-6
6. Xia H, Li X, Li X, Liang H, Xu H. The clinical management and outcome of term premature rupture of membrane in East China: results from a retrospective multicenter study. *Int J Clin Exp Med*. 2015;8(4):6212–6217.
7. Caughey AB, Robinson JN, Norwitz ER. Contemporary Diagnosis and Management of Preterm Premature Rupture of Membranes. *Rev Obstet Gynecol*. 2008 Winter; 1(1): 11–22.
8. Endale T, Fentahun N, Gemada D, Hussen MA. Maternal and fetal outcomes in term premature rupture of membrane. *World J Emerg Med*. 2016; 7(2): 147–152.
9. Dars S, Malik S, Samreen I, Kazi RA. Maternal morbidity and perinatal outcome in preterm premature rupture of membranes before 37 weeks gestation. *Pak J Med Sci*. 2014; 30(3): 626–629.
10. Hallgrimsdottir H, Shumka L, Althaus C, Benoit C. Fear, Risk, and the Responsible Choice: Risk Narratives and Lowering the Rate of Cesarean Sections in High-income Countries. *AIMS Public Health*. 2017;4(6):615–632. Published 2017 Dec 26. doi:10.3934/publichealth.2017.6.615
11. Dare MR, Middleton P, Crowther CA, Flendady VJ, Varatharaju B. Planned early birth versus expectant management (waiting) for prelabour rupture of membranes at term (37 weeks or more) *Cochrane Database Syst Rev*. 2006;1:CD005302.
12. Goys M, Bernabeu A, Garcia N, Plata J, Gonzalea F, Merced C, Llorba E, Suy A, Casellas M, Carreras E, Cabero L. Premature rupture of membranes before 34 weeks managed expectantly: maternal and perinatal outcomes in singletons. *J Matern Fetal Neonatal Med*. 2013;26:290–3.
13. Wojcieszek AM, Stock OM, Flendady V. Antibiotics for prelabour rupture of membranes at or near term. *Cochrane Database of Systematic Reviews* 2014, Issue 10. Art. No.: CD001807. DOI: 10.1002/14651858.CD001807.pub2.
14. Field A, Haloob R. Complications of caesarean section. *The Obstetrician & Gynaecologist* 2016;18:265–72.