

Premature Rupture of Membrane- Risk Factors: A Clinical Study

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ABSTRACT

Introduction: Premature rupture of membranes (PROM) is defined as a spontaneous leakage of amniotic fluid from the amniotic sac where the baby swims. The present study was conducted in the department of Obstetrics and Gynaecology to calculate the risk factors of PROM.

Material and Methods: The present study was conducted in the department of Obstetrics and Gynaecology in year 2010. It consisted of 120 patients with premature rupture of membranes (PROM). All patients were asked to fill the questionnaire and physically examination was done and sterile cusco speculum conducted, which aided in the collection of endocervical and posterior vaginal fornix swabs from all of them. Each swab was included on to blood, chocolate, Mac Conkey, and around dextrose agar plates, while chocolate agar plates were incubated in candle extinction and all other plates were incubated in air at 37 c for 24 - 48 hrs. Wet preparation slides were also made from all swabs and examined for fungal elements.

Results: Out of 120 patients 11 were less than 18 years, 65 were in age group 19-29 years, 35 were in 30-40 years and 9 were above 40 years of age. The distribution of patients according to gravidity. Primigravida were 52% and nulipara was reported in 56%. 105 patients showed no history of abortion, 9 were one time aborted, 4 were two times aborted and 2 were three times aborted. Various causes of leaking were unknown (54), previous PROM (28), recurrent UTI (18), itching (6), polyhydramnios (5), unstable lie (5) and antepartum hemorrhage (4). 92 patients were housewives, 24 were employee and 4 were students. Vulvar examination was normal in 107 patients and abnormal in 13 patients. Vaginal examination was normal in 106 patients and abnormal in 14 patients. Cervical examination was normal in 110 patients and abnormal in 10 patients. The difference was significant (P<0.05).

Conclusion: Premature rupture of membrane is the complication seen in pregnancy. Mostly the cause is unknown followed by previous PROM. It is seen mostly in housewives. The age group 20-30 is the favourable group in which PROM is seen.

Keywords: Antepartum hemorrhage, Premature rupture, Primigravida

INTRODUCTION

Premature rupture of membranes (PROM) is defined as a spontaneous leakage of amniotic fluid from the amniotic sac where the baby swims. The fluid escapes through ruptured fetal membranes, occurring after 28 weeks of gestation and at least one hour before the onset of true labour. PROM occurs after twenty-eight weeks of gestational age and before thirty-seven weeks. Term PROM occurs after thirty-seven completed weeks of gestational age, including post-term cases occurring after forty weeks.¹ Preterm PROM and term PROM can be divided into: Early PROM (less than twelve hours has passed since the rupture of fetal membranes) and prolonged PROM (twelve or more hours has passed since the rupture of fetal membranes).² Sometimes, it can occur in a very early pregnancy or in

early third trimester. Risk factors associated with PROM are malpresentation of the Fetus, multiple Pregnancy, infection, and excess amniotic fluid, cervical incompetence and trauma to the Abdomen.³ For the diagnosis, ultrasound examination is useful. Digital vaginal examination should be restricted if preterm pre-labour rupture of membranes (PPROM) is suspected.⁴ The present study was conducted in the department of Obstetrics and Gynaecology to calculate the risk factors of PROM.

MATERIAL AND METHODS

The present study was conducted in the department of Obstetrics and Gynaecology in year 2010. It consisted of 120 patients with premature rupture of membranes (PROM). The following inclusion and exclusion criteria were used.

Inclusion: Those who fulfilled confirmation of gestational age by ultrasonographic examination before 24 weeks of pregnancy.

Exclusion: 1. Patients with multiple pregnancy, 2. Patients with uterine contraction, 3. Patients with polyhydramnios malpresentation incompetent cervix.

Patients were informed regarding the study and consent was taken. All patients were asked to fill the questionnaire and physically examination was done and sterile cusco speculum conducted, which aided in the collection of endocervical and posterior vaginal fornix swabs from all of them. Each swab was included on to blood, chocolate, Mac Conkey, and around dextrose agar plates, while chocolate agar plates were incubated in candle extinction and all other plates were incubated in air at 37 c for 24 - 48 hrs.

Wet preparation slides were also made from all swabs and examined for fungal elements. And a Gram stain film of all specimens was also examined for intracellular gram-negative diplococci.

STATISTICAL ANALYSIS

Results thus obtained were tabulated and subjected to statistical analysis using chi square test. P value<0.05 was considered significant.

RESULTS

Table 1 shows that out of 120 patients 11 were less than 18 years, 65 were in age group 19-29 years, 35 were in 30-40 years and 9 were above 40 years of age. Table 2 shows that shows the distribution of patients according to gravidity. Primigravida were

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Age (years)	Number
<18	11
19-29	65
30-40	35
>40	9
Total	120

Table-1: Distribution of patients

Gravity	Number
Primi	52
2-4	50
>5	18
Parity	Number
Nullipara	56
1-4	58
>5	6
Abortion	Number
No abortion	105
One	9
Two	4
Three	2

Table-2: Patients according to obstetrics history

52% and nulipara was reported in 56%. 105 patients showed no history of abortion, 9 were one time aborted, 4 were two times aborted and 2 were three times aborted. Figure 1 shows various causes of leaking. These were unknown (54), previous PROM (28), recurrent UTI (18), itching (6), polyhydramnios (5), unstable lie (5) and antepartum hemorrhage (4). Figure 2 shows that 92 were housewives, 24 were employee and 4 were students. Figure 3 shows that vulvar examination was normal in 107 patients and abnormal in 13 patients. Vaginal examination was normal in 106 patients and abnormal in 14 patients. Cervical examination was normal in 110 patients and abnormal in 10 patients. The difference was significant (P<0.05).

DISCUSSION

Premature rupture of membranes may occur at term or immediately preceding labour, or it may be an unexpected complication during the preterm period, when it is referred to as preterm premature rupture of membranes. The present study was conducted in the department of Obstetrics and Gynaecology to calculate the risk factors of PROM.

In present study out of 120 patients 11 were less than 18 years, 65 were in age group 19-29 years, 35 were in 30-40 years and 9 were above 40 years of age. Our results are in agreement with the study by Parry S et al.⁵ A study done by Duff P⁶ revealed that maximum numbers were seen in 20-30 years of age.

We also did distribution of patients according to gravidity. Primigravida were 52% and nulipara was reported in 56%. 105 patients showed no history of abortion, 9 were one time aborted, 4 were two times aborted and 2 were three times aborted. Similar results were seen in study of Hannah et al.⁷ We also evaluated different causes of leaking. These were unknown (54), previous PROM (28), recurrent UTI (18), itching (6), polyhydramnios (5), unstable lie (5) and antepartum hemorrhage (4). However study by Chen⁸ showed that recurrent UTI was the main reason. Among all patients, 92 were housewives, 24 were employee and 4 were students. Our results are in agreement with the study

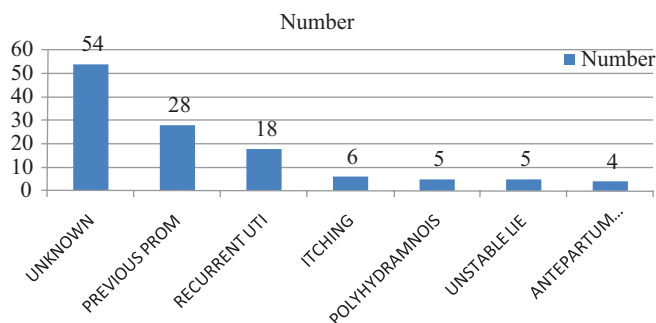


Figure-1: Distribution of patients on the basis of causes of leaking

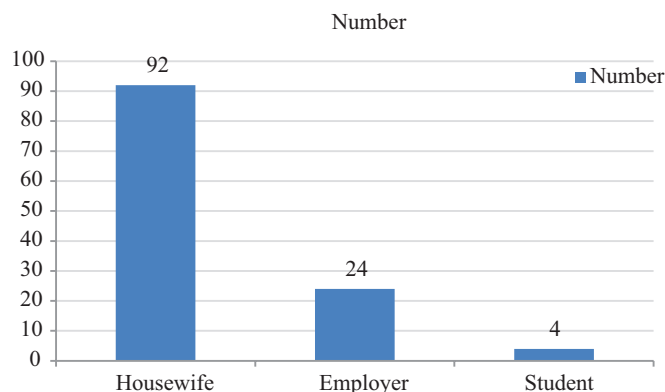


Figure-2: Distribution of patients according to occupation

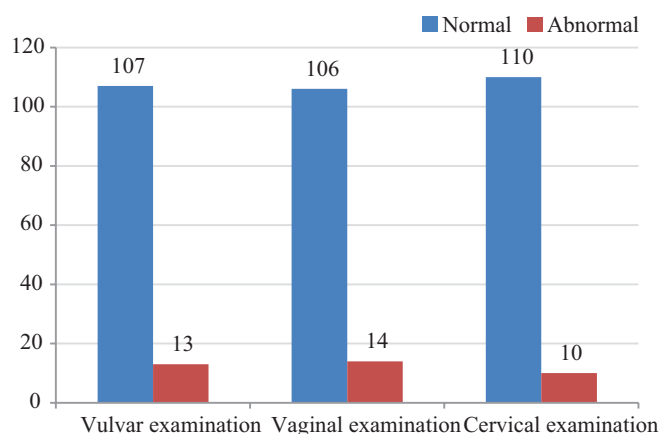


Figure-3: Distribution of patients by gynaecological examination

by Myles et al.⁹ We also did vulvar examination which was normal in 107 patients and abnormal in 13 patients. Vaginal examination was normal in 106 patients and abnormal in 14 patients. Cervical examination was normal in 110 patients and abnormal in 10 patients. Our results are in agreement with the study by Park JS.¹⁰

CONCLUSION

Premature rupture of membrane is the complication seen in pregnancy. Mostly the cause is unknown followed by previous PROM. It is seen mostly in housewives. The age group 20-30 is the favourable group in which PROM is seen.

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