



Full Length Research Paper

Maternal outcome of pregnancy with PROM a retrospective study in an Indian medical college

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Abstract

The aim and objective is to determine the incidence, to find out the age, parity and gestational age distribution and presentation of PROM and also to formulate the line of management. The cases selected in this study were those patients who had spontaneous rupture of membranes after 28 wks of gestation but before the onset of labour pain. The study period was of 1 year wef Jan 2012 to 31st Dec 2012. This study was conducted in the labour room of Malda Medical College, Malda, W.B, and India. The patients were admitted in the labour room through emergency. Total number of deliveries 12,148 and total number of PROM cases were 729. The incidence of PROM in this study is 6%. The maximum numbers of cases were in the age group between 20-29 yrs (63%). PROM mainly occurs in primigravida (50.06%). Cephalic is the commonest presentation (85.18%) in PROM and incidence of caesarean section is 25.9%. PROM is an obstetric emergency and once PROM is diagnosed it is important to weigh the risk of PROM and prematurity and make the right choice of conservative management or active management. If there is chance of maternal morbidity pregnancy should be terminated considering the maternal well being first and then that of the fetus.

Keywords: PROM, caesarean section, primi gravid.

INTRODUCTION

Premature rupture of membranes is the spontaneous rupture of membranes prior to the onset of labour (American College of Obstetrician and Gynecologists, Premature rupture of membranes, 1989; ACOG Committee Practice Bulletins, 2007) and can occur any gestational age even at 42 weeks of gestation. PROM can be term or preterm (< 37 wks). Prolonged PROM refers to PROM > 24 hrs and is associated with increased risk of ascending infection (American College of Obstetrician and Gynecologists, Premature rupture of membranes, 1989; ACOG Committee Practice Bulletins, 2007). The time interval between the rupture of membranes and onset of labour pain is called latent period and the time interval between the rupture of membrane and delivery is called interval period. Approximately 2-20% (American College of Obstetrician

and Gynecologists, Premature rupture of membranes, 1989; ACOG Committee Practice Bulletins, 2007; Alexander and Cox, 1996; Duff, 1996) of all pregnancies will experience PROM and leads to one third of pre term births⁵. The diagnosis of PROM is largely clinical and is typically suggested by a history of watery vaginal discharge and confirmed on sterile speculum examination. The traditional minimally invasive gold standard diagnosis of PROM relies on clinician's ability to document 3 clinical signs on sterile speculum examination.

1. Visual pooling of clear fluid in the posterior fornix of vagina or leakage of the fluid from the cervical os
2. An alkaline pH of the cervico vaginal discharge
3. Microscopic ferning of the cervico vaginal discharge on drying

Evidence of diminished amniotic fluid volume (by Leopold's examination or ultrasound) alone can't confirm the diagnosis but may help to suggest it in the appropriate clinical setting. We conducted this study to

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Table 1. Age distribution of PROM

Age in yrs	No of cases
15-19	45
20-24	255
25-29	205
30-34	185
35 and above	39

Table 2. Parity distribution of PROM

Gravida	No of cases	Percentage (%)
Primi	365	50.06
2 nd gravida	165	22.6
3 rd gravida	165	22.6
4 th gravida	34	4.66

Table 3. Gestational period distribution

Gestational age	No of cases	Percentage (%)
28-31 wk	40	5.48
32-35 wk	72	9.87
36-39 wk	605	82.99
40 wk and above	12	1.64

find out the incidence, to see the age, parity and gestational age distribution of PROM and presentation of PROM and also to formulate the line of management of PROM.

MATERIALS AND METHODS

The cases selected in this study were those patients who had spontaneous rupture of membrane before the onset of true labour pain but beyond 28 wks of gestation. The patients were admitted in the labour room of Malda Medical College and Hospital through emergency. The study period was with effect from 1st Jan 2012 to 31st Dec 2012. Total number of deliveries in Obstetrics ward in one year 12,148 and total number of PROM 729.

Exclusion criteria:

1. All doubtful cases in which a diagnostic amniotic fluid sample could not be obtained inspite of history suggestive of PROM
2. Rupture of membranes with presence of uterine contraction which are painful, regular and associated with progressive cervical changes.
3. Cases of chorioamnionitis which is diagnosed clinically if two or more of the following symptoms were presents
 - a. Maternal pyrexia 100.4⁰F or more
 - b. Uterine tenderness
 - c. Purulent vaginal discharge
 - d. Fetal tachycardia

Amniocentesis may be able to suggest the diagnosis (with evidence of an elevated amniotic fluid white cell count, elevated lactate dehydrogenase level and decreased glucose concentration) or even definitely confirmed the presence of intra-amniotic infection (with the positive gram stain or amniotic fluid culture). It is not regarded as standard care in all patients presenting with PROM.

RESULTS AND ANALYSIS

Total number of deliveries in Obstetric Ward 12,148. Total number of PROM 729. Incidence of PROM $729 \times 100 / 12,148 = 6\%$.

Table 1 shows age distribution of PROM and maximum number of cases is between 20-29 years (n = 460, 63%). We have found that PROM is more common in primigravida 50.06% (Table 2).

Table 3 shows gestational period distribution. In our study PROM commonly occurs between 36-39 wks of gestation (82.99%) and rarely occurs at 40 weeks onwards (1.64%).

Table 4 shows term PROM is 71.88% and cephalic is the commonest presentation of PROM (table 5).

Incidence of Caesarean section in PROM

Table 4. Term and preterm pregnancy

Gestational age	No of cases	Percentage (%)
Preterm (before 37 wks gestation)	205	28.12%
Term gestation (After 37 wks)	524	71.88

Table 5. Presentation in relation to PROM

Presentation	No of cases	Percentage (%)
Cephalic	621	85.18
Breech	81	11.11
Others	27	3.70

Table 6. Caesarean section in relation to parity

	No of cases	Percentage (%)
Primi gravida	160	21.9
Multi gravida	29	3.9

Table 7. Indications of Caesarean Section

Indication	No of cases	Percentage (%)
Fetal distress	47	24.86
Elderly primi with or without hypertension	47	24.86
Malpresentation	30	15.87
Failed induction with fetal distress	26	13.75
Failed induction without fetal distress	24	12.69
Post CS	10	5.29
Primi with type 2 DM	5	2.6

Total cases of PROM 729

Total number of LSCS in PROM cases 189

Incidence $189 \times 100 / 729 = 25.9\%$

Out of 25.9% CS deliveries 21.9% was done in primi gravida and only 3.9% was done in multi gravida (table 6).

Table 7 shows that CS was most commonly done due to fetal distress and elderly primi with or without hypertension 24.86% + 24.86%.

DISCUSSION

The incidence of PROM in present studies is 6%. This is similar to previous observations made by Alexander JM, Cox SM et al in 1996 and Duff P in 1996 (Alexander and Cox, 1996; Duff, 1996). In the present study PROM is common in primi gravida 50.06%. This is different from the study conducted by Bianco A et al in 1996 where PROM is commoner in multigravida. This difference is due to ascending infection which is more common in developing countries and is an important cause of PROM. Incidence of caesarean section in present study is 25.9%.

This is similar to the studies conducted by Chua S, Arulkumaran S et al in 1991 who have found incidence of CS 19.1%. Incidence of caesarean section is higher in primi gravida and this trend is similar to that observed where CS rate was four times higher in primi rather than multi para patients with PROM (8% vs. 2%). PROM before 37 completed weeks causing preterm labour is an important cause of prematurity hence while managing a case of PROM chance of prematurity should be kept in mind but simultaneously if pregnancy continued for fetal salvage maternal risk like chorioamnionitis which is an important cause of DIC (Dutta, 2011) should be seriously thought of. As pregnancy is a hypercoagulable state it adversely reacts with the presence of endotoxin leading to DIC. This is similar to generalized Schwartzman reaction.

CONCLUSION

From the above observation, we can conclude that PROM commonly occurs in primigravida and cephalic is

the commonest presentation. From the study we also can conclude that if there is chance of maternal morbidity pregnancy should be terminated considering the maternal morbidity first than that of fetus as if tree should be saved first at the cost of its fruit.

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