ORIGINAL ARTICLE

Pre-Labour Rupture of the Membranes at Term with Unfavourable Cervix

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ABSTRACT

Aim: To determine the obstetrical and neonatal outcome in patients undergoing conservative and active management among those presenting with prelabour spontaneous rupture of membranes at term with unfavourable cervix.

Methods: The present study was carried out at obstetrical and gynaecological department, Nishtar Hospital, Multan from October 2003 to October 2004. A total of 150 patients were included the study, 75 in the conservative group and 75 in the active group.

Results: There were 68.75% multigravida and parity was limited to 4 in the study group. The gestational age at the time of PROM was 39-40 weeks. Duration of labour was limited to 12 or less than 12 hours. The spontaneous vertex delivery rate was 76% in the active group and 66% in the conservative group with P-value of <0.05.

Conclusion: According to our study active management in patients with PROM at term can give better results as compared to conservative approach.

Keywords: Prelabour rupture of membranes, Term, Unfavourable cervix

INTRODUCTION

Pre-labour rupture of membranes (PROM) is defined as the spontaneous rupture of fetal membranes before the onset of labour irrespective of gestational age.[1] Rupture of membranes before 37 weeks is better referred as preterm premature rupture of membranes[2]. The incidence of PROM is 8-10% of all pregnancies[3]. Approximately 60-80% of PROM cases occur in term pregnancies.

Normal fetal membranes are strong earlier in pregnancy. The collagen and elastin present in the connective tissue fibres of the chorioamnion gives elasticity and tensile strength to the membranes[4]. However, a number of biochemical and biophysical changes that the membranes undergo as term approaches weaken the membranes and increase the likelihood of rupture[5]. The exact cause of PROM is not known. Some epidemiological factors are associated with increased risk of this phenomena[6]. These factors include smoking, nutritional status of mother, decline in collagen content of amnion in later pregnancy and genital tract infection, which disturbs the integrity of the chorioamnion.[7] No relationship has been observed between PROM and mental age, parity and weight[8].

The rational for active approach is the concern regarding amniotic infection i.e. chorioamnionitis. It has been observed that the risk of infection correlates with the length of time the membranes have been ruptured before delivery[9]. Active management can be done either with oxytocin or prostaglandins depending on cervical score and choice and experience of the obstetrician. Oxytocin stimulation of an unfavourable cervix with a poor bishop score usually gives rise to incoordinate labour with prolonged induction delivery time and increased risk of fetal distress[10]. It is also associated with failure to progress leading to a much higher incidence of operative deliveries. In various studies the caesarean section rate ranged from 15-27%, which is quite high[11].

Conservative approach has been favoured by certain studies. According to these studies antibiotic therapy can effectively reduce the risk of infection. However, term PROM study by Hannah et al[12] has conclusively proved that both induction of labour and expectant management are reasonable options of women with prelabour rupture of membranes at term.

PATIENTS AND METHODS

The present study was carried out at obstetrical and gynaecological department, Nishtar Hospital, Multan from October 2003 to October 2004. A total of 150 patients were included the study, 75 in the conservative group and 75 in the active group.

RESULTS

Most of the patients were multigravida i.e. 68-75%. Parity was limited to 4 in the study group (Table 1). The gestational age at the time of PROM was 39-40

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weeks inmost of the patients (Table 2). Duration of labour was limited to 12 or less than 12 hours (Table 3). The spontaneous vertex delivery rate was 76% in the active group and 66% in the conservative group with P-value of <0.05 (Table 4). Bishop score was significantly better after 6 hours in the active group (mean 4.5) than conservative group (mean 1.1) with P-value of <0.05. 60% of women in active group and 40% in conservative group responded to single PGE2 pessary while 40% of women in active group and 60% in conservative group required two pessaries with P-value of <9.05. A significantly lower number of patients in the active group required oxytocin for augmentation of labour than the conservative group with P-value of <0.05. Apgar score of the babies in both groups was significantly different (P-value <0.05). It was less that 4 at 1 minute in 4% and 6.6% and less than 8 at 5 minutes in 2.6% and 5.3% of the babies in active and conservative group respectively. No neonatal death was seen in both the groups.

Table 1: Parity of patients

Parity	Active group	Conservative group
Primigravida	24(32%)	20(36.6%)
Gravida 2-3	25(33%)	30(40%)
Gravida 4 -5	26(34.6%)	25(33.9%)

Table 2: Gestational distribution

Gestational age	Active group	Conservative group
37.38 weeks	32(42.6%)	28(37.3%)
39-40 weeks	35(46.6%)	36(48%)
41-42 weeks	8(10.6%)	4(5.3%)

Table 3: Duration of preterm labour

Duration	Active group	Conservative group
1-4 hrs	23(30.6%)	25(33.3%)
5.8hrs	32(42.6%)	28(37.3%)
9-12 hrs	20(26.6%)	22(29.3%)

Table 4: Mode of delivery in both groups

Mode of delivery	Active group	Conservative group
Spontaneous vertex	57	50
Instrumental	6	4
Caesarean section	12	21

DISCUSSION

The incidence of spontaneous PROM at term in the present study was 6.3%. This is comparable to 6.2% of Ladfors study[13]. However Iams gave a figure of 5-15%[8]. Results from various randomized trials indicate no evidence of benefits in terms of caesarean delivery of maternal or neonatal infectious morbidity by awaiting spontaneous onset of labour for more than 24 hours in women with term PROM.[14] However, Hannah et al found expectant management to be safe for upto 4 days[12].

Smoking has been associated with PROM but in our part of the world smoking amongst the females is not prevalent. Hence this factor was present in only two patients (11%)[15]. In other case control study history of PROM in a previous pregnancy was found to be a significant risk factor[9]. In our study it was present in 13% of the cases.

The diagnosis of PROM is usually based on history of gush of watery fluid from vagina followed by persistent leakage. A sterile speculum examination conforms the pooling of liquor in the posterior formix. This criteria was used for diagnosis in our study. We did not use test like pH or ferning test to confirm the diagnosis comparable to other studies[1].

The incidence of instrumental delivery was 8% in the actively managed patients and 5% in the expectantly managed patients. The main reason was maternal exhaustion resulting from painful uterine contractions from the very beginning of labour. These results were comparable to a local study in which the instrumental vaginal delivery rate was almost double in the active group (10.3% vs 5.4%) than the expectant group.[10] The findings are in contrast to that of Grant et al[11] who found similar number of forceps deliveries among the two groups.

The characteristics of labour in our study go in favour of active mode of management. Most women in the PGE2 group started to labour early similar to a study by Amjad[16], resulting in reduced PROM to delivery interval. There was lesser exytocin requirement as well as the number of vaginal examination Was also less in the PGE2 group similar to the study by Hannah et al[12]. It is important as it reduces the risk of ascending infection.

A controlled randomized study on 100 women with either PGE2 gel or expectant management also favours the active mode of management.[17] He found a significant reduction in the mean interval from PROM to onset of labour and PROM to delivery without influencing the caesarean rate and fetal or maternal infective morbidity. Similar results were obtained by Ghua et al[18] who found more women establishing labour earlier with PGE2 pessary and a resultant decrease in admission to delivery interval.

Analgesia was less often required in the conservative group in our study. This is because of mild and imperceptible natural labour pains in the early phase of labour[16]. Review of various studies in this regard increased intensity of pain and increased requirement of analgesia in the induced group[18].

CONCLUSION

According to our study active management in patients with PROM at term can give better results as compared to conservative approach.

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