

A Comparison of 24 Hours Expectant Management Versus Induction of Labour in Pre-Labour Rupture of Membranes at Term

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ABSTRACT

Objective: To compare the outcome of 24 hours expectant management with early induction in prelabour rupture of membranes at term.

Study Design: Quasi-Experimental Study

Place and Duration of Study: This study was conducted at the Obstet and Gynae, Fauji Foundation Hospital, Rawalpindi from January 2016 to December 2016.

Materials and Methods: This study was conducted on 120 patients with 37-41 weeks gestation, parity upto 5, having a single cephalic fetus presenting within 8 hours of uncomplicated PROM. Patients were divided into two groups, 60 each. Group A was managed expectantly for 24 hours while group B was induced with prostaglandin E₂ vaginal pessary or oxytocin. Patients in both groups were monitored for signs and symptoms of chorioamnionitis. Fetal monitoring was done with fetoscope and CTG. Both the groups were observed for fetal distress, mode of delivery, postnatal complications like postpartum pyrexia, endometritis and for hospital stay. Neonatal outcome was assessed in terms of admission to Intensive care unit for > 24 hours and clinical signs of sepsis.

Results: In immediate induction group, 44(77.3%) patients delivered vaginally, 10(16.6%) had caesarian section and 6(10%) had instrumental vaginal delivery as compared to 40 (66.6%), 12(20%) and 8(13.3%) respectively in the expectant management group. Postpartum pyrexia was noted in 8(13.3%) in the immediate induction group as compared to 10(30%) in the other group. No significant difference was seen in fetal distress and neonatal infection rates between both the groups.

Conclusion: Immediate induction after term PROM is a safe and effective option with no adverse maternal and neonatal outcome when compared with expectant management. Immediate induction did not appear to increase cesarean section and instrumental vaginal delivery rates and was associated with decreased post natal pyrexia and conferred the benefit of reduced financial burden on patient as well as hospital by reducing the hospital stay.

Key Words: Expectant Management, Pre-Labour Rupture, Membranes at Term

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INTRODUCTION

Prelabour rupture of membranes (PROM) complicates approximately 8% of all pregnancies at term.¹ It is classically defined as rupture of integrity of fetal membranes before the onset of labour and resulting in leakage of amniotic fluid²⁻⁵. PROM exposes the mother and fetus to increased risk of morbidity due to ascending infection from cervix and vagina. Maternal risks include chorioamnionitis before delivery and postpartum hemorrhage and endometritis after delivery especially with prolonged rupture of

membranes.⁶ Risk to the fetus is fetal distress and neonatal sepsis later on.

Management is either expectant or planned early birth by induction of labour. However there is a controversy about whether it is best to induce labour or to wait for spontaneous onset of labour if there is no evidence of fetal or maternal compromise.⁷ Conservative approach has been favored by some studies due to the fact that 80% of the patients go into spontaneous labour within 24 hours and also that the rate of caesarean section and instrumental delivery is less without a significant increase in the risk of infection.⁸ Others believe that early induction is preferable due to decreased risk of maternal and fetal sepsis, short delivery interval and hospital stay with no significant increase in the number of operative deliveries.⁹ Some studies support both options equally. Keeping in view this controversial background, we decided to conduct this study in our unit. The aim of our study was to compare the outcomes 24 hours expectant management with those of early induction in PROM at term. This analysis of clinical sequel of both management options will help us

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to formulate guidelines for a uniform labour ward protocol for management of term PROM in our setup.

MATERIALS AND METHODS

This Quasi experimental study was conducted at Fauji Foundation Medical College from Jan 2016-Dec 2016. Total 120 patients meeting our inclusion criteria were selected and group was allocated by randomization. Patients were divided into 2 groups of 60 each. Group A was managed expectantly for 24 hours while group B was induced with prostaglandin E₂ vaginal pessary or oxytocin. Data was collected through a proforma. Detailed history and examination was performed and baseline investigations were sent. Both groups A & B started on prophylactic antibiotics. Patients in both were monitored for signs and symptoms of chorioamnionitis. Fetal monitoring was done with fetoscope and CTG. If labour failed to start after 24 hours in patients of groups B, they were induced according to the same protocol as for active management group.

Both the groups were observed for fetal distress, mode of delivery, postnatal complications like postpartum pyrexia, endometritis and for hospital stay. Neonatal outcome was assessed in terms of admission to Intensive care unit >24 hours and clinical signs of sepsis.

Data Analysis: Data was entered in SPSS version 19. Student T-test was applied to compare these variables between groups. Mode of delivery, postnatal complications and neonatal outcome was presented as numbers and percentages. Chi-square test was applied to compare these variables between groups. P value of <0.05 was considered significant.

Inclusion Criteria: All booked patients upto para 5 five with singleton pregnancy and cephalic presentation reporting within 8 hours of onset of leaking were included in this study.

Exclusion Criteria: Previous LSCS, Malpresentations, IUD, Grand multiparas, Chorioamnionitis, Women presenting in already established labour, Gestational age < 37 & > 41 Weeks, Multiple pregnancy, Pregnancy with medical disorders

RESULTS

This study extended over a period of one year from Jan to Dec 2016. Mode of delivery was analyzed as in 60 patients of immediate induction group. Most of patients n=44(73.3%) had normal vaginal delivery, n=10(16.6%) had cesarean section while n=6(10%) had instrumental delivery. Whereas in 60 patients of expectant management group, most of the patients, n=40(66%) had normal vaginal delivery followed by n=12(20%) who had cesarean section and n=8(13.3%) had instrumental delivery. (As shown in table No.1)

Maternal outcome was analysed as in 60 patients of Immediate Induction Gp, Postpartum pyrexia was found in n=8(13.8%) patients and none of them developed endometritis, whereas in 60 patients of expectant management group, postpartum pyrexia was found in n= 18(30%) and only 2 patients had endometritis (3.33%) with P=0.000 (as shown in Table no 2)

Table No. 1: Mode of Delivery n= 60 in each group

Mode of Delivery	Immediate Induction (Gp B) n (%)	Expectant Management (Gp A) n (%)	Significant Value
Vaginal delivery	n=44 (73.3%)	n=40 (66%)	P=0.848
Caesarian section	n=10 (16.6%)	n=12(20%)	
Instrumental delivery	n=6 (10%)	n=8 (13.3%)	
Total	n=60	n=60	

Table No. 2: Maternal Outcome, n=60 in each group

Outcome Measures	Immediate Induction (Gp B) n (%)	Expectant Management (Gp A) n (%)	Statistical Significance
Postpartum Pyrexia	n=8 (13.3%)	n=18 (66%)	P=0.000
Endometritis	n=0	n=2(3.33%)	P=0.117

Table No. 3: Mean Hospital Stay in Hours n= 60 in each group

Outcome Measures	Immediate Induction (Gp B)	Expectant Management (Gp A)	Statistical Significance
Mean hospital stay in Hours	24.7 ± 8.44	36.3 ± 11.34	P=0.582

Table No. 4: Neonatal Outcome, n= 60 in each group

Neonatal Outcome Measure	Immediate Induction (Gp B)	Expectant Management (Gp A)	Significant Value
Fetal Distress	n=10 (16.6%)	n=12(20%)	P=0.000
Stay in ICU for 24 Hours	n=6 (10%)	n=18(13.3%)	
Neonatal Infection	n=6 (10%)	n=6 (10%)	

In immediate induction group n=10(16.6%) cases developed fetal distress, n=6(10%) neonates required admission in NICU for more than 24 hours and n=6(10%) neonates developed neonatal infection as compared to n=12(20%), n=8(13.3%) and n=6(10%) respectively in expectant management group (as shown in table no 4).

DISCUSSION

Much of the debate surrounding PROM at term has centered on whether immediate induction is better than the expectant management. This study compared immediate induction of labour after PROM with expectant management in order to establish better management options for this group of women.

In this study the rate of normal vaginal deliveries in Group B is 73.3% Vs 66% in Group A. This is consistent with study of Farhat Karim¹. Some studies reported rate of 80% with expectant management. Caesarean section rate in our study was comparable in both groups being 16.6% in group B and 20 % in group A with $P=0.848$ which is statistically insignificant. Datta Mamta reported that rate of 16.7% vs 18%, Rizwana Chaudhri reported 10% Vs 12% in immediate induction and expectant management groups respectively.^{10,11} Tan BP also found no significant difference in Caesarean section rate in both both groups. Local studies conducted by Tasnim and Samia Malik reported high caesarean section rate in active management as compared to expectant management group i.e. 29% vs 10% and 17.8% vs 9% respectively.^{12,13} Suneela K in her study showed that there were 88.3% vaginal deliveries in expectant group and 85% in active management group i.e. 11.7% LSCS rate in expectant group and 15% in induction group. This is in contrast to our study results which showed better vaginal delivery rates i.e. 73.3% in active management group and 66% in expectant group. A study by Shanti K et al stated LSCS rate as 5.7% in expectant group as compared to 12% in active group, which is contrary to our study results.¹⁴ Rate of instrumental delivery in our study was 10% in active management group and 13.3% in the expectant management group with a P value of 0.848 which is statistically not significant. Rizwana Chaudri gave 13.3% rate of instrumental delivery in active management group and 8% in expectant management group which are comparable to our study.¹⁰

In our study, less number of women developed postnatal pyrexia in the immediate induction group (13.3% as compared to 30.3% in expectant management group). This is consistent with observations of Mozurkwich and FM Wolf.¹⁵ One patient developed endometritis in expectant management group as compared with none in immediate induction group. Other studies have also reported increased maternal infectious morbidity with expectant approach.¹ Surprisingly in our study the number of women experiencing postnatal pyrexia was quite high i.e 13.3% and 30.36% in induction group and expectant group respectively. A study conducted by Suneela K reported Pyrexia of 3.3% and 5% in induction group and expectant group respectively.² Sumera Y conducted study in Peshawar which reported

postpartum pyrexia of 2.4% in induced group and 16% in expectant group.¹⁶

No significant difference was found in fetal outcome of both groups in our study in terms of neonatal infection and NICU admission rate which were 10% vs 13.3% and 10% vs 10% in immediate induction group and expectant management group respectively. Comparable neonatal outcome has been reported by studies conducted but Rizwana Chaudhri, Farhat Karim and Chaudry Sunehamay.^{1,10} Suneela K et al reported severe birth asphyxia requiring ventilation in 6.6% cases and neonatal sepsis was reported in 11.7% of expectant group.²

In this study women in the immediate induction group had a considerable shorter mean hospital stay i.e. 24.7 ± 8.44 hours as compared to 36.3 ± 11.34 hours in the other groups. This finding is similar to the observation of Hartling.⁹ Another study also showed results consistent with our study, as they concluded that active management reduced latent period with shorter hospital stay and better maternal satisfaction.

CONCLUSION

We concluded that immediate induction after term PROM is a safe and effective option with no adverse maternal and neonatal outcome when compared with expectant management. Immediate induction did not appear to increase cesarean section and instrumental vaginal delivery rates. It is appeared to be associated with a decreased rate of postnatal pyrexia and endometritis. Immediate induction also confers the benefit of reduced financial burden not only on patient but also on health facilities by decreasing the hospital stay. We recommend that choice of immediate induction should be offered to all patients presenting with PROM at term.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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