A COMPARATIVE STUDY BETWEEN ACTIVE AND EXPECTANT MANAGEMENT OF PREMATURE RUPTURE OF MEMBRANES AT TERM TO EVALUATE FETOMATERNAL AND PERINATAL OUTCOMES

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ABSTRACT Premature rupture of the membranes is defined as the spontaneous rupture of the chorioamnion before the onset of uterine contractions, this is also known as Prelabour rupture of membrane. In some Indian studies the incidence of PROM is reported as 7-12% in term pregnancy. This study was conducted at Narayana Multispeciality Hospital, Jaipur, Rajasthan, for 7 months of duration (from February 2020 to August 2020). This study was Prospective, Observational and Comparative study. A total 70 term PROM patients were recruited in our study and divided into two groups randomly- 35 (Group A) patients were managed actively by induction of labour and 35 (Group B) patients underwent expectant management. Both these patient groups were studied to compare the fetomaternal outcome. Patients in Actively managed group were induced with iv oxytocin infusion. In Expectantly management group patients were observed to await the spontaneous onset of labour pains for at least 24 hours. In our study vaginal deliveries in actively managed group are 65.7% and in expectantly managed group its 54% and in 51% cases of actively managed cases PROM to delivery interval was less than 12 hours and in 88% cases of expectantly managed group PROM to delivery interval was 12 to 24 hours. APGAR score was notably higher in active management group. Therefore, from our study we concluded that immediate induction of labour in term PROM cases favours vaginal deliveries, shortens the PROM to delivery interval and improves the APGAR Score of the fetus thereby reducing the NICU admission rate

KEYWORDS : Term PROM, Induction of labour, Expectant management, Active management

INTRODUCTION:

PROM is characterized by rupture of membranes before the onset of true labour. These women are prone to cord compression/cord prolapse and higher risk of infection. The longer the time interval between rupture of membranes and onset of labour the greater the risk of ascending infection and chorioamnionitis. This risk may assume grave proportions in patients undergoing caesarean section. **According to Yasmina A. Barkat A.(2017)**¹-PROM at term occurs in 5 to 10% of pregnancies. **According to Shailaja, Vijayalakshmi & Bhuvaneshwary (2017)**²- some of the Indian studies, the incidence of PROM is reported as 7-12% in all labours.

Active Management- Active management of term PROM at term means early induction with any inducing agent like Oxytocin, PGE2 gel or Misoprostol, can be done in patient, in order to prevent maternal morbidity.

Expectant Management- This is done in patients where cervix is unfavourable, no signs infection (maternal tachycardia, fever, uterine tenderness), normal cardiotocography, 4 hourly maternal temperature charting, evaluation of vaginal loss and assessment of fetal well-being. Prophylactic antibiotics are given, here we do not induce or interfere with normal progression of labour for 24 hours.

Management of PROM at Term has always been an issue of contradiction. Many studies find it better to manage as Active management and some others find better as Expectant management.

METHOD:

70 patients of PROM at term pregnancy were randomized into two groups and one group managed actively with oxytocin and second one expectantly, given i.v. antibiotics and vitals were monitored 4 hourly. Mode of delivery, PROM to delivery interval, APGAR Score at 1 min were noted.

INCLUSION CRITERIA:

- Gestational age of >37 weeks confirmed by dates, clinical examination or ultrasound.
- Cervical dilatation of <5 cms.
- Lack of uterine contractions for atleast 1 hour from PROM.
- Single live pregnancy in vertex presentation.

EXCLUSION CRITERIA

- Gestational age <37 weeks
- Cervical dilatation of >5 cms.
- Women in labour or with uterine contractions within 1 hour of rupture of membrane.
- Previous cesarean section
- Malpresentations and multiple gestations.
- Eclampsia

Note: Complications like contracted pelvis, cephalopelvic disproportion, multiple pregnancy and malpresentations were excluded from study.

RESULTS:

In Active Management group Vaginal deliveries were 65.7% and LSCS were 34.3% while in Expectant Management group this was 54.28% and 45.72% respectively.

Mean PROM to delivery interval was 12.77±3.85 hours in Actively managed group while it was 15.54±3.25 hours in expectantly managed group.

In Actively managed group 94.28% newborns were having APGAR score was more than 7 while this was 71.4% in expectantly managed group.

Table 1. Distribution of patients according to mode of delivery

Mode of delivery	Active Management	Percent	Expectant management	Percent	X2 value-0.9524
Vaginal	23	65.71%	19	54.28%	P value-0.3291
Cesarean	12	34.38%	16	45.71%	
Total	35		35		

Table 1 depicts that In our study Vaginal Delivery in Active management group was 65.71% as compared to 54.28% in Expectant management group, but this result was statistically *not significant*. *p value- 0.3291*

Table 2. Comparison of PROM to delivery interval

Duration of PROM	Active Management			Expectant Management		
	Vaginal	LSCS	Percent	Vaginal	LSCS	Percent

Less than 6 hours		1	2.8%		1	2.8%
6 to less than 12 hours	12	6	51%	1	2	8.5%
12 to less than 18 hours	8	2	28.5%	10	10	57%
More than 18 hours	3	3	17%	8	3	31.4
Total	23	12		19	16	
Mean PROM to delivery interval	12.77±3.85 hours		15.54±2.85 hours			

Table 2. depicts that 51% of cases in active management group, PROM to delivery interval was 6 hours to less than 12 hours while in 88% cases in expectant management group it was 12 hours to 24 hours.

Graph 3. Distribution of newborn according to APGAR Score at 1 min

Graph 3 depicts that there were 94.28% newborns having APGAR more than 7 in Actively managed group while 71.43% of newborns of Expectantly managed group were having APGAR more than 7 and this was found statistically significant, *p* value is 0.011.

DISCUSSION:

Aim of this study was to compare the results of active and expectant group to find out which management is better for patient and there should be more of vaginal deliveries, shorter PROM to delivery interval leading to less maternal morbidity and higher APGAR score for better fetal outcome whatever management we do for PROM patients. The two groups were comparable for Age, Parity and Bishop score. The difference between these factors was found statistically non significant. We compared our study results with previously done studies with the following parameters-

MATERNAL OUTCOME:

Mode of Delivery- In our study vaginal deliveries in actively managed group is 65.7% and in expectantly managed group its 54%.

Similarly Rawat R et al 2018⁵, Rizvi Fatima et al 2015³, Jayathi Nath⁴ et al 2016, Pragma et al 2020⁶ found the results in their studies. Conversely Shanthi et al 2015⁷, Suneela et al 2016⁸, Jahnvi et al 2017⁹, Anuprita Burande et al 2018¹⁰ observed results against this study.

The above findings overall suggests that Active management in PROM at term patient does not necessarily improve the vaginal delivery percentage as compare to LSCS, so we can not clearly say that Active management is better over Expectant Management due to contradicting results of various above mentioned studies.

PROM to Delivery Interval- In study we observed that in 51% cases of actively managed cases PROM to delivery interval was less than 12 hours and in 88% cases of expectantly managed group PROM to delivery interval was 12 to 24 hours. *P* value was 0.001 that was significant. Mean PROM to delivery interval for Active management group was observed as 12.27±3.85 hours and in Expectant management group was 15.54±3.25 hours.

Similar results found by Jayathi Nath et al 2016⁴, Rawat R et al 2018⁵, Shanthi et al 2015⁷, Jahnvi et al 2017⁹, Pragma et al 2020⁶.

These findings overall suggests that Active Management is better in reducing PROM to delivery time interval.

PERINATAL OUTCOME:

In view of APGAR Score- During study we found that in actively managed group APGAR Score was more than 7 in 94.28% cases in

Actively managed cases while it was 71.43% in expectant group. Similar results were seen by Anuprita Burande et al 2018¹⁰, Rawat R et al 2018⁵.

While contrary to above results Jahnvi et al 2017⁹ found no significant difference in neonatal morbidity and mortality in both the management groups in PROM

This concludes that APGAR Score outcomes are variable in both Active and Expectant management groups in the above mentioned studies. This may be due to difference in availability of resuscitative measures and management protocols for new born at different centers.

CONCLUSION:

Hence we find that Active Management in PROM at term is better than Expectant Management. Active management improves rate of vaginal deliveries, PROM to delivery interval also shortens that improves maternal morbidity and perinatal outcome in view of good APGAR Score and lesser NICU stay. Thereby PROM patient at Term pregnancy should be managed by Active management that enhances patient satisfaction and improves foeto-maternal outcomes.

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