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Induction of labor in term prelabor rupture of membranes: A randomized control trial comparing, intravenous oxytocin *vs.* Prostaglandins

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SUMMARY

AUTHORS' CONTRIBUTION: (A) Study Design · **(B)** Data Collection . **(C)** Statistical Analysis · **(D)** Data Interpretation · **(E)** Manuscript Preparation · **(F)** Literature Search · **(G)** No Fund Collection

Background: Premature Rupture Of the Membranes (PROM) at term is defined as membrane rupture happening at least an hour before the onset of uterine contractions at a gestational age of 37 weeks or more. It complicates 8% of pregnancies in some way. With this diagnosis, there is an elevated risk of chorioamnionitis due to the length of the PROM.

Objective: Comparing the effects of intravenous oxytocin, oral misoprostol, and vaginal dinoprostone (a PGE2 analogue) administration for labour induction in women with term prelabor rupture of membranes on mother and neonatal outcomes.

Methods: Pre-labor membrane rupture at term affected 120 pregnant women who participated in this randomised control clinical trial. For cervical ripening and labour induction, group A received a dose of misoprostol equal to one-fourth of a 100-mcg tablet (or roughly 25 mcg), group B received vaginal PG E2 dinoprostone (Dinoglandin 3 mg), and group C had low-dose oxytocin regimens.

Results: Induction-active phase time and induction-delivery time were significantly lower in group A and group C compared with the group B ($P<0.05$) with no significant difference between group A and C. Cesarean delivery rate was 22.5% in group A and 32.5% in group B *vs.* 12.5% in group C and this difference was not statistically significant. As regards the factors associated with induction failure, our study results revealed that parity is an independent risk factor for failure of induction while method of induction.

Conclusion: When compared to PGE2, immediate induction with oxytocin or oral misoprostol had considerable advantages in terms of birth time, caesarean section risk, and maternal infection. In the case of PROM at term, no definite benefit for oral misoprostol over intravenous oxytocin has been shown in terms of the duration of the induction-active phase, the length of the induction, the risk of caesarean birth, the incidence of maternal infection, or the result for the newborn.

Keywords: Induction; Prelabor rupture of membranes; Oxytocin; Prostaglandins; Misoprostol; Dinoprostone

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INTRODUCTION

Prelabor membrane rupture refers to membrane rupture that occurs before uterine contractions begin (PROM). This occurrence occurs in 8–10% of pregnancies, and term pregnancies make up about 60% of these cases [1].

Longer times between the rupture of the membranes and the onset of labor pains are associated with an increase in issues such as chorioamnionitis, endometritis, chronic abruption, cord compression, neonatal morbidity, and neonatal sepsis. Induction of labor, as opposed to expectant management, reduces the risk of chorioamnionitis while preserving the cesarean delivery rate [2,3].

PROM is longer than 24 hours. PROM increased the risk of significant maternal morbidity by 14% due to sepsis, transfusion, bleeding, infection, severe renal damage, and readmission [4,5].

There is no agreement on the best way to induce labor in women who are planning a vaginal delivery. Studies have shown that using prostaglandins other than oxytocin as the initial method of induction has not provided a clear benefit for women with PROM, even those with an unfavorable cervix [6,7]; however, there is a lack of data for this subgroup. Current guidelines suggest that oxytocin should be the primary method of labor induction for women with PROM [5,8-10].

There are certain disadvantages to using oxytocin, such as the need for intravenous administration, instability at room temperature, a short shelf life, and a high cost. Misoprostol has the advantages of being easy to use, simple to administer by several routes, such as sublingually, orally, and vaginally, stable at room temperature, having a longer shelf life, and being cheaply priced [11,12].

he sustained-release Prostaglandin E2 (PGE2) vaginal implant has been shown to be both safe and effective in promoting cervical softening in women with term pregnancies and low Bishop scores. However, there is insufficient data on the effectiveness and safety of PGE2 in term pregnancies complicated by PROM [13,14].

METHODS

This randomized control trial was conducted on 120 patients from February to August 2022 at the Ain Shams University maternity hospital. One hundred Twenty cases

participated in the study and were equally randomized into three groups, each containing 40 patients using simple randomization from a randomization table created by computer software.

The Obs/Gyn department of the Faculty of medicine at Ain Shams University's Ethics & Research Committee (ERC) gave its clearance before the study could begin. The clinical research study complied with the current approved clinical protocol and pertinent Ain Shams University Hospital rules, standards, and laws.

Initially, the treatment choices were discussed with 120 pregnant women who had term pre-labor membrane ruptures, and then they were divided into three groups at random (40 women each group).

Age, maternal weight, maternal Body Mass Index (BMI), anaemia, induction active phase and delivery times, change in Bishop score within the first 12 hours, mean blood loss in labour, intrapartum fever, foetal tachycardia, uterine hypertonicity, uterine tachysystole, uterine hyperstimulation, birth weight, meconium-stained amnion in labour, and foetus weight were the parameters compared between

Inclusion criteria:

Women between the ages of 18 and 36 who are carrying a singleton, have ruptured membranes between 36 + days and 41 weeks of gestation, have a cephalic presentation, and have no history of prostaglandin hypersensitivity or contraindications to vaginal delivery (such as placenta previa, placenta abruption, a previous uterine scar, or an unsettling foetal heart pattern).

Exclusion criteria:

Women who experience regular uterine contractions, expected foetal weight by ultrasound > 4.5 kg, intra-amniotic infection symptoms, abnormal foetal heart rate patterns by CTG, cephalopelvic disproportion (CPD), contraindications to prostaglandin or oxytocin as cardiac diseases, glucoma, bronchial asthma, or severe renal insufficiency.

Sample size:

Using PASS 15 program for sample size calculation, setting power at 80%, alpha error at 0.05 assuming an effect size difference (d = 0.5) between the three groups regarding the incidence of vaginal delivery and after 10% adjustment for dropout rate a sample size of at least 40 patients per groups was needed [3].

Study procedure:

Initial therapy options were discussed with 120 pregnant women who had term pre-labor rupture of membranes. In three groups, they were distributed at random:

Group A: According to ACOG Practice Bulletin (2007), the initial dose of misoprostol for cervical ripening and labour induction is one-fourth of a 100-mcg unscored tablet (i.e., roughly 25 mcg) [15].

Oral Misoprostol Solution OMS was administered to group A patients. A 200-gram misoprostol tablet (Misotac, Sigma Pharmaceutical Co., Ltd., Beijing, China) was dissolved in 200 ml of water (final concentration: 1.0 g/ml) to create titrated OMS, which was then left out at room temperature for 24 hours. Titrated OMS was given in the following doses: 20 g hourly for the first two doses; 30 g hourly for the next three doses in the absence of regular uterine activity; 40 g for one treatment at a 1.5-hour interval; and 50 g for one dose. It took 6.5 hours to complete the administration process. A second cycle of medication was begun six hours after the first cycle finished if there were no indications of regular uterine contractions. Regular uterine contractions every 3–5 minutes that lasted 60 seconds or longer each were a sign that OMS should be stopped, as were dilatation of the cervix to 2.0 cm, emergent membrane rupture, uterine tachysystole, and an unsatisfactory FHR.

Group B: Per ACOG Practice Bulletin (2007), a second dosage of intracervical dinoprostone should be administered 6–12 hours after the first dose if there is insufficient cervical alteration and little uterine activity.

Patients of group B received vaginal PG E2 dinoprorstone (Dinoglandin 3 mg) by sterile surgical gloves as 1 dose to be assessed after six hours for need for 2nd dose.

Group C: The low-dose oxytocin regimens shown in **Tab. 1.** are suitable for labour induction, according to ACOG Practice Bulletin (2007). Reduced uterine tachysystole and related FHR alterations are related to low-dose regimens and less frequent dose increases.

Patients in group C received continuous intravenous oxytocin (syntocinon) infusions using an infusion pump, starting at a low dose of 2mU/min and increasing by 2mU/min every 20 minutes, until adequate contractions were attained (3 contractions every 10 minutes), or until 12 hours had passed since the start of the oxytocin induction.

The followings were done for all patients included in the study:

Personal history: Age, name, parity, residence, occupation, socioeconomic standard and special habits of medical importance.

Detailed obstetric history: Gravidity, parity and miscarriages.

Tab. 1. Labor stimulation with oxytocin: Examples of low-dose oxytocin.

Regimen	Starting Dose	Incremental Increase (mU/min)	Dosage Interval (min)
Low-dose	0.5-2	1-2*	15-40
*The incremental increase is reduced to 1 mU/min with hyperstimulation.			

Past medical history: History of cardiac problems, history of diabetes mellitus, hypertensive disorders, chest diseases, renal diseases.

Physical examination including:

- General examination was done and vital data was recorded.
- Abdominal and pelvic examination.
- Body mass index (was calculated as weight in kilograms divided by the square of height in meters).
- Gestational age, parity and Bishop Score were recorded.
- PROM was diagnosed *via* vaginal speculum examination in order to determine the amniotic fluid leakage.
- Gestational age was calculated based on the first day of Last Menstrual Period (LMP) or the first trimester ultrasonography.
- Bishop score was determined by assessing cervical dilation, effacement, station, position and cervical consistency.
- In walk-in delivery instances, obstetric ultrasound was performed to survey the obstetric information, including position, placenta location, amniotic fluid index, foetal viability, and estimated foetal weight.
- While labour was being induced, the Foetal Heart Rate (FHR) was continuously tracked to identify any potential abnormalities. If necessary, the proper treatment was then started in accordance with the FHR category tracing.
- The prevalence of caesarean sections, neonatal status, and ICU hospitalisation were examined.
- For these irregularities, conservative management was the primary course of action (left lateral positioning, O_2 therapy, discontinuation of oxytocin infusion, and hydration with 500cc Ringer lactate for 30 minutes). The FHR abnormality category defined our next steps if the abnormalities did not improve with conservative therapy.
- Prophylactic antibiotics were administered to prevent neonatal sepsis.
- Vaginal examinations were performed on all study participants every 3 to 5 hours, and the procedure was referred to as a failed induction if the patients didn't enter the active phase of labour within the allotted times (group A, 6.5 hours, group B, 2 doses spaced six hours apart, and group C, 12 hours from the start of oxytocin inculcation).
- **Failed Induction:** Patients who required LSCS for failure to progress were classified as failed induction if a woman was not in active phase of labour after receiving 10 doses of misoprostol solution, after receiving 2 doses of vaginal dinoprostone, or if she failed to deliver within 24 hours of the initial administration of misoprostol.

Consent: All ladies of the two groups participating in this study were given an informed consent and they have rights to withdrawal.

Outcomes: The 1ry outcomes were need for caesarean section and failure rate of induction. The 2ry fetal outcomes were fetal heart rate abnormality, Apgar score at 1 and 5 min and need for neonatal intensive care unit. Maternal satisfaction, uterine hyperstimulation, the number of women who delivered vaginally within 24 hours of the first dose of PGs or the start of oxytocin, the number of doses of misoprostol given, the mode of delivery, the length of the induction process, and the overall dose of prostaglandin required were the secondary maternal outcomes.

STATISTICAL ANALYSIS

The statistical evaluation was done using SAS 9.1. (SAS Institute, Inc., Cary, NC). The database was cleaned and locked for data analysis, and one statistician was responsible for maintaining the randomization code until the study's conclusion. At this moment, the code was loaded into the database.

RESULTS

Concerning age and occupation, **Tab. 2.** demonstrated no statistically significant difference between the three groups (p-values >0.05). The mean age in group A was 27.5+5.57 years, in group B it was 25.78+4.57 years, and in group C it was 27.33+4.74 years. Over 90% of the women were stay-at-home moms. Additionally, it demonstrated that there was no statistically significant difference in BMI across the three groups (P-value >0.05), with the mean BMI in group A being 29.56+5.30, group B being 29.27+5.48, and group C being 30.19+5.21 (kg/m^2) (Table 2).

With a mean GA of 38.73+1.57, 38.82+1.58, and

Tab. 2. Demographic characteristics of study groups.

Variables		Group A "Oral Misoprostol Group"		Group B "Vaginal Dinoprostone Group"		Group C "IV Oxytocin Group"		F*	P value
		Mean	SD	Mean	SD	Mean	SD		
Age		27.25	5.57	25.78	4.57	27.33	4.74	1.23	0.30
		N	%	N	%	N	%	X²**	P value
Occupation	Housewife	37	92.5%	39	97.5%	38	95.0%	1.08 FE	0.87
	Working	3	7.5%	1	2.5%	2	5.0%		
BMI (kg/m^2)		29.56	5.30	29.27	5.48	30.19	5.21	0.31	0.73

38.60+1.55 weeks in groups A, B, and C, respectively, **Tab. 3.** demonstrated that there is no statistically significant difference between the three groups regarding GA and parity (P value >0.05). 37.5%, 57.5%, and 42.5% of the women in groups A, B, and C, respectively, were PG (Table 3).

Tab. 4. showed that there is no statically significant difference between the three groups regarding surgical and medical history (P- value >0.05). **Tab. 5.** showed that the doses of misoprostol which intake oral was significantly higher in the PG compared with multipara (58.67 ± 38.10, *vs.* 30.00 ± 12.91) and significantly higher in the P1 cases compared with the multipara (61.67 ± 26.39, *vs.* multipara 30.00 ± 12.91), p-value <0.05.

Tab. 6. showed that there is no statistically significant difference between PG and P1, and Multipara as regards the total dose of vaginal dinoprostone in group (B). **Tab. 7.** showed that there is no statistically significant difference between PG and P1, and Multipara as regards the total dose of IV oxytocin in Group C. **Tab. 8.** revealed a statistically significant difference in the time it took for labor to progress to the active phase, from the start of induction among the three groups regarding parity. **Tab. 9.** showed no statistically significant relation (P>0.05) between 3 groups as regard obstetrics outcomes (FHR, APGAR scores, chorioamnionitis, meconium stained liquor, and hyperstimulation. The Logistic regression analysis for factors associated with induction failure showed that parity (1 or more) is the most significant indicator (P=0.005) as shown in **Tab. 10**.

Tab. 3. Gestational age and parity of the studied groups.

Variables		Group A "Oral Misoprostol Group"		Group B "Vaginal Dinoprostone Group"		Group C "IV Oxytocin Group"		F*	P value
		Mean	SD	Mean	SD	Mean	SD		
GA (weeks)		38.73	1.57	38.82	1.58	38.60	1.55	0.21	0.81
		N	%	N	%	N	%	X²**	P value
Parity	PG	15	37.5%	23	57.5%	17	42.5%	9.10 FE	0.33
	1.00	6	15.0%	7	17.5%	5	12.5%		
	2.00	9	22.5%	5	12.5%	4	10.0%		
	3.00	8	20.0%	4	10.0%	10	25.0%		
	4.00 or more	2	5.0%	1	2.5%	4	10.0%		

Tab. 4. Past medical history of the studied groups.

Variables		Group A "Oral Misoprostol Group"		Group B "Vaginal Dinoprostone Group"		Group C "IV Oxytocin Group"		X²*	P value
		N	%	N	%	N	%		
Medical history	Negative	32	80.0%	33	82.5%	30	75.0%	0.71	0.71
	Positive	8	20.0%	7	17.5%	10	25.0%		
Surgical history	Negative	30	75.0%	29	72.5%	32	80.0%	0.64	0.73
	Positive	10	25.0%	11	27.5%	8	20.0%		

Tab. 5. Total doses of drugs used for induction in each group in relation to parity.

Dose	PG		P1		Multipara		F*	P value
	Mean	SD	Mean	SD	Mean	SD		
Total dose of oral misoprostol	58.67	38.10	61.67	26.39	30.00	12.91	6.03	0.01

Tab. 6. Dose of dinoprostone (Group B).

Dose	PG		P1		Multipara		F*	P value
	Mean	SD	Mean	SD	Mean	SD		
Total dose of vaginal dinoprostone	1.70	0.63	1.14	0.38	1.50	0.53	2.53	0.09

Tab. 7. Dose of oxytocin (Group C).

Dose	PG		P1		Multipara		F*	P value
	Mean	SD	Mean	SD	Mean	SD		
Total dose of iv oxytocin (units)	10.88	5.37	17.00	15.25	9.72	6.29	1.87	0.17

Tab. 8. Time required for reaching active phase of labor &delivery from start of induction of labor in each group in relation to parity.

Dose	Group A "Oral Misoprostol Group"		Group B "Vaginal Dinoprostone Group"		Group C "IV Oxytocin Group"		Kruskal Wallis test	P value
	Median	IQR	Median	IQR	Median	IQR		
Induction to active phase time (hours)	2.50	1.00-5.00	10.50	5.00-17.00	3.00	2.00-6.00	26.86	<0.001
Induction to delivery time (hours)	5.00	2.00-8.00	15.00	6.00-20.00	5.00	4.00-11.00	22.99	<0.001

Tab. 9. Outcome.

Variables		Group A "Oral Misoprostol Group"		Group B "Vaginal Dinoprostone Group"		Group C "IV Oxytocin Group"		F*	P value
		Mean	SD	Mean	SD	Mean	SD		
FHR		136.55	20.76	131.30	23.32	136.23	21.58	0.72	0.49
1st min APGAR score		8.32	1.44	7.72	1.74	8.10	1.19	1.69	0.19
5th min APGAR score		9.20	.65	8.90	1.17	9.12	.65	1.32	0.27
		N	%	N	%	N	%	X^{2**}	P value
C.S need	No	31	77.5%	27	67.5%	35	87.5%	4.59	0.10
	Yes	9	22.5%	13	32.5%	5	12.5%		
Signs of chorioamnionitis	No	40	100.0%	40	100.0%	40	100.0%	-	-
	Yes	0	0.0%	0	0.0%	0	0.0%		
Uterine hyperstimulation	No	38	95.0%	34	85.0%	37	92.5%	2.36 FE	0.38
	Yes	2	5.0%	6	15.0%	3	7.5%		
Meconium stained in labor	No	39	97.5%	37	92.5%	38	95.0%	1.08 FE	0.87
	Yes	1	2.5%	3	7.5%	2	5.0%		
ICU newborn need	No	37	92.5%	35	87.5%	36	90.0%	0.61 FE	0.93
	Yes	3	7.5%	5	12.5%	4	10.0%		

Tab. 10. Logistic regression analysis for factors associated with induction failure.

Variables	B	S.E.	Sig.	Odds Ratio	95% C.I. for Odds Ratio	
					Lower	Upper
Group B	0.241	0.539	0.654	1.273	0.443	3.659
Group C	-0.767	0.627	0.221	0.465	0.136	1.587
BMI	-0.038	0.035	0.279	0.963	0.898	1.031
Age	-0.008	0.039	0.828	0.992	0.919	1.070
Parity (1 or more)**	-1.505	0.532	0.005	0.222	0.078	0.630

DISCUSSION

The strength of our study comes from the fact that, as far as we are aware, not many studies have compared these three sets of drugs—IV oxytocin, vaginal dinoglandin (PGE2), and oral misoprostol (PGE1)—with different delivery techniques. Previous studies have compared the two methods of inducing labour in term pregnant women with pre-labor membrane rupture; some of their findings agree with ours and others don't.

Ngai, et al. experiment, which randomly assigned 80 patients to receive 200 mg of oral misoprostol or a placebo following PROM, was the first one to be reported about the use of oral misoprostol *vs.* intravenous oxytocin. Unsurprisingly, women who received misoprostol experienced labour more frequently than those who received a placebo. However, there was no difference in the likelihood of adverse outcomes for either the mother or the baby when misoprostol was used. There was no observable difference in the delivery strategy [16].

In a subsequent study that employed a more conservative dose schedule, Butt, et al. randomly allocated 108 women to receive either oral misoprostol 50 mg every 4 hours or intravenous oxytocin. Using this oral dosing regimen, researchers found that misoprostol significantly prolonged the interval between induction and vaginal birth as compared to oxytocin. The first, second, and third stages of labour did not differ in length between the two groups, nor did the results for the mother or the baby. The two groups' neonatal outcomes and methods of delivery were the same [17].

In a subsequent trial, Ngai, et al. randomly allocated 80 pregnant women with PROM to receive either intravenous oxytocin or oral misoprostol 100 mg every four hours. The researchers found that when nulliparous women received oral misoprostol instead of intravenous oxytocin, the length of labour and the first and second stages of labour were shorter. Although this trend did not achieve statistical significance, there was a tendency for a shorter induction to delivery interval among nulliparous women taking oral misoprostol. There was no difference in the method of delivery across the groups, with caesarean births required in 7.5% of those who got oxytocin and 5% of those who received misoprostol, respectively, but no extra differences in mother or newborn outcomes [18].

Based on the 305 randomly assigned people, Mozurkewich, et al. found no difference in the rate of caesarean deliveries between the two groups (20.1% in the misoprostol group *vs.* 19.9% in the oxytocin group). Misoprostol did not reduce the time between induction and vaginal birth because there were no changes in maternal or infant infections between the 2 groups (11.9 h for misoprostol *vs.* 11.8 h for oxytocin). While in the neonatal period, more infants in the misoprostol group (16.4% *vs.* 6.2%) received antibiotics. As a result, we were unable to demonstrate any advantages misoprostol had over oxytocin [19].

Our findings are in agreement with those of Aduloju, et al. who examined the outcomes of oral misoprostol for labour induction in 150 singleton pregnancies from Iran to Nigeria in 2013 and 2019, respectively. Results showed that 40 (67.8%) of the women who received hourly titrated doses of misoprostol and 42 (70.0%) of the women who received 2-hourly static doses of the drug were able to deliver vaginally within 24 hours. Induction delivery time, caesarean section rate, oxytocin augmentation, and vaginal

delivery rates were all the same in both groups (p>0.05). There were no significant differences in the frequency of uterine hyperactivity among the women (p> 0.05), and there were no occurrences of uterine rupture with negative neonatal outcomes [20].

Our results support past studies comparing prostaglandin E2 to intravenous oxytocin. Zhang, et al. enrolled 589 pregnant women with term singleton foetuses in cephalic presentation, reactive nonstress tests, and PROM of 2-24 h duration in order to compare the maternal and neonatal outcomes between oxytocin and vaginal prostaglandin induction in women with term Pre-labor Rupture Of Membranes (PROM) and unfavourable cervixes. The findings revealed that the preliminary Bishop score was 6. In terms of the stages of labour, neither the interval between induction nor the active phase (13.01 12.28 *vs.* 12.67 11.68 h, P=0.264) nor the interval between induction and vaginal birth and caesarean delivery varied significantly across groups [21].

Additionally, Safdar, et al. discovered that there was a significant difference between the two groups' induction-active labour intervals, favouring the shorter group. They enrolled 160 pregnant women with PROM who were carrying term singleton foetuses in their randomised controlled experiment. Based on the average induction-delivery interval and risk, they compared intravenous oxytocin with vaginal prostaglandin E2 for labour induction in term pre-labor rupture of membranes. A substantial difference was also seen in the induction-delivery interval between the two groups, with the prostaglandin induction group's induction time being longer (14.76+3.45 hours) than the oxytocin induction group's (13.24+2.96 hours). Symptomatic chorioamnionitis occurred in 3.7% of patients who received Prostaglandin E2 for induction, although none of the patients in the oxytocin-induced group did. However, there was no statistically significant difference between the research groups [22].

According to a second study by Gupta and Ganatra, vaginal prostaglandin E2 induction of labour appears to be a relatively ineffective method of inducing labour in term pregnancies with PROM and unfavourable cervices because it is associated with a higher risk of chorioamnionitis and neonatal infection than oxytocin induction. Because of its greater effectiveness in minimising the induction-delivery delay and lower prevalence of perinatal infections, oxytocin was chosen over prostaglandin E2 in this situation [23].

Since vaginal prostaglandins have been associated with a higher risk of chorioamnionitis, endometritis, and newborn infection, the American College of Obstetricians and Gynecologists (ACOG) has advocated oxytocin infusion over prostaglandin vaginalization. The Term Pre Labor Rupture of the Membranes (TERMPROM) research, the largest recent randomised controlled experiment with 5041 women, served as the foundation for this advice. But the TERMPROM trial prohibited patients, even those with group B streptococcus infection, from using antibiotics as a preventative measure [24].

The findings of Kunt, et al. were similar to those of our study in that the time from induction to active labour was significantly shorter in the oxytocin-induced group than in the PGE2-induced group (4.9+/-4.1 *vs.* 8.5+/-3.6 hours, P=0.02), as was the time from induction to delivery (3.4+/-1.5 *vs.* 9.6+/-4.7 hours; P=0.02), but caesarean delivery rates [25].

Our findings were supported by a study by Trans, et al. (2008) on the management of term PROM, which found that doctors preferred oxytocin as the first-line induction agent over vaginal prostaglandins (96.2% *vs.* 15.3%), likely because vaginal prostaglandins have a higher incidence of chorioamnionitis and neonatal infection. In order to assess current labour induction techniques for patients with term PROM and select an induction agent that will be both safe and effective for these patients, this study compares the efficacy and safety of intravenous oxytocin with vaginal PGE2. This will lower the risks of maternal and neonatal morbidity and mortality [26].

Prostaglandin E2, according to the opposite school of thought, is a potent inducer of long-term PROM. The most frequently cited benefits included increased mobility, more natural labour with less need for electronic foetal heart rate monitoring, reduced rates of caesarean sections, and noticeably higher rates of normal vaginal delivery [27].

CONCLUSION

The current study makes it clear that there hasn't been a definite advantage demonstrated for oral misoprostol over intravenous oxytocin in the context of PROM at term in terms of the length of the induction's active phase, the length of the induction, the likelihood of a caesarean delivery, the frequency of maternal infection, or the outcome for the baby. With regard to delivery timing, caesarean section risk, and maternal infection, rapid induction of labour with oxytocin or oral misoprostol offers significant advantages to PGE2. Parity (PG) is a separate risk factor for induction failure, although the induction method, BMI, and age of the women had no independent influence on the success of the induction.

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CONFLICT OF INTEREST

None declared

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

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