

Comparison of the Effect of Misoprostol, Trinitroglycerin, and Primrose on Cervical Preparation in Term Pregnancy

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INTRODUCTION

There are few studies on the effect of vaginal misoprostol and TNG in inducing labor in the third trimester of pregnancy in women with term pregnancy with unfavorable cervical preparation, especially in Iran. Due to the high prevalence of cases requiring labor induction, the present study compared the effect of misoprostol, TNG, and Primrose on cervical preparation in term pregnancy.

MATERIAL AND METHODS

This is a blinded, parallel, randomized clinical trial conducted on pregnant women with term pregnancy (40 weeks and later) who were candidates for induction of labor. Participants were divided into groups using block randomization: Group A (TNG) and Group B (Primrose) and Group C (Misoprostol). The SPSS version 22 was used for data analysis.

RESULTS

A total of 201 patients (67 in each group) were included in the study. The demographic and clinical data of the patients are shown in Table 1. There was no statistically significant difference in the Bishop's score after the intervention of groups A and B compared with the control group (P = 0.53 and 0.76, respectively). The Bishop's score after intervention was almost the same in the 3 groups, and there was no statistically significant difference (P = 0.77).

There was no statistically significant difference between the 3 groups in Apgar score at minutes 1 and 5 of neonatal delivery (P = 0.35 and P = 1.00, respectively), volume of vaginal bleeding (P = 0.39), duration from drugs administration to delivery (P = 0.63), and side effects of medication (P = 0.22). However, the need for oxytocin to induce labor in the control group was significantly different from A and B groups (P=0.001), and this difference between the intervention groups A and B was not statistically significant (Table 2).

Table 1. Demographic and clinical information of pregnant women

Variables	Group A	Group B	Group C	P-Value
Age (Year)	22.1 ± 3.8	22 ± 3.7	21.46 ± 3.9	0.81
BMI (Kg/m2)	26.93 ± 3.1	27.55 ± 1.2	27.72 ± 2.78	0.7
GA (Week + Day)	40 + 1	40 + 3	40 + 3	0.9
Bishop’s score (Baseline)	2.67 ± 0.53	2.97 ± 0.63	2.71 ± 0.61	0.88

Table 2. Comparison of outcomes

Outcomes	Group A	Group B	Group C	P-Value
Bishop’s score (After intervention)	7.83 ± 1.2	8.11 ± 1.21	8.33 ± 0.98	0.77
Apgar score at the 1st minute	8.11 ± 0.21	7.99 ±0.33	8 ± 0.19	0.35
Apgar score at 5th minute	8.97 ± 0.44	9 ± 0.02	8.95 ± 0.32	1.00
Volume of vaginal bleeding	0.80 ± 0.44	1.03 ± 0.64	1.30 ± 0.04	0.39
The need for oxytocin to induce labor (%)	N = 39 (58.20)	N = 36 (53.73)	N = 15 (22.3)	0.001
Duration from drug administration to delivery (hours)	8.6 ± 0.94	8.2 ± 0.34	8 ± 0.74	0.63

CONCLUSION

The effect of the three drugs on cervical preparation in term pregnancy was found to be similar based on Bishop's score, time from drug administration to delivery, Apgar score at 1st and 5th minutes, and volume of vaginal bleeding. The only requirement is a lower induction with oxytocin with misoprostol, which is significantly different from TNG and Primrose. Therefore, Primrose capsules (in vaginal form) are suggested to be used like misoprostol as a safe, inexpensive, and available drug for cervical preparation in term pregnancy.