Labor induction with randomized comparison of cervical, oral and intravaginal misoprostol

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Abstract

Background: This study attempts to evaluate the safety and effectiveness of 50µgm intracervical misoprostol in
comparison with intravaginal and sublingual for the induction of labor at term pregnant women.
Methods: This study is designed as a parallel clinical trial study. Three hundred and fifteen term pregnancies requiring induction of labor were treated with the maximum used misoprostol intracervical, sublingual, and vaginal doses. Participants were randomly allocated into three groups of 105. The dose was repeated every 4 h until adequate uterine contraction and Bishop Score were achieved. The duration of induction to births, time to the active phase, the rate of births, and the need for caesarean section were compared in three groups. Additionally, labor course and side effects were recorded and analyzed. Data were analyzed using SPSS software. A significance level of $p < 0.05$ was considered for statistical analyses.
Findings: Labor was successfully induced in all cases most (63%) of which required a single dose of misoprostol. Ninety-three (93.0%, $p < 0.05$) cervical participants proceeded to vaginal births. This figure was also the same in the vaginal and sublingual group of 83 cases (83.0%). The other 41 cases received caesarean section with more indications of failure to progress and meconium-stained liquor. The results indicated that 278 (92.7%) births were achieved in less than 10 h. Time from start of medication to the active phase of labor and childbirth was 3.01 پ} 0.86 and 6.1 پ} 1.3 h in the Cervical group, 4.2 پ} 0.66 and 8.4 پ} 0.92 h in the sublingual group, and 5.06 پ} 1.1 and 9.2 پ} 1.5 h in the vaginal group respectively ($p < 0.001$). The Caesarean rate was lower in the cervical group than in the two other groups ($p = 0.05$). No significant differences were observed between the study groups in terms of Apgar score and meconium-
stained amniotic fluid. Furthermore, no maternal and neonatal complications were observed.
Conclusion: In addition to the sublingual and intravaginal routes of administration, intracervical misoprostol at a
single dose of 50µgm appears to be an effective method for induction of labor in women with an unfavorable cervix.
Like all medical interventions, a discussion of the risks, benefits, and alternatives to induction of labor with this medication
in each woman should be undertaken before treatment.
Trial registration: This clinical study was approved by the Iranian Registry of Clinical Trials with IRCT ID: IRCT2 01904
15043 278N1. Registration date was on May 13, 2019 and May 27, 2019 respectively (http:// www. irct. ir).
Keywords: Misoprostol, Labor induced, Term birth