Comparing labor induction and cervical ripening methods including vaginal misoprostol, traction by Foley catheter and a combination of the two

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Abstract

Introduction: Finding the most suitable method for cervical ripening in patients with all the indications for terminating their pregnancy, is a considerable problem in obstetrics. The objective of this study was to compare intravaginal misoprostol, traction on the cervix with a Foley catheter and a combination of the two methods for the induction of labor.
Materials & Methods: This randomized clinical trial was performed at Shahid Akbar-Abadi teaching Hospital from March 2004 to February 2005, on 300 pregnant women with a gestational age of ≥28 weeks, who had the indications for terminating their pregnancy. All of the cases had a Bishop score of ≤5 and were singletons. In 100 patients (Group 1), misoprostol (25μg every 3 hours up to a maximum dose of 6) was used intravaginally. In the next 100 patients (Group 2), a No. 16 Foley's catheter was introduced into the intracervical canal, its bulb being filled with 30 *ml* of distilled water, to exert traction on the cervix. In the last 100 patients (Group 3), a combination of the two methods was used. The time interval between the start of the methods to delivery, duration of the active phase of labor, the interval between the beginning of the methods to beginning of the active phase, cesarean section rates and neonatal Apgar scores were compared in the three groups. The obtained data were statistically analyzed by SPSS software employing χ^2, one-way ANOVA and Kruskal Wallis tests.
Results: There were no statistically significant differences between the three groups according to age, gestational age, parity and Bishop scores. The interval between the beginning of the methods and delivery was shorter in the misoprostol group ($p \leq 0.001$)_10.5±3 hours in misoprostol group, 12.3±2.4 hours in the Foley catheter group and 11.7±2.5 hours in the combination group. The duration of active phase in the misoprostol group was less than the Foley catheter group ($p \leq 0.001$)_ 5.5±1.9 hours in the misoprostol group, 6.6±1.6 hours in the Foley catheter group and 6.1±1.5 hours in the combination group. There was no statistically significant difference between the three groups regarding the interval between the beginning of the methods and the beginning of the active phase, neonatal Apgar score or cesarean section rates.
Conclusion: Misoprostol and Foley catheters are good methods for cervical ripening and the induction of labor, but the combination of the two methods does not increase their effectiveness and there seems to be no synergistic effects.

Key Words: Misoprostol, Foley catheter, Labor induction, Cervical ripening, Prostaglandin E1, Bishop score, Delivery time, Cesarean section, Termination, Pregnancy.

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