

**Pharma Conference 2020: Effects of oxytocin and misoprostol for labor induction on umbilical cord blood gas parameters – Narantungalag - Mongolian National University of Medical Science, Mongolia.**

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To compare the effects of oxytocin and misoprostol used in labor fetal blood gas parameters. This prospective randomized trial involved 60 women who completed 37-42 gestational weeks and who required labor induction prior to normal vaginal birth. Labor was induced in 30 women with an intravenous low dose oxytocin regimen and in 30 with intravaginal misoprostol (PGE1). Following childbirth, umbilical artery blood gas was analyzed, with pH, pCO<sub>2</sub>, pO<sub>2</sub>, HCO<sub>3</sub> and base excess (BE) compared in the two groups. Mean age and obstetrical data (gravidity, parity, gestational weeks and birthweight) were similar in the two groups (p>0.05). All infants had 1 and 5

was similar in the oxytocin and misoprostol groups (7.30±0.08 vs. 7.32±0.05, p=0.781), as were the other blood gas parameters (pCO<sub>2</sub>, pO<sub>2</sub>, base excess and HCO<sub>3</sub>; p>0.05 each).

Induction of labor with either oxytocin or misoprostol in women with uncomplicated term pregnancies had no adverse effects on umbilical artery blood gas parameters.

Induction of labor refers to the process whereby uterine contractions are initiated by mechanical or pharmacological methods before the onset of spontaneous labor<sup>1</sup>. Induction of labor is advised in situations when the pregnancy is dangerous for the mother or fetus; or when induction is beneficial for both. Induction of labor decreases operative labor and minimizes risks to the fetus. Among the factors influencing the method used to induce labor are cervical and membrane status, parity, and patient and provider preferences<sup>4</sup>

within 30 seconds. Blood gas samples were analyzed for pH, pCO<sub>2</sub>, pO<sub>2</sub>, HCO<sub>3</sub> and base excess (BE), while obeying the rules of cold chain. One and five minute APGAR scores of each newborn were recorded.

This study protocol was approved by the Local Ethics Committee of our Hospital, and all subjects provided informed consent.

Statistical analysis was performed using SPSS software. A one-way ANOVA *F* test was used for the comparison. *P* < 0.05 indicated statistical significance.

The mean age of all women enrolled in this study was 26.5±5.05 the mean gestation age was years, and 39.85±0.68 weeks. The demographic and obstetrical data of the two groups were comparable (*p*>0.05 each; Table 1). All infants had 1 and 5 minute Apgar scores. Measurements of umbilical arterial blood gas pH, pCO<sub>2</sub>, pO<sub>2</sub>, HCO<sub>3</sub> and BE showed no differences between the oxytocin and misoprostol groups (*p*>0.05 each; Table 2).

Also there was no significant difference between oxytocin and misoprostol groups in pH, pCO<sub>2</sub>, pO<sub>2</sub>, HCO<sub>3</sub> and BE values in umbilical artery blood gas analyzes (*P*> 0.05). Three of the neonates in the oxytocin group and 2 of the neonates in the dinoprostone group were admitted to the neonatal intensive care unit and no significant difference was found between the groups (Table 2). All newborns admitted to intensive care unit were discharged together with their mother.