ISGE
GYNECOLOGICAL ENDOCRINOLOGY
THE 18TH WORLD CONGRESS
7-10 MARCH 2018 FLORENCE, ITALY

P229. Amniotomy and early oxytocin infusion versus amniotomy and delayed oxytocin infusion in nulliparous women: a randomised controlled trial

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Objective: To assess the effect of early oxytocin infusion versus delayed oxytocin infusion in achieving successful vaginal delivery among the low-risk nulliparous women in UKMMC and compares the associated adverse maternal and neonatal outcomes.

Methods: This RCT conducted in the labor room of UKMMC for eighteen months involving 240 low-risk primigravidae which randomized into two arms. The first arm was the early oxytocin group in which labor augmentation with oxytocin was started early following ARM. The second arm was the delayed oxytocin group in which oxytocin augmentation was started two hours after the ARM. The primary outcome is the successful vaginal delivery within twelve hours after the ARM. Otherwise, the interval from ARM to vaginal delivery, rates of caesarian section, type of analgesia used, maximal oxytocin usage, uterine hyperstimulation, and post-partum hemorrhage. Neonatal outcomes (APGAR score < 7 at 5 minutes, arterial cord pH < 7.1, and NICU admission) between both arms were evaluated as well.

Results: There was no significant difference in the vaginal delivery rate within 12 hours of the ARM in both group (62.9% versus 70.9%, p = 0.248). The mean interval from ARM to vaginal delivery for the immediate group was significantly shorter than delayed oxytocin group (5.8 ± 1.7 hours versus 7.0 ± 1.9 hours, p = 0.001). There were more women in the early rather than delayed group delivered during or before planned review at four-hours of amniotomy (53.6% versus 10.6%, p < 0.001). However, no significant difference in second stage labor duration was found between both arms (21.2 ± 18.3 minutes versus 25.5 ± 19.9 minutes, p = 0.220). The maximum oxytocin usage in the early group was lower than in the delayed group (5.6 ± 4.4 mL/hr versus 6.8 ± 5.3 mL/hr, p = 0.104). Otherwise, there were no significant differences in the mode of delivery, indication for cesarean section, analgesia use, oxytocin use in labor, uterine hyperstimulation, and post-partum hemorrhage found between the two arms. There was a higher rate of CTG abnormality in the early group as compared to the delayed group (36.0% versus 24.7%, p = 0.099).

Conclusion: Early oxytocin augmentation following amniotomy could be employed in low- risk primigravida as it is useful in shortening the duration of labor, without additional adverse maternal or neonatal outcomes.

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