SYSTEMATIC REVIEW OF LOW-DOSE VERSUS HIGH-DOSE OXYTOCIN FOR LABOUR AUGMENTATION

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Objectives: To determine whether high-dose oxytocin is better than low-dose oxytocin in decreasing the rate of cesarean section without increasing maternal-fetal complications.

Study Methods: A systematic search strategy was applied to Medline (1950-2007), Cochrane Central Register of Controlled Trials (Issue 3, 2007) and EMBASE (1980-2007). Two reviewers independently identified relevant studies for inclusion. Studies needed to be randomized controlled trials comparing two different oxytocin protocols for the purpose of labour augmentation. Data extraction was performed using a standardized form. Measures of effect were derived for each trial independently, and studies were pooled based on clinical and methodologic appropriateness using random effects models.

Results: A total of 5999 patients from ten studies met inclusion criteria and were included in the analysis. Cesarean section rates were decreased with high-dose oxytocin (OR=0.787, p=0.014) when compared to low-dose use. In addition, the number of prolonged labours was decreased (OR=0.320, p<0.005). The rates of uterine hyperstimulation (OR=1.674, p<0.005) and the maximum oxytocin dose (OR=1.090, p<0.005) were increased with high-dose oxytocin. However, this did not have any adverse impact on maternal-fetal outcomes as the rates of NICU admissions, neonatal acidosis, neonatal death, and chorioamnionitis were found to not be statistically significant.

Conclusions: High-dose oxytocin is associated with a lower cesarean section rate than low-dose oxytocin while not increasing adverse maternal-fetal outcomes. We suggest a multicentered, double-blinded, randomized, controlled trial to confirm these conclusions.