Induction of Labor in Women of Advanced Maternal Age.

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OBJECTIVE: To determine if term induction of labor in patients of advanced maternal age (AMA) leads to a higher rate of cesarean delivery when compared to term induction of labor in patients younger than age 35 at the time of delivery.

STUDY DESIGN: This is a single center retrospective cohort study of singleton intrapartum gestations that were induced and delivered at Lehigh Valley Health Network between July 2010 and July 2013. Primary outcome of interest was the rate of cesarean delivery by maternal age. Maternal age was considered to be the age at the time of delivery. Controls were women less than 35 years younger than age 35 at the time of delivery.

RESULTS: There were a total of 791 patients evaluated in this study, 264 AMA women and 527 non-AMA. The primary outcome, cesarean delivery, was similar between the two groups (23.1% in the AMA group vs 26.4% in the non-AMA group, p=0.32). After adjustment for potential confounders, the rate of cesarean delivery was not influenced by maternal age but was higher in nulliparas (adjusted OR 7.39; 95% CI 4.83-11.31; p<0.001) and lower in women with a Bishop score >4 at the time of labor induction (adjusted OR 0.62; 95% CI 0.43-0.89; p=0.009).

CONCLUSION: In our population, advanced maternal age did not increase the rate of cesarean delivery among women who were induced at term. Cesarean delivery rate was higher in nulliparas and lower in women with a riper Bishop score at the time of labor induction.

Statistical analyses were performed using STATA software. Statistical analyses included χ2 test for categorical variables and Student’s t test for continuous variables. p < 0.05 was considered significant. Risk ratios were generated to help understand the risk of cesarean delivery by maternal age in women induced when compared to women less than 35 years of age at delivery.

Logistic regression models were constructed to evaluate the risk of cesarean delivery induced at term by maternal age adjusting for potential confounders such as parity, Bishop score and co-morbidities.