Induction of Labor in Women of Advanced Maternal Age.

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ABSTRACT

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 35 at the time of delivery.

STUDY DESIGN: This is a single center retrospective cohort study of singleton intrauterine 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. Exposure of interest was maternal age. Cases were women 35 years or older at the time of delivery who were induced at term. Controls were women less than 35 years or older at the time of delivery who were induced but not at term. Controls were women less than or equal to 35 years of age who were induced within one to three days of AMA women. Using a power of 80% and an alpha level of 0.05, we estimated that 291 AMA women and 562 controls would be needed to find an increase in the cesarean rate from 20% to 30% among AMA women.

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 nulliparous women (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 nulliparous women and lower in women with a higher Bishop score at the time of labor induction.

References:
2. Statistical analysis using STATA software. Statistical analysis included $\chi^2$ test for categorical variables and Student’s t test for continuous variables. p < 0.05 was considered statistically significant. Risk ratios were generated to determine the risk of cesarean delivery among women induced at age 35 or older compared to women younger than 35 at the time of delivery. Logistic regression models were constructed to test the risk of cesarean delivery induced at term by maternal age adjusting for potential confounders such as parity, Bishop score and co-morbidities.