Predictors of Stillbirth Using a Large Database from the State of Wisconsin

Maharaj Singh, Ph.D., Ahmed Dalmar, M.D., Michelle Montgomery, D.O., David Merrill, M.D.

1Aurora Research Institute, Aurora Health Care; 2Maternal Fetal Medicine, Aurora Health Care

PROBLEM
According to CDC a stillbirth (late-fetal mortality) is the death of baby in utero before or during delivery and refers to a loss of a baby after 20 weeks of pregnancy.

BACKGROUND
Stillbirth remains a significant problem in modern obstetrics. The exact causes for many stillbirths remain unexplained, although some risk factors have been identified. The major categories of risk described as (1) birth defects or generic problems with the baby, (2) problem with placenta and umbilical cord and (3) certain health conditions in the mother such as diabetes, hypertension or obesity.

OBJECTIVE
To identify the main risk factors for stillbirth using a large dataset, we examined incidence of stillbirth for the state of Wisconsin from the year 2012 through 2016.

METHODS
We conducted a retrospective study using de-identified data for 323,034 pregnant women who gave birth to singleton babies from the years 2012 to 2016; 73% of the women were white, 11% African American and remaining 16% were from other races. Birth weight percentage by gestational age was calculated using 10th and 90th percentile of the baby birth weight in grams and was divided into three groups: small, appropriate and large for gestational age. Risk factors for stillbirth were explored using univariate and multivariate logistic regression analysis.

RESULTS
Overall the prevalence of stillbirth (defined as loss of a baby after 20 weeks of pregnancy) is about 1 in 160 pregnancies (6.3 per 1000) in US. In the present study population from the state of Wisconsin the rate of stillbirth was 4.1 per 1000. Mean age for the women were 28.4±5.5 years.

CONCLUSIONS
Stillbirth prevalence in the state of Wisconsin is lower than the national average. Small for gestational age, which may be unrecognized intrauterine fetal growth restriction, was main predictor of stillbirth. Preventive strategies should focus on improving prenatal detection of fetal growth restriction, the treatment of comorbid conditions such as diabetes and hypertension, and management of obesity among pregnant women.

REFERENCES