Antenatal detection of SGA: What happens with false positives and false negatives?

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Objective

Detection of fetal growth restriction is a challenge in perinatology. The first step is based on biometry on ultrasound to detect SGA. The aim of this study was to classify SGA based on Estimated Fetal weight below 10 centile and and compare the four different groups (true positive, false negative, false positive, true negative).

Methods

Retrospective review of prospective recruited data of the last scan performed in a low risk population in a single centre. The estimation of the fetal weight (EFW) using Hadlock 4 formula and use of local non customised charts. Outcome variable: SGA defined as birthweight below 10 centile according to national charts. Variables included in the analysis: maternal characteristics (age, parity, BMI, hypertension, diabetes, pre-eclampsia, smoking status) and perinatal. We also used a composite adverse perinatal outcome defined by low Apgar score, ph<7.1, transfer to NICU, stillbirth, Caesarean section because of abnormal traceand birthweight below 3 rd centile.

Results

: Population 15660 patients. SGA: 1124 (7.2%). Non SGA 14536 (92.8%). Diagnostic performance of EFW <10 th centile (1430): Sensitivity 54.7 %. Specificity: 94.4. Positive predictive value: 43 %. Negative predictive value: 96. %. False positive rate 5.6% Odds ratio: 20.3(17.3-23-7). False negative rate 3.2 % carries and increased risk of Cesarean section rate and adverse perinatal outcome.

Conclusion

The detection of SGA using local charts allows a detection of 54 %. This group includes the higher proportion of adverse perinatal outcomes. Regarding the false negative group it's significant the higher proportion of Caesarean section due to abnormal trace defining a risky group that remains undetected. The false positives have similar outcomes as the true positives.