Prediction of small-for-gestational-age (SGA) infants within a high-risk population of confined placental mosaicism pregnancies

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Objective
Small-for-gestational-age (SGA) infants have an increased risk of adverse perinatal outcomes. With the increasing offer of non-invasive prenatal testing (NIPT), a new group of high-risk pregnancies for SGA infants has been identified. Although NIPT is intended to detect pathogenic fetal chromosome abnormalities, in some cases the fetus is unaffected and the aberration is shown to be confined to the placenta. This condition is also known as confined placental mosaicism (CPM). Women with pregnancies affected by CPM have a significantly increased risk for delivering a SGA child. The goal of this study is to develop a prediction model for SGA within the high-risk population of CPM pregnancies.

Methods
The study population consisted of women with a CPM pregnancy, found with follow-up testing after an abnormal NIPT result within TRIDENT-2 study (April 2017-2019) (n=190). Birth weight percentiles were determined according to Dutch reference curves. Predictors included in the model were maternal characteristics, pregnancy complications, and fetal biometry measurements in the second and third trimester of pregnancy. The data were analyzed using multivariable logistic regressions. A receiver operating characteristic curve was created and areas under the curves were calculated, to identify the best predictive factors and to determine model performance.

Results
The data for this study have been collected and stored in a digital repository. The analyses have not yet been performed, but will be finished in June.

Conclusion
We aim to answer the following research questions: -What factors predict SGA (vs. normal growth) in this population? -How well does a prediction model perform in this population?