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Number of episodes of reduced fetal movement at term: methodological considerations

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To the Editors:

We read with great interest the paper by Scala *et al.* who assessed the value of reduced fetal movements (RFM), showing that repeated RFM at term were strongly associated with small-for-gestational-age (SGA) fetuses and infants.(1) Moreover, they found that RFM were more likely to occur in women with high second trimester uterine artery (UtA) Doppler resistance indices. This conclusion was based on a logistic regression analysis.

These are very interesting findings with important clinical implication, since SGA fetuses or placental dysfunction should be suspected in case of RFM, and managed as such. This article addresses a relevant question about the predictive value of one vs. repeated RFM, which is a frequent indication for emergency consultation.

However, from our point of view, some methodological concerns should be answered since they may lead to erroneous results. First, the quantitative variables (maternal age, body mass index, PAPP-A, mean UtA-Pulsatility Index (PI)) were entered in the model as quantitative predictors. This relies on the existence of a linear relation between the predictor and the outcome which is not assessed in the methods section. For example, it is not obvious that the relation between the fetal weight and the maternal age is linear(2). Moreover, the relevance of using the linear mean UtA-PI is questionable, as most of studies use the 90th percentile as predictor of adverse fetal outcome(3,4). Caution should be taken regarding this point since it could lead to a misinterpretation of the results.

Second, ethnicity seems to have the “other” class as reference (OR=1) in the logistic regression. In table 2, “other” includes only 0.7% of the whole population. The “Caucasian” class would have been more relevant as a reference.

Finally, a short sentence above the table explains that “values are adjusted for other confounding variable (maternal age, BMI, ethnicity). We wonder how and why were these three factors chosen? Were they known as confounding factors for RFM and SGA?

Although these results seem promising, more details regarding the statistical method would improve the clinical relevance of the study.

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