LETTER TO THE EDITOR

Prediction of preterm delivery using levels of VEGF and leptin in amniotic fluid from the second trimester: prediction rules

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I was interested to read the paper by Hong SN and colleagues published in Arch Gynecol Obstet 2014 Oct. The purpose of the authors was to investigate whether levels of vascular endothelial growth factor (VEGF) and leptin in amniotic fluid during the second trimester could serve as prediction markers for preterm delivery [1]. VEGF and leptin levels were measured in every case of delivery at <37 weeks' gestation ($n = 36$) and in 36 matched controls who delivered at ≥37 weeks' gestation. They reported that amniotic fluid VEGF levels in the preterm group (32.24 ± 4.87 pg/ml) were significantly higher than those in the control group (23.49 ± 2.09 pg/ml) ($p < 0.05$). However, they found no statistically significant difference in leptin levels between groups. Based on their conclusion, amniotic fluid VEGF levels in the second trimester are more predictive of preterm delivery than leptin levels.

For prediction studies, we need two different cohort datasets or at least one cohort dataset splitting that to develop our prediction model and then to validate it. Without validation of prediction models, most of the times, misleading results (if we do not say biased result) will be the main outcome of such researches [2–5].

Moreover, statistically significant finding does not have priority to clinically important results for clinical decision making especially in prediction studies [2–5].

Finally, having said that amniotic fluid VEGF and leptin levels were highest in women with placenta previa and lowest in women with intrauterine growth retardation and pregnancy-induced hypertension, probability of misclassification should be considered; therefore, generalizability of prediction model will be limited [2–5].

References

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This comment refers to the article available at doi:10.1007/s00404-014-3439-6.

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