Prospective analysis of MR-proANP in pregnancies with late-onset PE or FGR in the 3rd trimester

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Objective
To assess the predictive value of MR-proANP, a cardiac hormone which shows cardiac decompensation or failure, for late-onset preeclampsia and intrauterine growth restriction (IUGR) in an unselected population.

Methods
903 patients were examined during their third trimester visit, with no signs of preeclampsia and IUGR until then, from November 2013 until April 2016, at the University Hospital of Essen, in Germany. IUGR was defined for pregnancies with a birthweight below the 5th centile and abnormal fetal Doppler measurements.

Results
Logistic regression analysis was performed to adjust the measurements according to maternal age, BMI and gestational week at the time of analysis. Preeclampsia: OR per IQR for MR-proANP: 2.35 (1.78 - 3.13 95% CI, p: <0.0001). IUGR: OR per IQR for MR-proANP: 1.97 (1.41-2.76 95% CI, p: <0.0001). ROC-Analysis for MR-proANP in Preeclampsia: AUC 0.72 (0.59-0.84 95%-CI): Threshold 57.4, Sensitivity 62.5%, Specificity 87.1%. ROC-Analysis for MR-proANP in IUGR: AUC 0.71 (0.58-0.85 95%-CI): Threshold 57.8, Sensitivity 54.5%, Specificity 87.4%.

Conclusion
There is a positive correlation between MR-proANP and the pregnancy complications. This correlation could explain the cardiac involvement in the pathogenesis of late-onset PE.