Pre-eclampsia (PE) is strongly associated with maternal and fetal morbidity and mortality. Using previously published cut-off values for s-FIT/PlGF ratio (85 and 110 respectively), we encountered high numbers of false positive results. The objective of this study was to investigate a cut-off for s-FIT/PlGF ratio with predictive values more suitable for our daily clinical use.

Methods: Prospective case control study. Pre-eclampsia was characterized by new onset of hypertension and proteinuria after 20 weeks of gestation. We measured serum s-FIT-1 and PlGF with Brahms Kryptor essay. S-FIT/PlGF ratio was calculated for patients before and after 34 weeks of gestation. Among other things we observed gestational age at delivery (GA) and incidence of PE, HELLP syndrome or both. Statistical analysis was performed using IBM SPSS Statistics 25.

Results: We included 881 patients, 67 cases, 814 controls. Patients who developed PE/HELLP syndrome had significantly higher sFIT-1/PlGF ratio (p <0.01). We calculated a modified cut-off for sFIT-1/PlGF ratio = 150, same for both early and late PE. This cut-off showed an excellent predictive value for early and late PE respectively (AUC 0.978; 0.951). For early and late PE, sensitivity was 94% and 82% respectively at 5% false positive rate.

Conclusions: Previously published sFIT/PlGF ratio cut-off values seem to generate too many false positive results. We suggest modified cut-offs at 150 for both early and late PE, that show high diagnostic accuracy in our setting.