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Objective:
sFlt-1, PlGF and the sFlt-1/PlGF-ratio have shown ability as a diagnostic tool for prediction of preeclampsia (PE). Previous studies have determined cut-off values for sFlt-1/PlGF ratio, but only with the Elecsys system (Roche Diagnostics). According to reported papers, there are significant differences between analytical systems. The objective of this study was to compare two major fully automated systems in the Czech Republic - COBAS system (Roche Diagnostics) and Kryptor Compact (BRAHMS).

Methods:
In a cohort of n=95 samples, sFlt-1 and PlGF were measured with Kryptor Compact (BRAHMS) and COBAS e601 (Roche), and sFlt-1/PlGF ratio was calculated. Available samples were thawed and analyzed immediately with both systems. For statistical analysis, the Excel program and MedCalc SW were used.

Results:
The correlation analysis between two systems showed a positive relationship, for PlGF r = 0.978 (Figure 1), sFlt-1 r=0.998 (Figure 2) and sFlt-1/PlGF ratio r=0.967 (Figure 3). The PlGF values with the KRYPTOR Compact were systematically lower (Figure 4). The sFlt-1 values showed the slight positive systematic trend with KRYPTOR (Figure 5). The sFlt-1/PlGF ratio with KRYPTOR Compact was significantly higher (Figure 6). Bland-Altman plots showed a significant difference between these two systems especially for PlGF and the sFlt-1/PlGF ratio.

Conclusion:
We have shown a good correlation between KRYPTOR Compact system and COBAS e601 system for all parameters. Nevertheless, Bland-Altman plots showed a significant difference, especially for PlGF and the sFlt-1/PlGF ratio, so that the cut-off values to diagnose PE with KRYPTOR Compact system have to be determined.

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