Correlation between angiogenetic biomarkers, urinary protein values and ascites in women with hypertensive disorders of pregnancy

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Objective. To investigate the correlation between sFlt-1/PlGF ratio, the 24-h urinary protein and the presence of maternal ascites in a population of women with new-onset hypertensive disorders of pregnancy (HPD).

Materials and Methods. Retrospective study including a cohort of women with new-onset HDP carrying a singleton viable pregnancy between 22 and 36 gestational weeks. At diagnosis, sFlt-1 and PlGF were assessed using Brahams Kryptor and the ratio was calculated. The amount of proteins on the 24 h urine was also investigated and a value > 5 g/24 h was used to define massive proteinuria. The presence of ascites was defined in if abdominal free fluid was detected at ultrasound examination.

Results. A total of 80 patients were included for the study purpose. A linear correlation was found between the sFlt-1/PlGF ratio and the 24 h urinary-protein values ($R2 = 0.21$; $p < 0.001$). A massive proteinuria was detected in 17 women; Sflt-1/PlGF ratio had an AUC of 0.86 for predicting the presence of massive proteinuria with a cut-off value of 310.9 (sensitivity 88.2%, specificity 71.0%). Ascites was detected in 6 women; significantly higher values of sFlt-1/PlGF ratios were found in this group of women compared with those without ascites (1,322.0 ± 1,083.0 *vs* 423.0 ± 734.0).

Conclusions. Higher values of sFlt-1/PlGF ratios are associated with higher levels of urinary protein and higher incidence of maternal ascites.