

Circulating angiogenic factors levels in women with hypertensive disorders of pregnancy (HPD) according to the baseline haemodynamic findings

Beatrice **Valentini** *, Elvira **Di Pasquo**, Andrea **Dall'Asta**, Maria Grazia **Capurso**, Piernicola **D'Amario**, Valentina Anna **Degennaro**, Alessia **Casciaro**, Tullio **Ghi**

Obstetrics and Gynecology Unit, University of Parma, Parma, Italy.

DOI: 10.36129/jog.2024.S35

Objective. To assess in women with HDP if the predictive value of sFlt-1/PLGF ratio for adverse outcomes is influenced by the haemodynamic phenotype.

Materials and Methods. Retrospective study including a cohort of women with new-onset HDP carrying a singleton viable pregnancy from 22 to 36 gestational weeks. A non-invasive assessment of the main maternal haemodynamic parameters [Cardiac Output (CO), Systemic Vascular Resistance (SVR)] was done upon hospital admission using USCOM-1A. The haemodynamic phenotype was classified as "hypodynamic" in case of low CO [< 5 L/min] and/or high SVR [$> 1,400$ dynes \times s \times cm $^{-5}$] or as "non-hypodynamic" in case of normal or high CO [> 5 L/min] and/or low SVR [$< 1,400$ dynes \times s \times cm $^{-5}$]. The values of sFlt-1 and PLGF were assessed on maternal serum upon hospital admission and their ratio was calculated. An adverse composite maternal outcome (ACMO) was defined

in presence of at least one among: severe hypertension or placental abruption or occurrence of end-organ dysfunction as defined by ISSHP guidelines 2021. A composite of adverse neonatal outcome (ACNO) included birth weight below the 10th percentile (small for gestational age), or foetal/neonatal death.

Results. Among the 93 women included, 57(61.2%) were categorized as hypodynamic and 36 (38.8%) as non-hypodynamic. sFlt-1/PLGF ratio at admission was significantly higher in the former group compare with the latter (301 [93.1-787] vs 52.5 [10.0-257.0]). A significant association between sFlt-1/PLGF ratio and an ACMO ($p = 0.02$) and an ACNO ($p = 0.007$) was reported only in the group of women defined with a "hypodynamic" profile.

Conclusions. sFlt1/PLGF ratio is associated with the occurrence of an adverse maternal and neonatal outcome only in women with a hypodynamic profile.