

Haemodynamic evaluation in pregestational hypertensive disorders: does the introduction of USCOM in clinical practice change outcomes? A monocentric retrospective study

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DOI: 10.36129/jog.2024.S18

Objective. The objective of this study is to investigate maternal and perinatal outcomes in pregnant women with chronic hypertensive disorder (HD), before and after the introduction of USCOM in clinical practice.

Materials and Methods. This is a retrospective monocentric descriptive study promoted by AOU Policlinico di Modena. USCOM was introduced into our third level clinic in March 2022. Pregnant women with HD assisted in 2021 were twenty-two (control group) and in 2023 were forty-six (USCOM group). In the latter group, USCOM monitoring was performed during the pregnancy for modulating and customized the hypertensive therapy. Patients with missing delivery data and gestational hypertension were excluded. Maternal and neonatal outcomes were retrospectively collected from the electronic record. Statistical analyses were conducted using IBM SPSS software version 29.0. Continuous variables were

expressed as mean and standard deviation, categorical variables were expressed as total count and percentage.

Results. No differences in maternal characteristics were found between the two groups.

At univariate analysis, USCOM group had a statistically significant lower rate of newborn with birth weight less than 2,500 g (36.4% vs 6.5%; $p = 0.002$). Moreover, USCOM group had a tendency to have fewer extremely preterm births (< 34 weeks, $p = 0.06$) and fewer infants admitted to the NICU ($p = 0.06$), although did not reach the statistical significance. At logistic regression we confirmed that USCOM group had statistically significant fewer infants with birth weights less than 2,500 g ($p = 0.005$).

Conclusions. Although a bigger sample is mandatory, our analysis shows that the introduction of USCOM in clinical practice improves neonatal outcomes.