Obesity and hypertensive disorders in pregnancy: correlation with small for gestational age/foetal growth restriction

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Objective. Literature suggests that systemic inflammation linked to obesity (BMI ≥ 30) impacts on placentation, increasing the risk of Hypertensive Disorders of Pregnancy (HDP). The aim of our study was to further investigate this known correlation, analysing the relationship between obesity and Small for Gestational Age (SGA) or Foetal Growth Restriction (FGR) in a cohort of obese patients with pregnancy complicated by HDP.

Materials and Methods. This observational cohort study included single pregnancies complicated by maternal pre-existing obesity who developed HDP and who delivered at Careggi University Hospital between January 2017 and December 2023. Women with pre-gestational chronic diseases were excluded. Data regarding age, parity, smoke habit, pre-gestational BMI, uterine arteries Doppler velocimetry, prophylaxis with acetylsalicylic acid, gestational diabetes, HDP and neonatal weight were recorded. Multinomial logistic regression analysis was performed to verify the impact of these known risk factors for FGR/SGA in the study population.

Results. A total of 88 women were enrolled; mean BMI was 34.1 (±4.15 SD); 22/88 patients delivered foetuses affected by SGA/FGR (25%). Only BMI showed a significant correlation with the incidence of FGR/SGA ($p = 0.008$). Furthermore, comparing different BMI classes, it was observed that the incidence of FGR/SGA is higher for classes II and III than for class I ($p = 0.037$).

Conclusions. Our findings highlight the key role of maternal BMI as an independent risk factor for FGR/SGA, overall in cases of severe obesity (BMI ≥ 35, class II/III).