Maternal haemodynamics in placental implantation abnormalities: a pilot study

Filomena **Maellaro** [1,*], Marcello **Pais** [1], Francesca **Pometti** [1], Daniele **Farsetti** [1], Ilaria **Bellafiore** [2], Matteo **Stefanini** [2], Barbara **Vasapollo** [1], Herbert **Valensise** [1]

[1] Department of Obstetrics and Gynecology, Policlinico Casilino, Tor Vergata University, Rome, Italy.
[2] Department of Radiology, Policlinico Casilino, Rome, Italy.

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Objective. Low-lying and placenta previa are associated to risk for placenta accreta disorders (PAS). Maternal haemodynamic in patients with placental implantation abnormalities has not been yet investigated. During the two last decades some authors shifted the focus from placenta to maternal cardiovascular system to explain the development of growth restriction. Mothers of FGR foetuses show low cardiac output and elevated systemic vascular resistance suggestive of a hypovolemic circulation.

Our aim was to investigate if an altered maternal haemodynamic is associated to a foetal growth drop in pregnancies complicated by placental implantation abnormalities.

Materials and Methods. 33 normotensive patients with low lying placenta, placenta previa associated or not to PAS were submitted to an evaluation of maternal haemodynamics with USCOM. We then compared maternal cardiovascular profile between patients with a drop in foetal growth (> 1 quartile) from the second to the third trimester or within the third trimester, and patients with regular foetal growth.

Results. All patients showed haemodynamic values within in the normal range. There were no differences in mean arterial pressure (87 ± 8 mmHg *vs* 82 ± 9 mmHg), cardiac output (7.4 ± 1.1 L/min *vs* 7.0 ± 1.0 L/min), systemic vascular resistance (984 ± 139 *vs* 932 ± 173 dynes × s/cm^5) between the two groups.

Conclusions. Maternal haemodynamic appears to be normal in pregnancies complicated by placental implantation abnormalities. There were no haemodynamic differences between patients with normal and dropped foetal growth.