Preeclampsia and foetal congenital heart disease: which role for maternal haemodynamic assessment? A case report

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Objective. We present a case of pregnancy, with a foetus affected by DiGeorge syndrome with cardiac involvement, complicated by extremely preterm preeclampsia (PE).

Materials and Methods. To assess the foeto-maternal wellbeing in a case of extremely preterm PE, foetal doppler and cardiotocography (CTG) monitoring were associated not only to maternal blood exams and arterial pressure surveillance, but also to maternal haemodynamic evaluation (Ultrasound Cardiac Output Monitor, USCOM®).

Results. A 42-year-old woman was admitted to our High-Risk Pregnancies Unit, at 25 gestational weeks for preeclampsia. At the admission, maternal and foetal condition were stable with a good maternal blood pressure and no other sign of maternal organ involvement more than proteinuria and placental dysfunction. USCOM showed mildly elevated systemic vascular resistance (SVR, 1,213 dynes × sec/cm^5, 83° pc) and normal stroke volume (SV, 87 ml, 53° pc). After two weeks, an initial deterioration of foetal doppler was associated with worsening maternal blood-pressure requiring more than one drug for adequate maternal stabilization and haemodynamic profile (SVR 1,934 dynes × sec/cm^5, 99° pc; SV 56 ml, 6° pc). At 30 weeks, the further worsening maternal haemodynamic profile with increase of SVR (2,380 dynes × sec/cm^5, > 99° pc) and SV reduction (52 ml, 4° pc) preceded of only few days the urgent caesarean section for pathological CTG associated with absent reversed end diastolic flow in umbilical artery.

Conclusions. In a case of extremely preterm preeclampsia, our case demonstrates that maternal haemodynamic profile deteriorates simultaneously with the worsening of maternal and foetal condition, confirming the relevance of the global assessment of materno-placental-foetal axis in assessing these cases.