

## Antenatal characteristics and perinatal outcomes of late-onset fetal growth restriction (FGR) diagnosed in diabetic pregnancies: a retrospective study

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**Objective.** To assess the relationship between adverse perinatal outcome and the presence of pre-gestational or gestational diabetes (DM or GDM), in a cohort of late-onset FGR fetuses.

**Materials and Methods.** A retrospective case control study was conducted in two tertiary maternity hospitals. A cohort of diabetic women with late FGR fetuses was included as the case group and compared with a control group of non-diabetic women with late FGR fetuses. The following criteria were used for the definition of late FGR: abdominal circumference (AC) or estimated fetal weight (EFW) < 10 percentile > 32 weeks or a reduction of more than 50 percentiles of CA compared to second trimester ultrasound scan.

A composite adverse perinatal outcome (CAO) was defined in the presence of one of the following outcomes: newborn with pH < 7.1, Apgar at 5 min < 7, respiratory support at birth, neonatal hypoglycaemia, neonatal jaundice, admission to the NICU.

**Results.** Overall, over a period of 8 years, 516 pregnancies complicated by late-onset FGR were included, 62 (12.0%) of them occurring in diabetic women. Among them, 5 (1%) had pregestational diabetes, 42 (8.1%) GDM on diet and 15 (2.9%) GDM on insulin therapy. In the case group women had higher BMI at booking ( $25.3 \pm 5.6$  vs  $22.4 \pm 4.0$ ,  $p < 0.001$ ) and a higher incidence of multiparity (35/63, 55.6% vs 148/448, 33.0%,  $p < 0.001$ ). No statistically significant difference in terms of CAO was found between the two groups, while a significantly higher incidence of CAO was demonstrated comparing diabetic women on insulin therapy with those on diet (17/20, 85%, vs 25/42, 59.5%,  $p = 0.04$ ).

**Conclusions.** The need for insulin therapy in diabetic women with late-onset FGR fetuses seems to be associated with a higher incidence of adverse perinatal outcome.