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Incidence of pregnancy induced hypertension (PIH) and small-for-gestational-age (SGA) infants in oocyte-donation (OD) pregnancies: a prospective comparative study

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Context

Oocyte-donation (OD) is an integral part of modern assisted reproductive care. The obstetric and neonatal outcomes of patients undergoing in vitro fertilization (IVF) with OD are largely unknown.

Objectives

To assess if there are maternal and fetal outcome differences between pregnancies achieved with OD compared to IVF pregnancies with autologous oocyte (AO).

Patients

A total of 320 pregnancies were included in this prospective study performed during a three-year period. 68 (21.3%) pregnancies were obtained with OD, 82 (25.6%) with AO and 170 (53.1%) were spontaneous. Exclusion criteria were: uterine malformations, chronic hypertension, autoimmune diseases, pregnancy with fetal structural abnormalities or aneuploidies, multiple gestations.

Methods

This was a prospective study during 3-year period. For each OD pregnancy, with the exception of the patients aged >45 years, the first two subsequent pregnancies obtained with the couples' gametes were held as controls, with matching for mother's age and parity.

Results

There was not statistically significant difference in demographic characteristics (age, body mass index and parity), although only in OD group women conceived after 45 years. Patients with OD compared with those with IVF pregnancies had significantly higher mean uterine artery pulsatility index (UtA PI) in the 1st (1.87 vs 1.67, p=0.029) and 2nd (1.51 vs 0.91, p<0.001) trimesters of pregnancy, and higher incidence of SGA (25% vs 13.4%, p<0.001) and PIH (25% vs 12.2%, p=0.042). Analysis with logistic regression showed that maternal age (OR=0.89 CI 95% 0.841-0.956; p<0.001) and OD (OR=7,233 CI 95% 2.862-20.666; p<0.001) were the two only independent risk factors for PIH; while OD was the only independent risk factor for SGA (OR=3.61 CI 95% 1.457-8.957; p=0.006) when adjusted for other confounding variables.

Conclusions

Women with pregnancies achieved with OD have an increased risk of PIH, even at young age and the risk of SGA newborns is three times higher compared to pregnancies obtained with AO and spontaneous.

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