Obstetric Outcomes in Women with Polycystic Ovarian Syndrome after IVF: A Case-Controlled Study

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ABSTRACT

Background: There is paucity in data with regards to obstetric outcomes of women with polycystic ovarian syndrome (PCOS) who had assisted reproductive technology (ART) treatment in Malaysia. **Study Objective:** To evaluate whether PCOS independently predicts pregnancy and neonatal complications when adjusted for important confounders such as maternal age and body mass index (BMI). **Materials and Methods:** This is a retrospective study that was carried out at the Medically Assisted Conception Unit, UKM Medical Centre. Women with confirmed PCOS and unexplained infertility who underwent in vitro fertilization (IVF) from January 2015 until December 2015 were recruited. A total of 182 subfertile women including 89 women with PCOS (study group) and 83 women with unexplained infertility (control group) were studied. Maternal outcomes such as preterm delivery, gestational hypertension, gestational diabetes mellitus, instrumental delivery and caesarean section as well as neonatal outcomes such as macrosomic baby, neonatal intensive care unit admission, Apgar score, neonatal hypoglycaemia and neonatal jaundice were analysed. **Results:** The number of oocytes retrieved and ova fertilized were higher in the study group compared to the control group (p=0.004 and p=0.041). There was no significant difference in IVF outcomes (p=0.446) but the study group had a higher number of take home babies compared to the control group (17.2% vs 10.1%, p=0.047). There was a significantly higher incidence of Ovarian Hyper-Stimulation Syndrome in the control group (p=0.026). There was no significant difference in maternal complications such as gestational diabetes mellitus and hypertension (p=0.121), gestational age at delivery (p=0.493) and mode of delivery (p=0.441) in both groups. There was no statistically significant difference in neonatal outcomes as well with regards to baby birth weight, Apgar score at 5 minutes, cord pH, NICU admission rates, neonatal hypoglycaemia and neonatal jaundice (p>0.05). **Conclusion:** The take home baby rate was significantly higher in subfertile women with PCOS compared to women with unexplained infertility. There was no significant difference in maternal and fetal outcomes between both groups.

Risk for a Fetal Chromosome Abnormality when Low Fetal Fraction Results in 'No Call' by NIPT

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ABSTRACT

Objectives: To assess the frequency of fetal chromosome abnormalities in women who receive a "no-call" result from non-invasive prenatal testing due to low fetal fraction (FF); and to identify the subset of women at highest risk and who would most benefit from immediate referral for ultrasound and/or diagnostic testing. **Methods:** Clinical follow-up was obtained for women who received a "no-call" due to low FF. A fetal-fraction-based risk (FFBR) model incorporating prior risk with maternal weight (MW) - and gestational age-adjusted FF to determine risk for chromosome abnormality was developed. A high FFBR score of ≥1/100 indicated elevated risk for triploidy, trisomy 18 (T18), or trisomy 13 (T13). **Results:** Of 1,350 cases, 202 cases were lost to follow-up/had missing information and were excluded. Of the 1,148 cases with an outcome — 1,006 (87.6%) were confirmed/presumed normal, 48 (4.2%) had confirmed chromosomal abnormality, 9 (0.8%) had a suspected chromosomal abnormality. Eighty-five (7.4%) pregnancies ended in pregnancy loss. The FFBR algorithm assigned 564 (49%) cases a high FFBR score and 584 (51%) a low FFBR score. High-FFBR-score cases had a greater proportion of FF-related chromosomal abnormalities than women with low FFBR scores (7.1% vs. 1.4%) and more fetal deaths (14.7% vs. 2.7%). **Conclusion:** Low FF is associated with a high risk for fetal death, triploidy, T18, and T13, but not T21. The FFBR algorithm identified a high-risk subgroup of 'no-call' cases due to low FF that should be immediately referred for additional testing. Cases with a low FFBR cases may benefit from a redraw.