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Neonatal data after transfer of blastocyst vitrified using a closed system

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Objectives: Closed vitrification system (CVS) may enable the risk of contamination to be minimised. We have revealed that human embryos are vitrified using a CVS without impairment of developmental competence to the blastocyst stage and to the fetal stage (Hashimoto et al., 2013). In this study, the neonatal data after the transfer of blastocyst vitrified using a CVS were investigated.

Methods: Human blastocysts were vitrified using either a CVS (Rapid-i[®]) or an open vitrification system (OVS; Cryo-top[®]). Single blastocyst transfer was performed after warming. Neonatal data after the transfer of blastocyst vitrified using the CVS (n = 47) were compared with that using the OVS (n = 101).

Results: There were no differences between the CVS and the OVS in mother age (CVS: 34.9 y vs. OVS: 34.4 y), mother BMI (CVS: 20.3 vs. OVS: 20.1) and implantation rate (CVS: 43.2%, n = 139) vs. 44.8%, n = 317). There were also no differences between the CVS and the OVS in the gestational age (CVS: 271.6 days vs. OVS: 275.2 days), birth weight (CVS: 3027.7 g vs. 3048.7 g), the Apgar score (CVS: 9.1 vs. 9.2), the occurrence of congenital anomaly (CVS: 2.1% vs. OVS: 0%), and the maternal complication (CVS: 12.8% vs. OVS: 15.0%). The neonatal data for blastocysts vitrified using the CVS was similar to that with the OVS. Data of the present study showed that a CVS didn't affect the neonatal data compared with an OVS.