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Birth weight following vitrified-warmed embryo transfer was higher than those in non-ART and fresh embryo transfer.

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Objectives: Effects of vitrification on the birth weight by the gestational age were assessed.
Materials & Methods: A total of 2,549 cycles (non-ART: 807; fresh embryo transfer (fresh-ET): 707; vitrified-warmed (cryo)-ET: 1,035) in which singleton pregnancy was confirmed between 2004 and 2011 was included in the analysis. We examined the birth weight and the rate of premature births in non-ART, fresh-ET, and cryo-ET by the gestational age. The data were compared using PLSD test following ANOVA. The model included the main effects of sex of baby, mode of delivery, and body height and BMI of mother.
Results: There was no difference in the rate of premature births among 3 groups. Although, the birth weight and the caesarean section rate in the cryo-ET were significantly higher than others ($P < 0.05$), the birth weight in the cryo-ET was significantly higher than others in the case of natural delivery. Moreover, the birth weight in the cryo-ET was significantly higher than others at 38-40 weeks of gestation ($P < 0.05$). Similarly, the birth weight in the cryo-ET was also significantly higher than others despite baby's sex, mother's height, and BMI.
Conclusion: The birth weight in the cryo-ET was heavy despite no difference between non-ART and fresh-ET partly because of its higher caesarean section rate. However, we had the same result even in the case of delivery by natural means. Furthermore, baby's sex, mother's height, and BMI didn't affect the result. Our data suggested that the vitrification procedure would affect the birth weight.