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Relation between newborn data and blastocyst quality of either ICM or TE grade in frozen-thawed single blastocyst transfer cycles

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<Objective>

Investigations regarding newborns by ART have been well reported since the first application of ART in reproductive medicine. Most of these analyses are performed in fresh embryo transfer cycles. However, investigation focused on association between neonatal outcomes and embryo parameters in frozen-thawed embryo transfer cycles has not been reported due to the lack of enough sample of single embryo transfer worldwide. The objective of the present study was to investigate the relationship between blastocyst quality parameters of either ICM or TE and newborn outcomes in a single frozen-thawed blastocyst transfer cycles by analyzing over 800 cases. Blastocyst stage 1 and 2 were not included in this analysis.

Design

Retrospective cohort study.

<Materials and Methods>

A total of 828 full-term infants born after a single thawed blastocyst transfer from 2009 to 2015 were analyzed. They were divided into 3 categories according to either ICM (A:n=289, B:n=537, C:n=2) or TE grade (A:n=136, B:n=549, C:n=143) based on the Gardner 's blastocyst grading. Birth height, birth weight, sex ratio and congenital abnormalities were compared among the 3 categories either in ICM or TE.

<Results>

Any significant differences were not confirmed in birth height, birth weight, sex ratio and congenital abnormality rate among the 3 categories either in ICM or TE.

<Conclusions>

The present study revealed blastocyst quality such as ICM/TE grades was not related to the birth height, birth weight, sex ratio and congenital abnormalities of newborn babies in a frozen-thawed single blastocyst transfer. It is concluded that ICM/TE grades of thawed blastocysts can't be an indicator of neonatal outcomes including progress of fetal development, gender ratio and congenital anomalies.