ISIVF2023
Osaka, 2023.11.2-4

Morphological assessment alone is a sufficient criterion for selecting transferred blastocysts in a single blastocyst transfer.

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[Objective]
Recently, numerous investigations have been conducted concerning the efficacy of morpho-kinetic assessment of embryos. Nevertheless, these studies have solely substantiated its function in pregnancy prediction. There exists a scarcity of studies scrutinizing its clinical efficacy, such as its utilization in embryo assessment to diminish the number of embryo transfer cycles needed to attain pregnancy. In the present research, we examined the clinical effectiveness of the embryo scoring system employing Eeva™, a morpho-kinetic evaluation, for blastocyst selection for transfer as compared to conventional morphological evaluation.

[Methods]
A total of 217 participants were enrolled in this research. These individuals underwent their first IVF cycle between March 2019 and December 2020, and subsequently underwent a frozen-thawed single blastocyst transfer. The participants were divided into two distinct groups: Group G, in which the embryos were cultured in a time-lapse incubator (Geri), and evaluated using the Gardner scoring system and Eeva™ technology, and Group D, in which the embryos were cultured in a conventional dry incubator and evaluated using the Gardner scoring system. We conducted a comparative analysis of the clinical pregnancy rate, miscarriage rate, and live birth rate subsequent to the single blastocyst transfer between the two groups. Additionally, we proceeded to compare, among the 168 clinically pregnant cases, the proportion of cases that achieved clinical pregnancy following the first embryo transfer and the number of transfer cycles required for clinical pregnancy between the two groups.

[Results]

There were no significant differences in clinical pregnancy rates (83/187, 44.4% vs. 98/203, 48.3%), miscarriage rates (12/83, 14.5% vs. 21/98, 21.4%), or live birth rates (69/187, 36.9% vs. 76/203, 37.4%) between group G and D. Among the cases resulting in clinical pregnancy, no significant differences were also observed in the proportion of cases attaining clinical pregnancy following the initial embryo transfer (55/77, 71.4% vs. 65/91, 71.4%) and the number of cycles required to achieve clinical pregnancy (1.42 ± 0.78 vs. 1.44 ± 0.88) between group G and D.

[Discussion]

No significant differences were observed between the two cohorts in any of the variables scrutinized in this study. As a result, the clinical efficacy of blastocyst selection utilizing Eeva™ could not be substantiated. Hence, evaluating blastocysts solely on the basis of their morphology is deemed satisfactory. In future studies, we will examine particular situations necessitating morpho-kinetic assessment.