



COGEN

Preconception, Preimplantation and Prenatal Genetic Diagnosis (CoGEN)

KIDscore and PGT-A: Is there a relationship between the findings?

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INTRODUCTION

Time lapse technology is bringing new perspectives in the relationship of embryos' morphokinetics and implantation rates after assisted reproduction. However, it seems that only the embryo morphokinetics could be insufficient to predict euploidy. The KIDscore™ D5 (KS5) algorithm, thus, is used for improving the implantation rates after a single euploid embryo transfer in its blastocyst stage and is related to higher rates of euploid embryos the higher the KS5, which could lead to higher implantation rates.

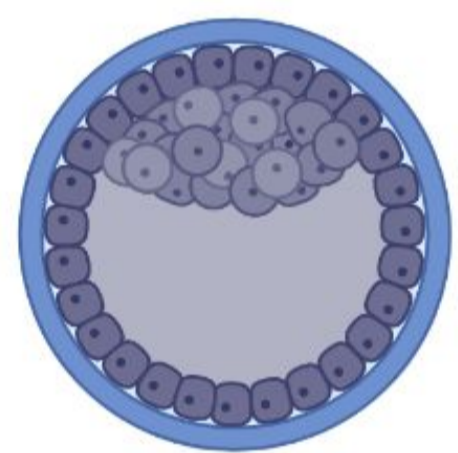
METHODS



Retrospective, observational study



IVF cycles performed between 2019 and 2021



802 embryos biopsied for PGT (A, SR, and M)



Embryos cultured for five or six days in an Embryoscope® time-lapse incubator (Vitrolife®, Canada).

The embryos were then divided into three groups according to the KS5 evaluation

G1 (1 - 4)

G2 (4,1 – 7)

G3 (7,1 – 9,9)



Figure 1. Blastocyst cultured in a time-lapse incubator.



For statistical analysis, Chi-square, and ANOVA tests, and Pearson correlation were used, considering $p < 0.05$.

RESULTS

Table 1. Comparison of euploidy rate and KIDScore between the studied group-lapse incubator.

Group	Age	KS5	Euploidy	p
G1	39.1±3.5	2.9±0.7	28.70%	<0.001
G2	38.7±3.3	5.4±0.8	36.50%	
G3	37.6±3.8	8.0±0.7	52.10%	

A weak correlation between women's age and KIDScore was also observed ($-0.173, p < 0.001$).

CONCLUSION

The findings suggest that better embryo morphokinetics provide greater chances of euploidy. Moreover, a weak negative correlation between women's age and KIDScore, possibly due to age-related aneuploidy, was observed. These results highlight time-lapse technology's importance and the future perspective of morphokinetics evaluation improving implantation rates through euploidy identification.

CONTACT

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