

# CLINICAL CHARACTERISTICS SHOULD NOT BE OVERLOOKED WHEN SELECTING EMBRYOS CULTURED IN A TIME-LAPSE INCUBATOR SYSTEM

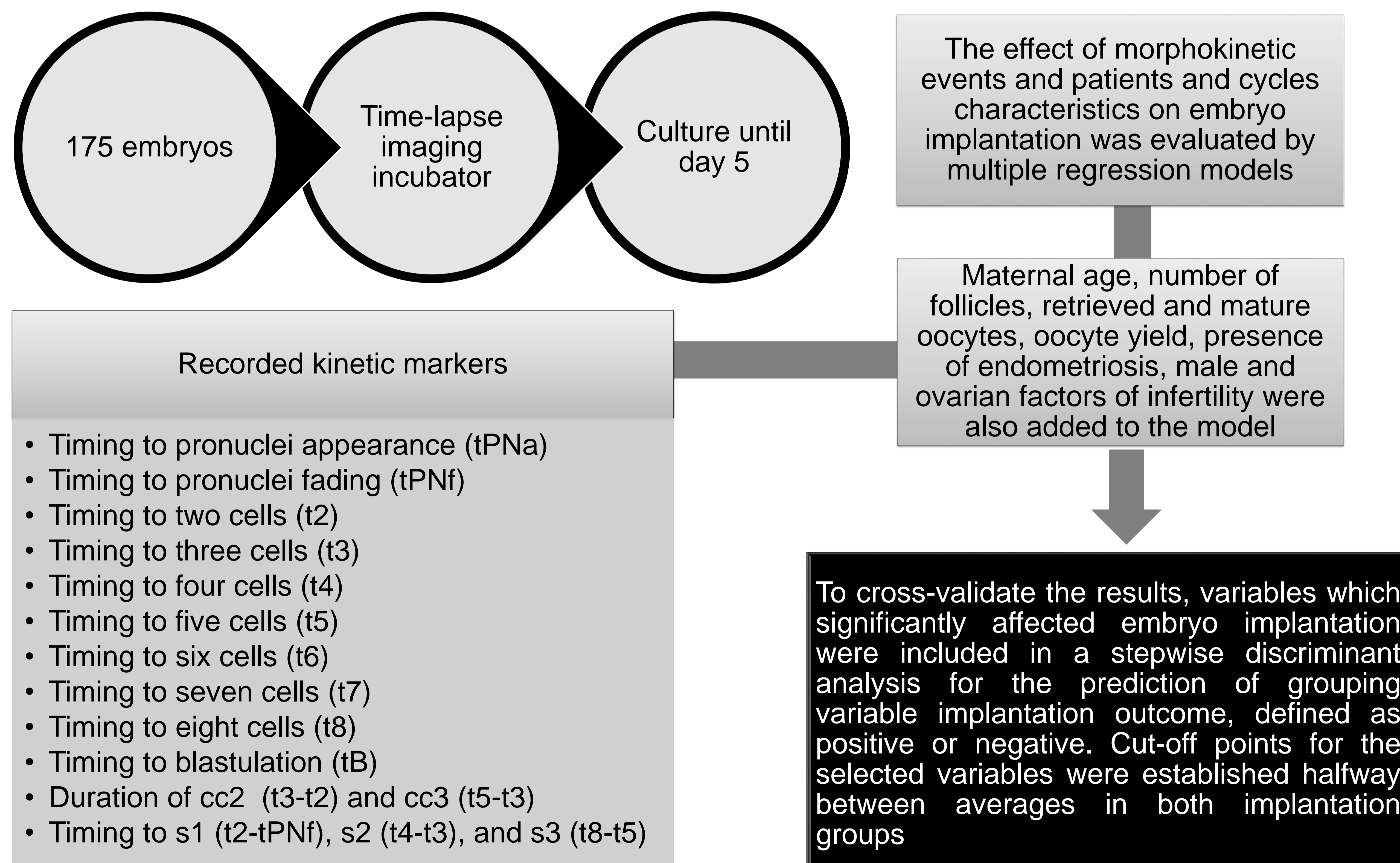
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## OBJECTIVE

Single embryo transfers (SETs) have become indispensable to maximize live birth rates while avoiding multiple pregnancies. The development of a non-invasive embryo implantation predictor has become crucial for reproductive medicine. Time-lapse imaging systems (TLS) allow for the mapping of morphological changes or events with the exact time-point of occurrence. Analysis of implantation-related morphokinetic characteristics has facilitated the development of algorithms for implantation prediction. The main drawback of most studies is that each embryo is treated as an individual, and clinical and stimulation-related confounding factors are ignored. The aim of this study was to investigate the influence of morphokinetic events and patients and cycles characteristics on embryo implantation.

## MATERIALS AND METHODS



## RESULTS

	Multiple regression	Cut-off
<b>Variables</b>	<b>Implantation</b>	
Female age	OR: 0.813, p=0.041	37.1
FSH dose (IU)	OR: 0.998, p=0.003	2701.2
Follicles (n)	OR: 1.947, p=0.018	10.1
MII oocytes (n)	OR: 1.133, p=0.001	5.4
t8 (h)	OR: 0.938, p=0.040	56.6
s3 (h)	OR: 0.922, p=0.029	7.8

Table 1. Significant differences observed in kinetic markers and patient's clinical characteristics from implanted blastocyst and non-implanted blastocyst

Discriminant analysis

Correctly classified 77.8% of original cases

Best predicting negative implantation (98.8%)

## CONCLUSION

Our evidences underline the importance of patient's individual characteristic for the development of any algorithm for embryo implantation. Ignoring the impact of confounder's factors, as the embryo origin, may weaken the model and its predictive value.