



**2015 ACOG
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Scientific Meeting**
San Francisco, CA | May 2-6, 2015



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**2015 Annual Clinical & Scientific Meeting of The American Congress of Obstetricians and Gynecologist
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TITLE:

Analysis of morphology of single-embryo transfers and correlation with antepartum biomarkers and obstetric outcomes

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INTRODUCTION:

Embryo morphology during in vitro fertilization has previously been studied in association with rates of implantation and live birth rates. The objective of this project is to evaluate the impact of embryo morphology on antepartum biomarkers and obstetric outcomes following single embryo transfer (SET).

METHODS:

At a single reproductive endocrinology/infertility center, 17,768 embryo transfers were performed between July 1st, 2001 and June 30, 2013. Of those, 2882 were SETs performed on Day 3, 5, or 6. After obtaining IRB consent to correlate embryo morphology with perinatal outcomes, we identified 78 patients that delivered at a single institution. We compared embryo morphology, using the Garner and Schoolcraft system of grading including embryo expansion, inner cell mass (ICM), and trophoctoderm (TE), to antepartum biomarkers and pregnancy outcomes. Statistical analysis was performed using t-tests for parametric data and Kruskal Wallance, as indicated.

RESULTS:

Complete embryologic, serologic, and obstetric outcomes were available for fresh (n=55) and frozen (n=23) SETs. Standard biomarkers and obstetric outcomes were correlated with cleavage stage (n=23) and blastocyst (n=55) morphology scores. Embryos with a higher quality ICM demonstrated higher 2nd trimester maternal serum AFP (p=0.0436). No other differences in standard biomarkers (1st and 2nd trimesters), or perinatal outcomes were observed.



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CONCLUSIONS:

In this retrospective pilot study we demonstrated that embryo morphokinetics did not correlate with perinatal outcome or the majority of placental biomarkers. Patients should be reassured that embryos of lower morphological quality that implant result in comparable biomarkers and obstetric outcomes similar to those from higher quality embryos.