American Society for Reproductive Medicine 2016 Scientific Congress & Expo
October 15 to 19, 2016 • Salt Lake City, UT, USA

Abstract Title:
Aneuploidy Rates Are Not Increased in Patients With Recurrent Pregnancy Loss

Authors:
H. Nonez,1 J. Rodriguez-Purata,1 J. A. Lee,1 M. C. Whitehouse,1 R. Slifkin,1 R. A. Moschini,1 M. Duke,1 A. B. Copperman,1,2 B. Sandler,1,2 C. Briton-Jones1

Affiliations:
1. Reproductive Medicine Associates of New York, 635 Madison Ave 10th Floor New York, New York, United States, 10022
2. Obstetrics, Gynecology and Reproductive Science, Icahn School of Medicine at Mount Sinai, Klingenstein Pavilion 1176 Fifth Avenue, 9th Floor, New York, New York, United States, 10029.

Objective:

Although uncertainty persists in the etiology of patients experiencing recurrent pregnancy loss (RPL), abnormalities of chromosomes have been the most cited correlation. This study sought to determine if the rate of aneuploidy increases in patients with an RPL diagnosis.

Design:
Retrospective cohort analysis

Materials and Methods:
Couples with a female partners aged ≤35 years who underwent a fresh autologous IVF cycle with pre-implantation genetic screening (PGS) (trophectoderm bx) from January 2010 through March 2016 were included. Cohorts were segregated into RPL and Non-RPL. RPL was defined as a patient experiencing ≥2 failed clinical pregnancies. Main outcomes included number of embryos biopsied and aneuploidy rates. Student's t-test was used for continuous variables, and the X^2 test was used for categorical variables. Significance was confirmed a $p<0.05$. Clopper-Pearson interval was used to calculate binomial confidence intervals (CI) for all reported proportions. Adjusted odds ratio (OR) and its 95% CI for aneuploidy rate was calculated.

Results:
A total of 139 patients who underwent 161 cycles met the inclusion criteria. All demographic characteristics are shown in Table 1. Overall, all variables analyzed were similar between groups except the average day 3 FSH level (6.4±2.7 vs. 5.4±2.8, $p<0.05$). The average number of embryos biopsied per cycle (5.9±3.5 vs. 6.6±5.0), proportion of aneuploid embryos, (32.6% vs. 33.6%, OR 1.01 (95% CI 0.8 – 1.4)) and clinical pregnancy rate was similar between non-RPL and RPL cohorts (57.6% vs. 58.3%, OR 0.97 (95% CI 0.5 – 1.9)).

Conclusions:
This study suggests that RPL in couples with a female partner <35 yo is not influenced by embryo aneuploidy. This study's results are reassuring; RPL patients <35 who seek treatment with PGS have similar chances of achieving a pregnancy as to non-RPL counterparts.

Support:
None.

Table:

	Non-RPL	RPL	p-value
# of Patients (n=139)	n= 64	n= 75	
# of Cycles (n=161)	n=75	n = 86	
Age	32.0±2.6 (24.4 – 35.0)	31.9±3.0 (22.6 – 35.0)	NS
Day FSH	6.4±2.7	5.4±2.8	p<0.05
AMH	3.7±2.5	3.8±2.6	NS
Oocytes retrieved	18.3±8.0	17.8±9.4	NS
Day 1 Embryos Ongoing	11.6±6.3	12.0±6.7	NS
Day 5 Embryos Ongoing	7.7±5.1	7.8±5.4	NS
Average Embryos Biopsied	5.9±3.5	6.6±5.0	NS
Aneuploidy Rate	32.6% (139/440) // (95% CI 27.3 – 36.2)	33.6% (190/564) // (95% CI 29.8 – 37.8)	OR 1.1 // (95% CI 0.8 – 1.4) NS
Clinical Pregnancy Rate	57.6% (34/59) // (95% CI 0.4 – 0.7)	58.3% (56/96) // (95% CI 0.5 – 0.7)	OR 0.97 // (95% CI 0.5 – 1.9) NS


RMA
of New York


AMERICAN SOCIETY FOR
REPRODUCTIVE MEDICINE


Icahn
School of
Medicine at
Mount
Sinai