

## **WHAT PATIENTS CAN EXPECT FOR PERCENTAGE OF EMBRYOS BIOPSIED AND NORMAL EMBRYOS AVAILABLE FOR FRESH BLASTOCYST TRANSFER WHEN UNDERGOING TROPHECTODERM BIOPSY WITH 24-CHROMOSOME GENETIC ANALYSIS**

Jason Barritt, PhD<sup>1</sup>, Santiago Munne, PhD<sup>2</sup>, Mark Surrey, MD<sup>1,3</sup>, Hal Danzer, MD<sup>1,3</sup>, Shahin Ghadir, MD<sup>1,3</sup> and David Hill, PhD<sup>1</sup>. <sup>1</sup>ART Reproductive Center, 450 North Roxbury Drive Suite 520 Beverly Hills, California, United States, 90210; <sup>2</sup>Reprogenetics, 3 Regent Street Suite 301 Livingston, New Jersey, United States, 07039 and <sup>3</sup>Southern California Reproductive Center, 450 North Roxbury Drive Suite 500 Beverly Hills, California, United States, 90210.

**Objective:** Trophoctoderm biopsy with 24 chromosome microarray-comparative genomic hybridization (aCGH) for preimplantation genetic diagnosis (PGD) is a clinically validated procedure to select chromosomally normal embryos for a fresh transfer during an IVF cycle. The expectation of the percentage of embryos that will be available for biopsy on Day 5, and how many cases result in normal embryos available for fresh blastocyst transfer has to our knowledge yet to be investigated.

**Design:** Retrospective data analysis at a private fertility practice

**Materials and Methods:** A total of 128 trophoctoderm biopsy aCGH cycles were evaluated between August 2010 and 2012. Patients were undergoing IVF cycles with PGD for a variety of reasons and all consented to retrospective research analysis. Data were analyzed for A) the number of cases that had biopsy, B) the number of embryos that were available for trophoctoderm biopsy, and C) the number of cycles that had a normal embryo available for a fresh transfer.

**Results:** Of the 128 cycles, eight (6.3%) had no embryos available for biopsy on D5 or D6 of culture, and biopsy was canceled. In the 120 remaining cycles, a total of 677 embryos were biopsied, a mean of 5.2 per cycle. However, only 379 embryos (56%) were developed to a stage able to be biopsied on Day 5 of culture. In this highly varied patient population, only 53 cycles (41%) received a fresh transfer of normal embryos, with an average transfer of 1.4 embryos.

**Conclusions:** Fresh embryo transfer following trophoctoderm biopsy of embryos analyzed by aCGH is now clinically available. However, patient expectations must be managed for a possible cycle cancellation rate of 6.3%, for only 56% of embryos being developed to a stage able to be biopsied on D5 and only 41% of the initiated PGD cycles resulting in fresh embryo transfer of at least one normal embryo. These cumulative findings from a single practice demonstrate the need for significant pre-cycle counseling of all patients undergoing PGD with trophoctoderm biopsy and aCGH analysis