PGD: Should we analyze delayed day 3 embryos on day 4?

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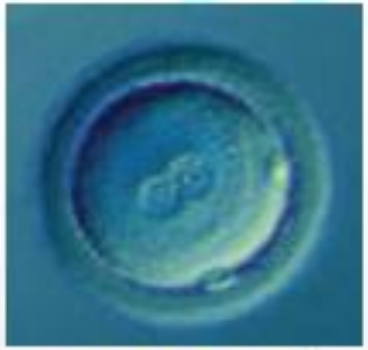
Background:

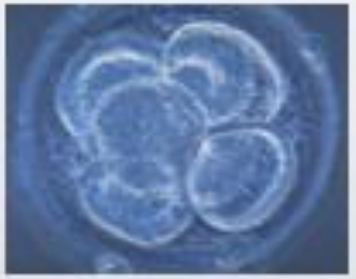
- **The biopsy for PGD is done regularly on day 3 Embryos (7-8 cells).**
- **The lab doesn't work on Saturdays- so the biopsies of day 3=Saturday are performed on Sunday=day 4.**
- **Delayed embryos- which are not 7-8 cells on day 3 and reach rhe 7-8 cells stage on day 4- are also biopsied on day 4.**

IVF



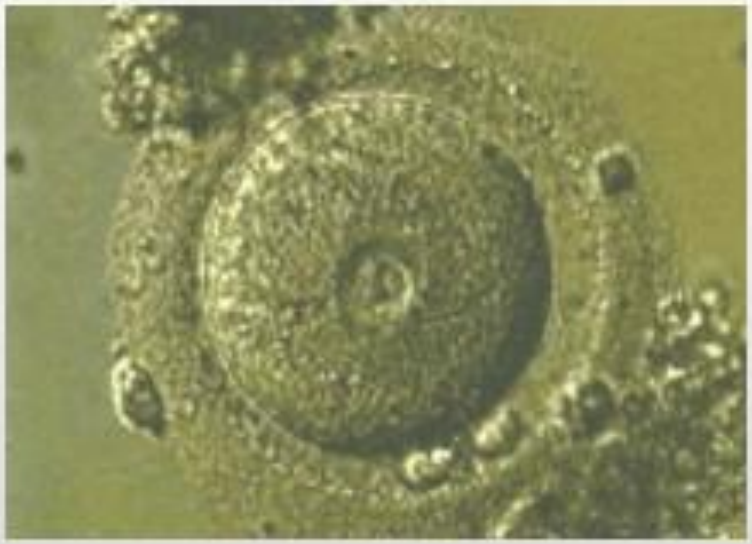
לאחד ההפריה

יום 2



יום 3

בלסטוציסט יום 5-6



Methods

- We also compared day 4 Sunday data to day 3.
- We compared lab results of the embryos.
- The assumption was that the Sunday group will have more “Top Quality” embryos (compact and blastocyst) and more proper lab results- affected/unaffected.

Study Design:

1. A retrospective cohort study including day 4 Sunday and day 3 cycles.

We will compare the ongoing implantation rate, # of pregnancies and babies.

2. A cross section study including day 4 Sunday, day 4 non-Sunday.

We will compare the PGD detection rate.

Variables:

- Inclusion criteria- All women who underwent IVF+PGD in Sheba between 2006-2019, and had biopsy on day 3-4.
- Excluded- women who had blastocyst biopsy on day 5.
- Confounders- age, G, P

Sample size calculation:

2,712 (452 in A, 2,260 in B)

Calculated for 5% significance, 80% power.

Pregnancies rate according to literature- 15% for day 3 and 10% for day 4.

Statistical Methods:

- categorical variables will be described using frequency and precentage. continous variables will be evaluated for normal distribution using histogram and Q-Q plot. =>comparison to normal distribution power.
- normally distributed continous variables will be reported as mean and stdev while skewed variables (G,P age) will be reported as median and inter quartile range.
- ongoing implantation rate per unaffected embryo transferred, complete genetic diagnosis will be compared between groups using chi square test.
- potential confounders will be compared between 2 groups using chi square test (categorical variables) or independant samples t- test/mann whitney test (ordinal and continous variables)=>for variables with long tail
- all statistical tests will be 2 sided and $P<0.05$ will be considered.

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