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LABORATORY STRATEGIES: CAN WE ACHIEVE THE SAME RESULTS DOING PSEUDO UNDISTURBED CULTURE IN A CONVENTIONAL INCUBATOR VS REAL UNDISTURBED CULTURE IN 3 DIFFERENT TIME-LAPSE SYSTEMS?

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OBJECTIVE: The objective of the study was to compare reproductive outcome between patients cultured blindly in a standard incubator (SI) vs. patients cultured in three different time-lapse systems (TS).

DESIGN: Retrospective Study.

MATERIALS AND METHODS: Information from a total of 5374 cycles of IVF/ICSI with and without PGT-a was included. Out of these, 3164 (58,9%) were cultured blindly in a SI (without checking the embryos and trying to mimic uninterrupted culture as in a TS) and 2210 (41,1%) were cultured in different TS (where embryos were checked without disturbing them), following routine practice. The study period was between January 2016 and June 2017. For SI, patients were placed in the incubator after ICSI and checked only on Day 1 for fertilization and on Day 5 for blastocyst formation. For TS patients were checked the same days as in SI but without taking them out of the incubator. All patients had single embryo transfer (SET). Results were analyzed according to different age groups.

RESULTS: Some clinics do not have access to time-lapse systems and try to mimic undisturbed culture by not removing the embryos from the standard incubator. This study shows the results from this approach. There were no significant differences in terms of patient's demographics between both groups (including BMI and sperm concentration). For all groups of ages ongoing pregnancy rate was higher in TS (non PGT-a 49,5% and PGT-a 46,5%) than in SI (non PGT-a 44,4% and PGT-a 42,5%) although not significant. Table 1 shows results according to different age groups.

CONCLUSIONS: Pseudo undisturbed culture with SI does not achieve the same results as real undisturbed culture in TS. Although not significant, clinical outcomes are 5% better in the TS group than in SI. Results are only significantly different for young patients in the non PGT-a group. However, significance may be achieved by increasing the number of cycles in each group. Further studies are needed

PGT-a	Non PGT-a	< 35	35-39	R40	< 35	35-39	R40	SI	40,4%	43,6%	41,7%	47,7%	43,9%	0%	TS	37,3%	50,8%	45,3%	60,2%	43,2%	8,3%	P-value	NS	NS	NS	< 0,05	NS	NS
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