

00019      **Comparison of Clinical Outcomes Between Fresh and Frozen-thawed Art Cycles**

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**Aims:** To compare the pregnancy (PR), implantation (IR) and live birth rates (LBR) between fresh and frozen-thawed cycles for embryo transfer across days 2 to 5.

**Methodology:** A total of 725 cycles (438 fresh, 287 frozen-thawed cycles) between January 2016 and December 2017 were analysed in a retrospective study. Patients were separated into groups A (fresh cycles) and B (frozen-thawed cycles) and further divided into subgroups 2, 3, 4 and 5 based on the day of embryo transfer, with the day of oocyte retrieval being day 0. PR, IR and LBR were compared between groups A and B for each of the subgroups as well as among subgroups within each group.

**Result:** PR for subgroups A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>, A<sub>5</sub> and B<sub>2</sub>, B<sub>3</sub>, B<sub>4</sub>, B<sub>5</sub> were 16.3%, 31.6%, 40%, 48.5% and 5.3%, 31.1%, 40.4%, 49.7% respectively. IR for subgroups A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>, A<sub>5</sub> and B<sub>2</sub>, B<sub>3</sub>, B<sub>4</sub>, B<sub>5</sub> were 10.4%, 17.6%, 23.1%, 35.4% (1 ongoing pregnancy(OP)) and 8.6%, 17% (1OP), 27.2%, 30.1% (7OP) respectively. LBR for subgroups A<sub>2</sub>, A<sub>3</sub>, A<sub>4</sub>, A<sub>5</sub> and B<sub>2</sub>, B<sub>3</sub>, B<sub>4</sub>, B<sub>5</sub> were 8.5% (2OP), 11.5% (9OP), 10.8% (2OP), 17.3% (43OP) and 8.7%, 11.2% (7OP), 14% (6OP), 13.3% (35OP) respectively. There were no significant differences in PR, IR and LBR between groups A and B across all subgroups ( $p > 0.05$ ). PR and IR increased with extended culture, showing significant differences between A<sub>2</sub> and A<sub>5</sub> ( $p = 0.00007$  and  $0.00002$  respectively), A<sub>3</sub> and A<sub>5</sub> ( $p = 0.002$  and  $1 \times 10^{-6}$  respectively) as well as B<sub>2</sub> and B<sub>5</sub> ( $p = 0.0006$  and  $0.005$  respectively). There were no significant differences in LBR among all subgroups ( $p > 0.05$ ).

**Conclusion:** Without significant differences in PR, IR and LBR between fresh and frozen-thawed cycles, both are feasible options and should be determined based on the patients' condition. Extended culture increases the chance of selecting a viable embryo hence increasing the PR and IR per embryo transfer.