USE OF PREDICTION MODELS TO DETERMINE THE OPTIMAL NUMBER OF OOCYTES IN IN VITRO FERTILIZATION CYCLES

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Abstract Body

Ovarian stimulation is a fundamental part of ART, necessary to induce the development of multiple follicles in a cycle. The availability of a good number of mature oocytes in fertilization cycles increases the probability of generating good quality embryos, and consequently of achieving a successful pregnancy and a live newborn. Objective: Use a prediction model in minimal stimulation cycles that reports the minimum number of oocytes needed associated to a higher pregnancy rate. Methods: Observational, longitudinal, retrolective, and retrospective study Inclusion criteria Women in infertility treatment from two fertiliy centers in Mexico (New Hope Fertility Center Mexico City and Guadalajara) were included. A minimum sample size of 784 ovules. Women between 25-45 years old with a diagnosis of infertility, candidates for in vitro fertilization were included. Donor women, women who quit the follow-up and women who didn't sign the informed consent letter were excluded. mini IVF® stimulation was performed with Zhang protocol For the data analysis, the SPSS 22, an alpha error probability of less than 5% was considered statistically significant. Descriptive statistics were performed in which the mean was reported with standard deviation, mean and ranges for the numerical variables, for the categorical variables number and percentages. Non-linear models of type CRT and type CHAID were used, linear models, such as logistic regression. Results: Fertilization rate (2PN) for oocytes in this study was 79.6%, the percentage of these oocytes that became viable embryos was 57% and the positive rate of hCG per transfer was 42.77 %, the chances for a single oocyte to achieve a positive hCG test is 19.4%. 4 oocytes is the optimal number of oocytes to be captured in IVFcycle with minimal stimulation. Conclusions: In IVF cycles, fertilization with minimal stimulation, the number of oocytes needed is 4 to obtain a viable embryo that can result in pregnancy.