P151. Ovarian sensitivity index and Follicular Output Rate are good measure of ovarian responsiveness to gonadotrophin stimulation

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Context: In controlled ovarian hyperstimulation (COH) women respond differently to similar doses of exogenous gonadotropins. Different methods have been proposed to predict such responses. Different methods have been proposed to objectively predict the follicular response to exogenous gonadotropins including follicular output rate (FORT) and ovarian sensitivity index (OSI).

Objective: This retrospective study was carried out in an assisted reproduction unit in Sant'Anna Hospital and LIVET Clinic in Turin. Patient(s) - Intervention(s) - Main Outcome Measure(s): We analysed data from 2401 women undergoing their first IVF cycle between 2010 and 2015. OSI was calculated as the ratio between the number of retrieved oocytes and the total dose of FSH administered (per 1,000 IU) while FORT was calculated as pre-ovulatory follicle count/antral follicle count × 100. Result(s): OSI showed a log-normal distribution with cutoff levels for poor and high response at 0,7 IU and 9,4/IU. Low, medium and high FORT groups were defined according to tertile values: <23; 23-116;>116 respectively. A correlation to other parameters of ovarian response was performed: a predictive model of the number of retrieved oocytes was calculated with multiple logistic analysis. Data showed that OSI and FORT are the most significant indexes in predicting the number of retrieved oocytes. Their predictive value is higher than age, anti-mullerian hormone (AMH) level and antral follicular count (AFC). Higher OSI and FORT indexes are related to better oocyte retrieval. Data also showed that the predictive power (C-statistic) of OSI in predicting live birth was superior to that of oocyte yield and and it is particularly useful when different subjects are treated with different stimulation regimens which would have confounding effect on the number of retrieved oocytes. Conclusions: OSI improves the definition of ovarian response patterns because it takes into account the degree of stimulation. FORT is a predictor of oocyte competence in terms of number of retrieved, mature and fertilized oocytes.

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