Determining the relation between non-fasting serum leptin- BMI ratio and follicular fluid leptin to ART outcomes

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Abstract

Introduction: Considering the economical and psychological burden of assisted reproductive technologies (ART), finding factors predicting ART results is of great value. So this study was undertaken to evaluate whether serum and follicular and serum leptin to body mass index (BMI) are predictive of ART outcomes.

Materials & Methods: 99 non-polycystic ovary patients from the body of patients referring to infertility ward of Shariati Hospital, from April to September 2005, were selected and underwent the long protocol of GnRH agonist ovarian hyperstimulation. Serum leptin was measured on the 3rd day of menstrual cycle. Follicular fluid (FF) was collected on the day of oocyte retrieval. The serum and follicular fluid leptin levels were determined by ELISA. Mean the levels of serum and follicular fluid leptin and leptin to BMI ratios were compared in pregnant and nonpregnant women, using SPSS software, student t-test. P-values <0.05 were considered significant.

Results: Geometrical mean serum leptin (16.42±1.48*ng/ml* for the nonpregnant and 14.09±2.20 *ng/ml* for the pregnant cases), follicular fluid leptin (8.73±2.56*ng/ml* for the nonpregnant and 11.072.76*ng/ml* for the pregnant cases) and serum leptin to BMI ratios (0.64±1.61 for the nonpregnant and 0.55±2.04 for the pregnant cases) were not significantly different.

Conclusion: According to the results, serum and follicular leptin levels and serum leptin to BMI ratios are not predictive of ART outcomes and in the meantime they should not be considered as a prognostic factor but further studies are recommended with more selective criteria to address infertility causes.

Key Words: Infertility, Assisted Reproductive Technologies, Leptin, BMI, FF, COH.

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