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TITLE

ADIPOKINES AND REPRODUCTIVE HEALTH OF OBESE WOMEN

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ABSTRACT

Context: The role of dyslipidemia (DL) as an independent risk factor of menstrual function and fertility disorders remains unknown. Objective: to evaluate menstrual cycle and fertility disorders in women with obesity or/and DL. Methods: All women underwent the evaluation of menstrual and reproductive functions and assessment of plasma leptin and ghrelin levels. Patients: 150 women aged 18-37 years were divided into 3 groups: I – 50 women with obesity and DL, II – 46 women with BMI $\geq$ 25 and normal blood lipids; III – 54 women with BMI $<$ 25 and DL. Control group included 20 women with normal BMI, blood lipids. Results. Decreased fertility was found in 69 (75.0%) of 92 women practicing regular sex without contraception: 31(96.9%), 13(41.9%) and 25 (86.2%) women in groups I, II and III. Irregular menstrual cycle including oligomenorrhea was observed in 59 (39.3%) patients (46.0%, 13.0%, 55.6% women in groups I, II and III), acyclic menstrual bleeding – in 34 (22.7%) patients (24.0%, 15.2%, 27.8% women in groups I, II and III). Leptin level was significantly higher in groups I (27.1 ± 12.9 ng/ml) and II (28.4 ± 16.6 ng/ml) compared to group III (6.3 ± 2.8 ng/ml) and control group (7.5 ± 1.8 ng/ml) ($p<0.05$). Significant differences on ghrelin levels were observed between patients in group I (765 ± 25.3 ng/ml) and group II (944 ± 119 ng/ml) ($p<0.05$), groups II and III (1648 ± 206.3 ng/ml) ($p<0.05$) and groups I and III ($p<0.05$). Conclusion: The most prevalent forms of fertility disorders in obese women of childbearing age with DL are infertility and recurrent pregnancy loss. DL is a significant risk factor of menstrual cycle disorders independent of BMI. Carbohydrate metabolism disorders are related to excessive weight and not related to DL. Obesity promotes an increase of leptin level and decrease of ghrelin level, whereas DL is not associated with changes of ghrelin and leptin levels.

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