12° CONGRESS of the EUROPEAN SOCIETY of Gynecology
BARCELONA 18/21 OCTOBER 2017

P9. THE EFFECTS OF METFORMIN TREATMENT IN INSULIN-RELATED GENES EXPRESSION IN POLYCYSTIC OVARY SYNDROME

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Abstract We aim to assess the effects of metformin treatment on metabolic and endocrine parameters and genes expression related to the insulin-responsive pathway in polycystic ovary syndrome (PCOS). This study comprises in twenty-eight obese mice divided into three metformin-treated groups for seven and twenty days, and eight non-obese and non-treated mice. We found a significant decrease of glycemia after metformin treatment for seven and twenty days, however, we not observed differences in the body weight measurement. Histologically, after twenty days we observed a follicular development with regression of androgenic effects. Levels of IGF-1R protein expression were low after twenty days of treatment, but LEP proteins showed an overexpression in the ovarian stroma. We assessed the IGF-1R and LEP mRNAs levels; the data showed a significant overexpression of LEP after seven days of treatment, while the IGF-1R was downregulated. Metformin therapy seems to exert a beneficial effect in histological and anovulatory features, reducing the follicular number and pyknosis formation, possibly involved in the reversion of androgenic stimulus. Expression of IGF-1 and LEPR indicate a relevant role in androgenic features reversion present in PCOS, hormonal equilibrium, body weight regulation and glucose metabolism, therefore, under phenotype obesity and infertility regulation in this model.

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