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Evaluation of the relation between body composition characteristics and metabolic parameters in patients with Polycystic Ovary Syndrome (PCOS)

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Aim: The aim of this study was to evaluate the relation between the body composition characteristics and metabolic parameters in patients with PCOS those known to have increased metabolic risks and having no study done before about body fat ratios and other body compositions with "Bioelectrical Impedance Analysis" (BIA).

Materials & Methods: 23 non-obese PCOS patients ($BMI \leq 27 \text{ kg/m}^2$) and 20 matched healthy controls ($BMI \leq 25 \text{ kg/m}^2$) were involved to this prospective study. Anthropometric parameters, metabolic parameters, 75 gr OGTT and Ferriman-Galwey score were investigated at 3rd and 8th day of the menstrual cycle. Insulin resistance was calculated. Body compositions (fat mass, body fat ratio (BFR), lean body mass (LBM) and total body water (TBW) and basal metabolic rate (BMR) were measured by BIA.

Signs: Lutenizan Hormone (LH), total Testosterone (Tt), free Testosterone (fT) and Dehydroepiandrosterone Sulphate (DHEAS) levels were found to be significantly high and sex hormone binding globulin levels were found to be significantly low ($p < 0.05$). A negative relation between insulin sensitivity index and tT, sT, TBW and BMR was found. There was a positive significant correlation between AUC insulin and sT. There was a strong negative correlation found between area under the curve AUC insulin and SHBG. There was a negative significant relation between BFR and tT. A strong negative relation was present between sT and DHEAS. There was a positive significant relation present between LBM and tT, sT and DHEAS. A positive significant correlation was present between BFR and BMI. There was a negative significant relation found between LBM and BMI.

Results: We found significant correlations between body compositions and metabolic parameters with BIA method in our hypothesis. This makes the use of BIA in PCOS patients suitable. On the other hand, for a better comprehension of the relation between the body composition characteristics and metabolic parameters with BIA, we need long term studies with high number of patients.

Biography

Mahmut Altuntas has completed his PhD from Harran University School of Medicine. In 2007, he received Family Physician Expertise from the Harran University School of Medicine. He has taken an active role in the project of "Effectiveness of chlorokine in malaria and malaria epidemiology".

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