UCP2, SHBG, Leptin, and T3 levels are associated with resting energy expenditure in obese women

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Abstract

Objective: The aim of this study was to investigate the association of Sex Hormone Binding Globulin (SHBG) with leptin, Triidothyronine (T3), and Uncoupling Protein 2 (UCP2) in obese women with low and normal Resting Energy Expenditure (REE) and to determine the role of these factors in the regulation of REE in obese women.

Method: A total 49 subjects (25-50 years old) were selected. Anthropometric and body composition parameters and resting energy expenditure were measured. Fasting circulating leptin, T3, SHBG and UCP2 levels were measured. Subjects were divided into three groups: Group I (BMI>30 and low resting energy expenditure, 16 subjects), group II (BMI>30 and normal resting energy expenditure, 17 subjects), and group III (control group, 16 non-obese subjects).

Result: It was found that obese subjects who had higher SHBG and leptin levels were at risk for high levels of UCP2. A significant association was found between T3 and REE. Obese subjects with higher concentrations of UCP2 and SHBG had decreased resting energy expenditure. A significant association was observed between SHBG and leptin in group I ($r=0.90$, $p<0.0001$) and group II ($r=0.83$, $p<0.0001$). Moreover, a significant association was found between T3 and SHBG in group I ($r=-0.69$, $P=0.003$). A significant association was observed between estrogen and REE in obese women with normal REE.

Biography:

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Speaker Publications:

1. "Relationship between estrogen and body composition, energy, and endocrine factors in obese women with normal and low REE."
2. "Follow-Up of Elevated Blood Lead Levels and Sources in a Cohort of Children in Benin."
3. "Correlation between handgrip and isokinetic strength of shoulder muscles in elite sitting volleyball players."
4. "Mesoporous silica SBA-15 decreases hyperammonemia and affects the gene expression of mitogen-activated protein kinases in the prefrontal cortex of rats with bile duct ligation."

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