

## SHBG (TAAAA)n repeat polymorphism in South Indian women with polycystic ovary syndrome

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PCOS is a common endocrine disorder affecting 4-12% of women worldwide. It is characterized by polycystic ovaries on ultrasound scan, chronic anovulation and hyperandrogenism. The cause of PCOS is unknown; however recent genetic association studies have indicated that a number of genes have been implicated. Some of these genes are involved in the availability of androgens to target tissues or genes determining androgenic activity at the molecular level. Literature revealed the association of Sex Hormone Binding Globulin gene with lower SHBG levels and increased risk for PCOS with clinical features of hyperandrogenism.

The aim of the current study was to investigate whether there is an association between SHBG (TAAAA)n repeat polymorphism and PCOS. Anthropometric measures revealed significant difference with respect to BMI and W/H ratio between the groups. Genotype analysis revealed eight SHBG(TAAAA)n alleles with 6-13 repeats, present in both PCOS and controls. The distribution of alleles was dissimilar when the alleles were categorized into short ( $\leq 8$ ) long ( $> 8$ ) allelic groups. Further, taking into consideration that the majority of the control group were lean women (BMI $< 25$ kg/m<sup>2</sup>), we assigned PCOS women into lean and overweight-obese PCOS (BMI $> 25$ kg/m<sup>2</sup>). The distribution of alleles in the lean group revealed no significant difference between short (53% vs 49%) and long (47% vs 51%) alleles. However, statistically significant difference was observed with respect to short (62% vs 44%) and long (56% vs 38%) alleles in the overweight-obese group. The significance of the study will be discussed.

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