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Abstract Topic: - Molecular effects of genetic variation

Abstract Title: - Role of FSHR polymorphisms in modulating the risk of Polycystic Ovary Syndrome: A Genetic Study from Northwest India

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Aims: - To analyze FSHR polymorphisms with PCOS.

Methods: - Anthropometric measurements, reproductive history, demographic data and 5 ml of blood of the participants were collected after taking informed consent. FSHR polymorphisms were genotyped using PCR-RFLP

Results: - The Body Mass Index (BMI) and Waist-to-Hip Ratio (WHR) demonstrated a statistically significant distinction between PCOS and the control group. The levels of high-density lipoprotein (HDL) were found to be significantly lower in women with PCOS, whereas the levels of cholesterol, triglycerides, low-density lipoprotein (LDL), and very low-density lipoprotein (VLDL) were greater ($p < 0.05$). There were no significant differences observed in the genotypic and allelic frequencies of rs6165 and rs6166 between PCOS women and control group. Nevertheless, there was a significant correlation observed between FSHR polymorphisms and the clinical characteristics of PCOS, such as gonadotropic hormone (FSH) levels, hyperandrogenism, and dyslipidemia.

Conclusions: - The current investigation establishes that there is a significant association between rs6165 and rs6166 and the clinical characteristics of PCOS, irrespective of their direct contribution to disease risk.

Keywords: - The Body Mass Index (BMI) and Waist-to-Hip Ratio (WHR) demonstrated a statistically significant distinction between PCOS and the control group. The levels of high-density lipoprotein (HDL) were found to be significantly lower in women with PCOS, whereas the levels of cholesterol, triglycerides, low-density lipoprotein (LDL), and very low-density lipoprotein (VLDL) were greater ($p < 0.05$). There were no significant differences observed in the genotypic and allelic frequencies of rs6165 and rs6166 between PCOS women and control group. Nevertheless, there was a significant correlation observed between FSHR polymorphisms and the clinical characteristics of PCOS, such as gonadotropic hormone (FSH) levels, hyperandrogenism, and dyslipidemia.