

mtDNA deletion may have effect on the oocyte maturity with subsequent fertilization. This finding is supported by reports of Brenner et al., Keefe et al. who described: the potential role of mtDNA together with the effect of altered oxidative phosphorylation and cellular antioxidant systems on the cytoskeleton, fertilization and subsequent embryo development.

This study was supported by grant of the Korea Health 21 R&D Project, Ministry of Health & welfare, Republic of Korea (01-PJ10-PG6-01GN13-0002).

P-28 Relationship between CYP17, CYP11 α , INSR, TNFR and PCOS in a Korean Population

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Background & Objectives: Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorders in women of reproductive age. However, only a few genes have presented the relationship with PCOS. Since genes encoding enzymes in the testosterone synthesis and in the cholesterol side-chain cleavage are implicated in PCOS, we have analyzed the polymorphisms in the promoter of CYP17 gene for the frequency of T to C substitution and in the promoter of CYP11 α gene for the (ttta)_n repeat to determine whether they are associated with PCOS in Korean women of reproductive age. In addition, we analyzed the polymorphisms of INSR and TNFR-2 to investigate the insulin resistance in hyperandrogenism of PCOS.

Method: Using restriction fragment length polymorphism (RFLP) and microsatellite polymorphism by variable number tandem repeat (VNTR), the polymorphisms were analyzed in 71 Korean PCOS women patients and in 26 control patients.

Results: The allele frequency of the genotype A2A2 for CYP17 was 4 times higher than the one in Greek population with PCOS (48% vs. 8%). In addition, the genotype analysis of PCOS patients for the CYP11 α (ttta)_n repeat polymorphism revealed 35% 216+ and 65% 216- genotypes, respectively. This is similar to the study performed with British and Greek population. MM type of TNFR2 exon6 (69%) and CT type of INSR (48%) were predominant than other types (TNFR2; MN, NN, INSR; CC, TT).

Conclusions: The difference of the allele frequencies between Korean and other populations for CYP17 and CYP11 α suggests that the role of polymorphism may be due to various ethnical backgrounds in PCOS patients. Interestingly, the predominance for CT type of INSR was not shown with a Korean population, different from the previous report done by other research group in the United States.