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FSH RECEPTOR GENE POLYMORPHISMS IN FERTILE AND INFERTILE MEN FROM EASTERN SICILY

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Background: Follicle-stimulating hormone (FSH) regulates spermatogenesis by a specific receptor (FSHR). Two single nucleotide polymorphisms (SNP) in exon 10 of FSHR gene influence FSHR sensitivity in women: Thr307Ala (T307A) and Asn680Ser (N680S). In contrast, no effects of these SNPs on male serum FSH and spermatogenesis have been proven. **Objectives:** The aim of this study was to evaluate the frequency distribution of the FSHR polymorphisms in infertile men from Eastern Sicily and their role on serum FSH levels. **Subjects and methods:** The SNPs were analyzed in 48 men with oligoasthenozoospermia (OAT) and in 33 normozoospermic controls by direct automated DNA sequencing of every PCR product containing the specific SNP. **Results:** An almost complete linkage disequilibrium was detected between positions 307 and 680, except for one patient. Their genotype frequencies were not significantly different between OAT men [22.9% (Thr/Thr-Asn/Asn), 56.3% (Thr/Ala-Asn/Ser) and 20.8% (Ala/Ala-Ser/Ser)] and fertile men [36.4%, 42.4% and 21.2%, respectively]. The FSHR genotypes did not result in different serum FSH and testosterone concentrations both in normozoospermic men and in men with OAT. The frequency distribution of T307A and N680S genotypes in Sicilian men (28.4% for TNrN, 50.6% TN/AS and 21% for AS/AS) was not statistically different from that reported in men from Tuscany (for T307A: 29.7% (TT), 46.5% (TA) and 23.8% (AA) and for N680S: 30.7% (NN), 43.6% (NS), 25.7% (SS) (International HapMap Project). **Conclusions:** The FSHR gene Thr307Ala and Asn680Ser polymorphisms were not differently distributed in Sicilian men with oligozoospermia and normozoospermia and did not correlate with serum FSH concentrations. The heterozygous genotype TN/AS was the most represented.