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### **P223: The Frequency Distributions of CYP3A4\*22 in Turkish Population**

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Optimal pharmacotherapy is much far away from sufficiency, although, important development is obtained in most of the fields of clinical pharmacology. Interindividual variability of drug responses may cause insufficient drug therapy or undesirable drug effects. Today, the main factors responsible for the variability of interindividual drug response are genetic factors. Interindividual differences observed in the efficacy and toxicity of many drugs are associated with genetic polymorphisms or mutations of drug metabolizing enzymes, especially phase I cytochrome P450 (CYP) enzymes. Due to these polymorphisms interindividual and interethnic differences of enzyme activities may lead to ineffective drug therapy or drug toxicity. CYP3A4\*22 was recently discovered through its association with low hepatic CYP3A4 expression and CYP3A4 activity, and showing effects on statin, tacrolimus and cyclosporine metabolism.

We collected blood samples, with the attendance of 8 centers from different places of our country, from 158 healthy people for preliminary evaluation. Our goal is studying total of 800 blood samples which including 100 for each center. DNA was extracted from whole blood by a modified the method of salt precipitation. Single-nucleotide polymorphisms (SNPs) were analysed using an automated TaqMan Real-Time PCR system.

Of the cohort of 158, 140 (87,2 %) recipients were CYP3A4 \*1/\*1 (wild-type), while 18 (12,8 %) were \*1/\*22 heterozygote. CYP3A4\*22 allele frequency was 6,04%. Allele frequencies are similar with recent studies in Caucasian population (5-7 %). Any statistically significant differences as for age, sex, and other laboratory factors were not detected in healthy individuals ( $p > 0.05$ ).

In conclusion, identification of genetic polymorphisms of drug metabolizing enzymes will provide us important information of the success of pharmacotherapy and predict the ineffectiveness of drug therapy and/or side effects of many drugs. In the light of expected data, it is predicted that patients will benefit from a more effective drug treatment.

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