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INFLUENCE OF GLUTATHIONE – S – TRANSFERASE (GSTT1 AND GSTM1) POLYMORPHISM ON BASELINE MICRONUCLEI FREQUENCY IN PERIPHERAL BLOOD LYMPHOCYTES

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Stošić I., D. Grujičić, S. Arsenijević, and O. Milošević-Djordjević (2014): *Influence of glutathione – s – transferase (gstt1 and gstm1) polymorphism on baseline micronuclei frequency in peripheral blood lymphocytes.* - Genetika, Vol 46, No. 3,649 - 659.

We have analyzed impact of polymorphism in GSTT1 and GSTM1 genes on the micronuclei (MN) frequency in peripheral blood lymphocytes (PBLs). A total 134 women from central Serbia were enrolled in the study. Polymorphisms of GST genes were genotyped by performing a multiplex polymerase chain reaction (PCR) and cytokinesis block micronucleus (CBMN) test was used to assess MN frequency. GSTT1 null and GSTM1 null genotype carriers had higher MN frequencies as compared to positive counterparts but without statistical significance. Carriers of dual GSTT1/GSTM1 null genotypes had significantly higher MN frequency than positive/positive, positive/null and null/positive. Smokers and women >45 years old with GSTT1 null genotype and GSTT1null/GSTM1null genotypes have statistically higher MN frequency than positive counterparts. Results suggest possible influence of dual null genotypes of GSTT1/GSTM1 on the baseline MN frequency, as well influence on the level of MN in smokers and in women age >45 years. GSTT1 null genotype may have the potential to influence the baseline MN frequency in PBLs of smokers, as well as in women age >45 years.

Key words: GSTT1, GSTM1, micronuclei, peripheral blood lymphocytes, polymorphism

INTRODUCTION

Interindividual variability in the frequency of micronuclei (MN) in human peripheral blood lymphocytes has been revealed (KOPJAR *et al*., 2010; MILOŠEVIĆ-DJORDJEVIĆ *et al*., 2011).

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