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Gene polymorphisms of selected biotransformation enzymes and lung cancer development with respect to chromium exposure

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Chromium is a well-known mutagen and carcinogen involved in lung cancer development. Biotransformation enzymes play an important role in elimination of oxidative changes caused by chromium exposure. In the present study, we investigated the polymorphisms of the following biotransformation genes GSTT, GSTP, GSTM and NAT2 and the risk they present towards the development of lung cancer with emphasis on effect of chromium exposure. We analyzed 106 individuals; 45 lung cancer patients exposed to chromium and 61 healthy controls. Genotypes were determined by PCR-RFLP method. Distribution of genotype´s frequencies in polymorphisms of observed genes in lung cancer patients and controls were analyzed in dominant, additive and recessive genetic models. Allelic distribution analysis did not show difference between exposed and control group in allelic frequency and distribution in any analyzed genes. Also we did not find out any effect of analyzed gene polymorphisms on risk of lung cancer development neither in dominant nor recessive models.

Biography

E Halasova has completed her PhD from Comenius University in Bratislava. In 2007, she habilitated in the field of Medical Biology. She is the Director of Division of Molecular Medicine, Martin Biomedical Center. Her research is focused on developing new markers for early detection of cancer. She has published 2 monographs, 6 university textbooks and 85 scientific papers in reputed journals. Since 2014, she has been serving as Editorial Board Member of the journal Scientific Reports.

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