

INTER-INDIVIDUAL VARIANCE IN MICRONUCLEI FREQUENCY IN LYMPHOCYTES OF PATIENTS WITH CERVICAL INSUFFICIENCY

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The aim of this work was to explain the inter-individual variance in baseline and induced micronuclei (MN) frequency in peripheral blood lymphocytes (PBLs) of females with uterine cervical insufficiency. The baseline and induced MN response of the PBLs in 32 patients were investigated using the cytokinesis-block micronucleus (CBMN) method. The obtained mean values of induced MN frequency ($11.31 \pm 4.44/1000$ BN cells), were significantly higher ($p < 0.001$) in comparison to their baseline MN frequencies (7.81 ± 3.33 MN/1000 BN cells). The analysis of variance (ANOVA) showed statistically significant difference between-group vs. within-group variance in baseline ($p < 0.05$) and induced MN frequency ($p < 0.001$), in professionally exposed patients when compared to the non-exposed. Multivariate logistic regression analysis confirmed that patients with high baseline MN frequency (cut-off 8.5 MN/1000 MN), had significantly increased (odds ratio OR = 5.875; CI = 1.28 - 26.795, $p < 0.05$) induced MN frequency (>12 MN/1000 BN cells). Our results suggest that the baseline MN frequency in PBLs directly influences the scope of the induced MN response.

Key words: cervical insufficiency, micronuclei, peripheral blood lymphocytes, variability

INTRODUCTION

Micronuclei (MN) originate from chromosome fragments or whole chromosomes that fail to engage with the mitotic spindle during cell division. The cytokinesis-block micronucleus (CBMN) assay in human lymphocytes is a widely used technique for measuring DNA damage in human population (FENECH, 2010). In general, the frequency of MN appears to be mainly

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