

POLYMORPHISM IN THE REDUCED-FOLATE CARRIER (*RFC-1*) AND THE RISK OF CHILDREN ACUTE LEUKEMIA

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Folic acid is a major complex B vitamin for division cells and homeostase and its lack affects directly the metabolism. Bioproducts of its metabolism take part in processes of methylation and also participate in the synthesis and repair of DNA. The alteration of folic acid mechanism inside cells, result of polymorphism in genic locus of reduced-folate carrier (*RFC-1*), can contribute for the decrease of all enzymes in folate pathway. This study has the objective to investigate the association G80A *RFC* polymorphism in patients with acute leukemia and control-group with no cancer report. Genotyping of *RFC-1* was defined for PCR-RFLP in 24 patients and 64 controls. The frequencies of allele A was, 0.48 and 0.54 in patients and controls, respectively. The distribution of *RFC-1* genotype indicated a genetic balance in both studied groups, showing no statistic differences between them ($\chi^2= 0.82$, $p=0.66$). The results not suggest an association for *RFC-1* genotypes [$OR_{GG/AA} = 0.70$; CI (confidence interval) 95% 0.21-2.26; $p = 0.76$ and $OR_{GG/AA+GA} = 0.90$; CI 95% 0.33-2.47; $p = 0.94$] and acute leukemia (AL). These results suggest that G80A polymorphism is not a genetic risk factor for AL.

Key words: Acute leukemia, Folate, Polymorphism, *RFC-1*.