عنوان مقاله:

Detection of Methylene Tetrahydrofolate Reductase (MTHFR C۶۷۷T) Mutation among Acute Lymphoblastic Leukemia in Sudanese Patients

محل انتشار:

مجله گزارش های بیوشیمی و زیست شناسی مولکولی, دوره 12, شماره 3 (سال: 1402)

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خلاصه مقاله:

Background: A genetic polymorphism that causes abnormal folate metabolism may lead to genomic instability and increase susceptibility to malignancies such as Acute Lymphoblastic leukemia (ALL). The purpose of this research is to identify methylene tetrahydrofolate reductase (MTHFR C۶۷۷T) (NCBI ID: ۴۵۲۴) mutation in ALL patients. Methods: The study was a descriptive case-control hospital-based study with one hundred Sudanese participants divided equally into fifty (۵۰) Sudanese ALL diagnosed patients as cases and fifty (۵۰) Sudanese individuals as controls. The MTHFR C۶۷۷T mutant allele was detected using conventional PCR, with the primer sequence of MTHFR C۶۷۷T F-TGAAGGAAGGTGTCTGCGGGA R-AGGACGGTGCGGTGAGAGTG. The study was conducted from January to March ۲۰۲۳, and samples were collected from the Radiation and Isotops

Center at Khartoum Hospital. Results: The investigation revealed that ۱۲ of the ۵۰ patients in the case group (۲۴%) had the MTHFR C۶۷۷T mutant allele, and the study also revealed that there is significant correlation with the control group. There is no significant relationship between socio-demographic variables and MTHFR mutation detection in ALL patients. Also, the sociodemographic variables predictors of MTHFR mutation among ALL patients adjusted for smoking habit revealed no significant relationship. Conclusion: According to the findings of this study, the mutant allele of the Methylene Tetra Hydro Folate Reductase C۶۷۷T was detected and demonstrated varying degrees of significance. It was concluded that the MTHFR C۶۷۷T gene mutation .was associated with acute lymphoblastic leukemia in Sudanese patients

کلمات کلیدی:

.ALL, MTHFR C۶۷۷T, MTHFR protein, Mutation