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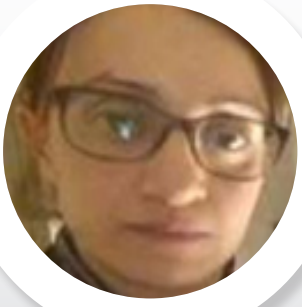
Influence of *MTHFR* C677T variant on high-dose methotrexate-related toxicity in tunisian acute lymphoblastic leukemia patients



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Introduction: High-dose methotrexate (HD-MTX) is widely used in the acute lymphoblastic leukemia (ALL). The effect of 5, 10-methylenetetrahydrofolate reductase (MTHFR) variants; mainly the C677T on the risk of MTX-induced toxicity was largely investigated and enrolled in meta-analysis. However, the results were inconsistent.

Aim: The aim of this study was to investigate the relationship between the C677T variant of the MTHFR gene, and the MTX-induced toxicity in Tunisian ALL patients.

Materials & Methods: It was a retrospective study among 35 patients with ALL. Toxicity data was recorded after high-dose methotrexate (HD-MTX) course. Genotyping of MTHFR C677T was performed by polymerase chain reaction-restriction fragment length polymorphism (PCR- RFLP).

Results: Patients with ALL carrying the C677T variant were at a higher risk of developing hepatotoxicity (RR=1.3 times).

Conclusion: The present result highlights the impact of MTHFR C677T variant on the MTX toxicity-induced in ALL and further studies with larger numbers of participants worldwide are required before definitive conclusions.

Biography

Rim Frikha is an Associate Professor in Medicine and a PhD student at National School of Engineer in the University of Sfax. She is expert in Histology-Embryology and Molecular Genetic on Onco-Hematology. She has published numerous papers in reputed journals in these fields.

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