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P75.INVESTIGATION OF 3-METHYL-5-(4 CARBOXYCYCLOHEXYLMETHYL)-TETRAHYDRO-2H-1,3,5-THIADIAZINE-2-THIONE GENOTOXICITY IN HUMAN PERIPHERAL LYMPHOCYTES USING COMET ASSAY

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Tranexamic acid is a drug for curing abnormal bleeding in a variety of diseases. In a previous study, twelve tetrahydro-1,3,5-thiadiazine derivatives were synthesized from the amine group of tranexamic acid. Their antifibrinolytic and antimicrobial activities were compared to tranexamic acid. Among them, 3-methyl-5-(4 carboxycyclohexylmethyl)-tetrahydro-2H-1,3,5-thiadiazine-2-thione (3-MTTT) is the most remarkable and this compound may be used as a drug. In this study, the in vitro genotoxic effect of 3-MTTT was investigated using comet assay in isolated human peripheral lymphocytes. Lymphocytes obtained from two healthy young donors were treated with six different concentrations (0,78; 1,56; 3,13; 6,25; 12,50 and 25,00 µg/mL) of test compound. A negative, a solvent (PBS) and a positive control (H_2O_2) were maintained for each treatment. Three different parameters (tail length, tail intensity and tail moment) were evaluated in the comet assay. Comet assay is used for the detection of breaks in DNA strands (double strand breaks and single strand breaks). This study demonstrated that 3-MTTT did not induce DNA damage at all the concentrations. 3-MTTT did not induce chromosomal aberrations in human lymphocytes either. This and previous results indicate that 3-MTTT has no genotoxic risk at these concentrations in human peripheral lymphocytes.

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