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Effect of tannic acid on spontaneous and methyl methanesulfonate-induced micronuclei in mice

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Abstract

The effect of tannic acid (TA) from Vetec Química Fina Ltda., Brazil, on the spontaneous and methyl methanesulfonate (MMS)-induced micronucleated polychromatic erythrocyte (mPC) frequency in mouse bone marrow was investigated. TA (500 mgkg) only was administered by gavage to adult male and female BALBIc mice, 6 h before intraperitoneal injection of MMS (50 mgkg), simultaneously with MMS and 6 h after MMS treatment. To estimate a dose-response activity, three TA doses (250, 500 and 750 mg/kg) were tested as a 6 h pre-treatment. Analysis of the mPC frequencies in the different groups showed that: 1) treatment with TA alone does not affect the spontaneous mPC incidence; 2) the frequency of MMS-induced mPC decreased only in some TA pre-treated males; 3) the decrease of mPC counts in TA pre-treated males was not dosedependent. These results indicate that the TA-induced protection against genotoxicity must be taken with caution.

Keywords

micronucleus, anticlastogenicity, tannic acid, methyl methanesuifonate.