Molecular study on the effect of azathioprine on mice gingiva.

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Abstract

Azathioprine (AZA) is a therapeutic compound widely administered in the clinic for its multiple uses in treatment of autoimmune diseases, post-transplant immunosuppression and cancer. Despite these advantages, its therapeutic potential is limited by occasional adverse effects as myelotoxicity and hepatotoxicity. Aim: Is to study the molecular effect of AZA on mice gingiva. Material and method: Thirty six adult male mice (CD- I) of average weight 100-150 gm each were used in the present work, they were divided into two main groups. the study group comprises twenty four animals and the control group comprises twelve animals. Animals of the study groupreceived a daily therapeutic dose of AZA dissolved in saline solution containing 5% Tween-80 and injected intraperitoneally at a dose of 3 mg/kg body weight .The study group was subdivided into 2 subgroups (12 animals each) according to the time of euthanasia which is one month group (group 2) and two months group (group 3). Animals of the control group (group 1) were injected intraperitoneally an equivalent volume of normal saline-Tween-80 and subdivided into 2 subgroups (6 animals each), which matched the study group in the time of euthanasia. At the time of euthanasia, the gingiva was dissected from each mouse, washed and kept frozen for molecular study. Results: DNA showed more destruction in group 3 than in group 2 as seen on gel electrophoresis. Conclusion: The metabolic products of AZA incorporate with the DNA causing destruction and damage with severe molecular pathology.

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