TURJOEM
The Turkish Journal of Occupational / Environmental Medicine and Safety

Vol:2, No:1 (1), 2017 Web: http://www.turjoem.com ISSN : 2149-4711

## P68. ASSESSMENT OF IN VITRO GENOTOXICITY AND ANTIGENOTOXICITY OF LUTEOLIN BY USING COMET ASSAY

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Luteolin is a flavone which occurs in medicinal plants as well as in some vegetables and spices. Celery, green pepper, carrots, olives and artichokes are major nutritional luteolin sources. Many studies have demonstrated that luteolin has numerous biological activities such as anti-oxidant, anti-inflammatory, cardioprotective, anti-diabetic, anti-allergic and anti-cancer. The purpose of this study is to investigate genotoxic and antigenotoxic effect of luteolin against $H_2O_2$ induced DNA damage by using comet assay in human lymphocyte in vitro. The lymphocytes isolated from 2 healthy volunteer (1 male and 1 female) were incubated with five different concentrations of luteolin (0.39, 0.78, 1.56, 3.12 and 6.25 µg/mL) alone and simultaneously with $H_2O_2$ (100 mM) at 37$^{o}$C for 1 hour. A negative (distilled water), a solvent (50% methanol) and a positive control (H2O2) were also maintained. A total of 200 cells were evaluated per concentration for tail intensity (%), tail length (µm), and tail moment by using Comet Assay IV, Perceptive Instruments Ltd., UK. Luteolin alone did not induce significant DNA damage in all the concentrations compared to negative and solvent controls. Luteolin+ $H_2O_2$ treatment significantly reduced DNA damage at all the concentrations compared to $H_2O_2$ treatment alone (positive control) for all comet parameters. Our results have indicated that luteolin exhibited chemopreventive activity against DNA damage induced by $H_2O_2$ which has oxidative effects.

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