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ANTI-GENOTOXIC EFFECT OF OLEUROPEIN AGAINST AFLATOXIN B₁

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Abstract

Aflatoxin B₁ when binds to DNA bases, cause DNA damage, thus, affects the functioning, growth, division, and control of cells. Oleuropein is a fundamental polyphenol founded in olive leaf, fruit, oil and has many benefits for human health. In this study, the possible effect of oleuropein was assessed against toxicity of aflatoxin B₁. For this purpose, the single cell gel electrophoresis and micronuclei assays were performed using the cells of human peripheral blood. As a result of this study, it was determined that oleuropein has not genotoxic effect and exhibited anti-genotoxic properties caused by aflatoxin B₁ (with especially 625 µM application) (p<0.05). On this basis, the observed anti-genotoxic effect of oleuropein against aflatoxin B₁ may occur as oleuropein has sufficient capability to reduce the lipid peroxidation and inhibit the loss of membrane integrity.

Key words: aflatoxin B₁, carbonic anhydrase, comet assay, micronuclei assay, oleuropein

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