

## SHC 32 . THE POTENT CYTOTOXIC AND GENOTOXIC EFFECTS OF THE MYCOTOXIN OF FUSARIC ACID IN VITRO

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Fusaric acid (FA), a naturally occurring contaminants of food and feeds, is a mycotoxin produced by *Fusarium sp.* as secondary metabolite. This study evaluated the cytotoxic effects of FA in HeLA (human cervix carcinoma) cell line by using 3-(4,5-dimethylthiazolyl-2)-2,5 diphenyltetrazolium bromide (MTT) assay. The potential genotoxic effects of FA were investigated in human lymphocytes by micronucleus (MN) test. Cells were treated with FA at the following concentrations; 0.78, 1.56, 3.125, 6.25, 12.5, 25, 50, 100, 200 and 400 µg/mL. A solvent [DMSO 0.5% (v/v) of the culture medium] and a negative control was also maintained. Mitomycin-C (MMC) was used as the positive control in human lymphocytes. FA significantly decreased cell viability (%) in a dose dependent manner at 200 and 400 µg/ml concentrations at 24 h and 48 h compared to control and solvent control. The half of inhibitory concentration (IC<sub>50</sub>) in exposed HeLA cells was found at 200 µg/mL (0.791±0.148) for 24h and, 400 µg/mL (0.584±0.026) for 48h. However, there was no significant difference in the frequency of MN and nuclear division index (NDI) at 0.78-12.5 µg/mL concentrations in human lymphocytes. FA showed toxic effect at the five highest concentrations (25, 50, 100, 200, 400 µg/mL) in human lymphocytes. The present results indicate that FA has cytotoxic effect especially at higher concentrations. However, it has no genotoxic effects on human lymphocytes at 0.78-12.5 µg/mL concentrations.

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