Cytotoxicity Evaluation of new Derivatives of N-aryl-۱,۴-dihydropyridine-۳,۵-dicarboxamides on HELA, RAJI, KG-۱a and MOUSE LYMPHOCYTE primary Cell lines

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Objective: Studies to discover/develop new drugs against tuberculosis, is one of the major priorities of World Health Organization and health decision makers in several countries include Iran. Previously, the two active compounds as new Antitubercular Agents were evaluated and their anti-mycobacterial effects on species: Mycobacterium smegmatis and BCG (bacille Calmette-Guerin) was confirmed. The aim of this study was to examine the cytotoxic level of the two compounds: F-۲۷ and Cl-۳۳ on both normal and malignant cell lines.

Methods: Cell lines: KG-۱a, HeLa, RAJI were ordered and primary cultures of mouse spleen lymphocytes from BALB / C mouse was prepared. Viable cells of cell lines determined using Trypan blue dye technique. MTT Assay with different concentrations of compounds was performed on cell lines in vitro and cytotoxic level of each compound was determined.

Results: The obtained IC۵۰ for F-۲۷ and Cl-۳۳ was in the range ۵۸-۱۸۵ and ۴۴-۱۱۸µg/ml respectively.

Conclusion: cytotoxic levels were higher than mean bactericidal concentration (MBC) of compounds. It could be concluded that the IC۵۰ is high enough that acceptable range of concentration of compounds are available to test their inhibitory and bactericidal effect. In the next step of research the inhibitory and bactericidal effects of these compounds can be measured on Mycobacterium tuberculosis.

Keywords: *Dihydropyridines, Antitubercular Agents, MTT formazan, Cell Survival*