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ΚΑΘΗΓΗΤΗΣ

INDUCTION OF NK LYMPHOCYTES AGAINST K562 AND LEIOMYOSARCOMA WISTAR RAT CELL LINES BY ADMINISTRATION OF THE EXTRACT OF MORINDA CITRIFOLIA

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Introduction: There are natural supplements abundant in nature that stimulate the immune system by activating the NK cells in order to destroy quickly target cancer cells. Natural killer cells (NK Cells – NKC) are a subpopulation of lymphocytes that play an important role in immunotherapy. The extract from the tropical plant *Morinda Citrifolia* indicates some anticancer properties useful for the immune system.

Purpose: The investigation of possible stimulation of NKC against K562 and leiomyosarcoma Wistar rat cells lines by the use of the extract of *Morinda Citrifolia*.

Material and Methods: 12 healthy volunteers participated in the study. The methodology of quantification of cytotoxicity of NKC was used in the in vitro study, which included four stages: a) Isolation of peripheral blood mononuclear cells (PBMCs) from blood and their quantification, b) Quantification of cancer cells (leiomyosarcoma - Wistar rats, and K562 cell lines), which used as cancer target cells (CTCs), c) Incubation of PBMCs cells with CTCs in CO₂ chamber in the ratios 12.5:1, 25:1, and 50:1, and d) Determination of cytotoxicity by flow cytometer FACScan OF BDB corporation. The same trials were repeated after the addition of the pure extract of *Morinda Citrifolia* during stage c., and there were tubes where only target cells were incubated with just the extract of the above plant.

Results: The cytotoxicity of the NK cells against the K562 cell line in all trials was in an average rate of 282, 325, and 382% in the 12:1, 25:1, and 50:1 ratios, respectively. Moreover, the cytotoxicity of the NK cells against the leiomyosarcoma Wistar rat cell line was in an average rate 241, 272, and 321% in the 12:1, 25:1, and 50:1, respectively.

Conclusion: The extract of *Morinda Citrifolia* seems to be an important immunomodulator, and could assist majorly in treating different tumors. However, further clinical studies should be performed for more convenient prevention and therapy of cancer.

Aknowlegment: The extract of the plant *Morinda Citrifolia* was administered, for the above in vitro study by the company NCT GmbH, Germany.

The scientific respons

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