



Cytotoxicity Effect of *Citrullus colocynthis* on Oral Squamous Cell Carcinoma

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Statement of the Problem: Oral Squamous Cell Carcinoma is the sixth common cancer in the world. Up to now, many endeavors have been done to cure oral squamous such as surgery, radiotherapy, and chemotherapy. The clinical effectiveness of chemotherapy is limited which is due to its side effects, toxicity and drug resistance. Traditional medicine is being used for treatment of some diseases like cancers. Hence, the aim of this study is to examine the Cytotoxicity Effect of *Citrullus colocynthis* on Oral Squamous Cell Carcinoma.

Methodology & Theoretical Orientation: In this *in vitro* study, oral squamous cell carcinoma cells (KB) and normal rat fibroblast cells (L929) as control group were cultured in enriched RPMI 1640 medium. Then extract of *C. colocynthis* was procured from the Iranian Research Center for Herbal and Traditional Medicine and the cells were treated with 0.1-50 µg/mL concentration of the extract for 24, 48 and 72 hours. Thereafter, the viability of the cells was assessed by methyl toluidine blue (MTT) method. Statistical analysis was performed with SPSS 20, using one way ANOVA.

Findings: The half-maximal inhibitory concentration (IC₅₀) of *C. colocynthis* extract for KB cells and L929 cells were 12.18 and 43.53 µg/ml respectively, demonstrating that higher concentration of *C. colocynthis* extract is necessary to reach IC₅₀ concentration for L929 cells (about 3.57 times).

Conclusion & Significance: This study showed that the alcoholic extract of *C. colocynthis* exerted cytotoxic effects on tumoral cells of oral squamous cell carcinoma. Moreover, it exerted more cytotoxic effects on tumoral cells compared to normal cells..

Biography

Shahin Gavanji was born in an educated family in the year 1984 in Esfahan. After high school, he was accepted by Esfahan University. He, during his life, could get different scientific and international prizes. He was chosen as the best inventor of Iran in 2009 and received the best young symbol from Iran president hands. He also could win this prize in 2010 for the second time. In 2006, he won the gold medal in Croatia world inventions and the prize of best invention IWIS. He also achieved the gold medal of invention in Germany in 2006. After bachelor degree, due to his scientific achievements, he entered Esfahan University as a shiny talent in the field of Biotechnology and could get highest score in his final thesis. Shahin Gavanji was also selected as the best science and technology young by ministry of science, research and technology of Iran in 2013.



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