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Original Research Article

Cytotoxic Effects of *Anacyclus Pyrethrum*, *Terminalia Chebula*, and *Brassica Nigra* Ethanol Extracts on KB Cancer Cell Line

Shirin Fattahi¹, Behzad Baradaran², Amir Ala Aghbali^{1*}, Parya Emamverdizadeh¹,
Katayon Chaghakaboodi³

¹ Department of Oral and Maxillofacial Pathology, Faculty of Dentistry, Tabriz University of Medical Sciences, Tabriz, Iran

² Immunology Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

³ Department of Oral and Maxillofacial Pathology, Faculty of Dentistry, Kermanshah University of Medical Sciences, Kermanshah, Iran

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ABSTRACT

The prevalence of oral squamous cell carcinoma (OSCC) has increased in the last 2 decades. For the treatment of this disease, various herbal anticancer agents have been introduced. In this study, for the first time, we analyzed the apoptotic and cytotoxic effects of herbal plants, including *Anacyclus pyrethrum*, *Terminalia Chebula*, and *Brassica nigra*, in KB cancer cell lines. For analyzing the cytotoxic effects of ethanol extracts, MTT reduction assay was performed in the KB cells. Moreover, the apoptosis-inducing effect of plants on KB cells was assessed using TUNEL and DNA fragmentation assays. The results showed that *Anacyclus pyrethrum* and *Terminalia Chebula* extracts significantly inhibited cell viability. TUNEL and DNA fragmentation assays showed that the main mechanism of cell death was apoptosis induction by *Anacyclus pyrethrum* and *Terminalia Chebula* extracts. Our results suggest that these ethanol extracts may contain bioactive constituents, which can be helpful in OSCC treatment.

Keywords: *Anacyclus Pyrethrum*/Pellitory, *Terminalia Chebula*, *Brassica Nigra*, Oral Squamous Cell Carcinoma, Apoptosis.

*Corresponding Author E-mail: pathologist1357@yahoo.com