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Title:: Evaluation of the cytotoxicity effect of laser on Bcl2 and Bax in oral squamos cell carcinoma

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Abstract: 1) Introduction: squamous cell carcinoma is the most common malignant tumor in oral cavity that unfortunately has a low survival rate. The bcl-2 regulating apoptosis oncogene and regulating homologous protein Bax have been reported as a role in oral squamous cell cancer. Our aim is to assess the expression of BCL2, BAX and the ratio by 4 different wavelengths of 532-485-660-810 nm diode laser irradiation with an energy density value of 1 j/cm² on oral carcinoma cells line.
2) Materials and Method: The cells were routinely processed to the experimental condition. HN5 human head and neck carcinoma cell lines (NCBI code: C196) were purchased from the Pasteur institute of Iran. All cells were irradiated using 532 nm, 485 nm, 660 and 810 nm we use continuous mode with 1 J/cm² during 5 consecutive days at the same daytime.
3) Result: In this study, our results showed that Bcl2is significantly expressed in red 810nm laser irradiation at 1J/cm² induced the highest percentage of cell survival (55.92%).Despite; 660nm induced the lowest percentage of cell survival (36.02 %) at same doses.
4) Conclusion: In this study, our results showed that the most and the least expression of Bcl2 is respectively in red and green wavelengths.810 nm had the most expression of Bax too which means the most rate of vital cells is in 810 nm. The most ratio of Bcl2/Bax is in green wavelength.

Session: Scientific session

Classification: Clinical study

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