

## عنوان مقاله:

Influence of Nanocurcumin and Photodynamic Therapy Using Nanocurcumin in Treatment of Rat Tongue Oral Squamous Cell Carcinoma Through Histological Examination and Gene Expression of BCL<sub>2</sub> and Caspase-<sub>3</sub>

## محل انتشار:

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## خلاصه مقاله:

Background: Oral squamous cell carcinoma (OSCC) is the sixth most common mouth cancer in the world. The aim of the present study is comparing the effects of using Nanocurcumin, and photodynamic therapy (PDT), alone or together in treatment of OSCC in rats. Methods: Forty Wister male rats were divided into Control (group ۱), ۶۵۰ nm diode Laser only (group ۲), Nanocurcumin alone (group ۳), and PDT with a combination of laser with Nanocurcumin (group ۴). Then, OSCC in the tongue induced by dimethylbenz anthracene (DMBA). The treatments were evaluated clinically, histopathologically, and immunohistochemically through BCL<sub>2</sub> and Caspase-<sub>3</sub> genes expression. Results: Positive control with OSCC displayed significant weight loss, while PDT group gained more than nanocurcumin treated groups as well as laser groups comparing with control positive group. The histological examination of the tongue in PDT group showed improvement. In laser group, there were partial loss of surface epithelium with various ulcers and dysplasia and partial improvement by this type of treatment. The tongue in the positive control group showed ulcer in the dorsum surface with inflammatory cells, hyperplasia of the mucosa membrane around the ulcer (acanthosis) with increase of dentition, vacuolar degeneration of prickle cell layer and increase mitotic activity of basal cell layer together with dermal proliferation. Conclusions: Under the condition of the present study, PDT using nanocurcumin photosensitizer was effective in the treatment of OSCC regarding clinical, histological and gene expression of BCL<sub>2</sub> and Caspase-<sub>3</sub>.

## کلمات کلیدی:

BCL<sub>2</sub>, Caspase-<sub>3</sub>, Diode laser ۶۵۰ nm, Histological analysis, Nanocurcumin, OSCC, PDT

## لینک ثابت مقاله در پایگاه سیویلیکا:

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