

OPTIMISATION OF LIGHT DOSE AND PRELIMINARY STUDIES ON THE EFFICACY OF SYMMETRICAL DIIODINATED SQUARINE FOR PDT APPLICATIONS ON SKIN TUMOR INDUCED MODELS

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ABSTRACT

Photosensitive agents and light have been used for medical purposes for a very long time. Photodynamic therapy (PDT) involves the delivery of photosensitizers to tumor tissues followed by irradiation with light of corresponding wavelength. The present study is focused on the optimization of light dose which can effectively induce tumor regression by PDT using Symmetrical diiodinated squaraine, one of the newly developed photosensitizers, on skin tumor models. Skin tumor was induced in Swiss albino mice by the topical application of DMBA and croton oil. For selecting the dose of light for squaraine PDT which can effectively cause tumor regression the parameters like the number of tumors per mouse and mean tumor volume were analysed before and after treatment. The optimum light dose was found to be 100 J/cm². The hematological parameters were also analysed in all the groups. Significant change was observed in the levels of haematological parameters after squaraine PDT. As a whole, the dye selected for our study, Symmetrical diiodinated squaraine, was found to be a promising agent for PDT applications.

KEYWORDS: Haematological Parameters, Photodynamic Therapy, Swiss Albino Mice, Symmetrical Diiodinated Squaraine, Tumor Statistics