NTacSam:SD의 조직세포 배양에 저출력 광원의 효과

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Effect of the low level light irradiation to NTacSam:SD tissue cell culture

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Abstract : Currently, lasers are one of the most popular light sources in use for medical treatment. Many studies on low power lasers are being done in cell culture or through animal tests and most report different findings, making it difficult to verify their true effects. There are shifts in trends of studies from laser and LED that are expensive and generate heat problem to LED that are economically effective and safe. Its near infrared rays can penetrate deep into skin or muscle, up to 23 cm, without causing thermal damage or impairing neighboring tissues. This study verified the performance and effectiveness of an LED irradiator that was designed to emit similar wavelengths to that of a laser and thus could be used instead of a low level laser therapy in experiments on animals. And then, each experiment was performed to irradiation group and non-irradiation group for NTacSam:SD tissue cells. MTT assay method was chosen to verify the cell increase of two groups and the effect of irradiation on cell proliferation was examined by measuring 590nm transmittance of ELISA reader. As a result, the cell increase of NTacSam:SD tissue cells was verified in irradiation group as compared to non-irradiation group. The fact that specific wavelength irradiation has an effect on cell vitality and proliferation is known through this study.

Key Words : Light emitting diode, Irradiation, Tissue cells, Cell culture, Laser therapy, MTT