

Biostimulation of human chondrocytes with Ga-Al-As diode laser: in vitro research

Laser doux

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The aim of the study was to verify the effects of Illt performed with GaAlAs (780 nm, 2500 mW) on human cartilage cells in vitro. The cartilage sample used for the biostimulation treatment was taken from the right knee of a 19-year-old patient. After the chondrocytes were isolated and suspended for cultivation, the cultures were incubated for 10 days. The cultures were divided into four groups. Groups I, II, III were subject to biostimulation with the following laser parameters: 300J, 1W, 100Hz, 10 min. exposure, pulsating emission; 300J, 1W, 300Hz, 10 min. exposure, pulsating emission; and 300J, 1W, 500Hz, 10 min. exposure, pulsating emission, respectively. Group IV did not receive any treatment. The laser biostimulation was conducted for five consecutive days. The data showed good results in terms of cell viability and levels of Ca and Alkaline Phosphate in the groups treated with laser compared to the untreated group. The results obtained confirm our previous positive in vitro results that the GaAlAs Laser provides biostimulation without cell damage.