



Original Article

The utilization of nonthermal blue (405–425 nm) and near infrared (850–890 nm) light in aesthetic dermatology and surgery—a multicenter study

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pages 163-170

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Abstract

Background: A major cause of skin aging is a chronic micro inflammation triggered by UV radiation and external pollutants. It has been demonstrated that blue light diminishes inflammatory conditions and near infrared light enhances circulation.

Objectives: To assess the effectiveness of a non thermal dual wavelength - blue (405 - 420 nm) and near infrared (850 - 900 nm) -

light source in skin rejuvenation, in the reduction of the duration of post skin resurfacing erythema and in the acceleration of healing of post surgical conditions (face lift and breast augmentation).

Methods: We have utilized a non contact, hand free dual wavelength light source (iClearXL and Clear100XL, Curelight Ltd) to treat over 60 patients and perform three controlled studies in four centers. Follow up duration was three months. Control group for photorejuvenation consisted of patients treated with Glycolic peeling and daily appliance of vitamin C Control group for post skin resurfacing erythema duration consisted of patients untreated by the light source and control group for post surgical healing consisted of patients untreated by the light source or treated by the light source on one side only.

Results: Post skin resurfacing erythema duration is reduced by 90%. The healing of post surgical conditions is substantially accelerated and discomfort is reduced. The anti aging effect of the light source includes: reduction of pore size in 90% of patients with stable results at three months follow up, enhanced skin radiance in 90% of patients with stable results at three months follow up and smoothing of fine wrinkles in 45% of patients with stable results at three months follow up. The control group showed poor results which were stable for a duration of less than one

month.

Conclusions: A non thermal, non contact / hand free light source emitting at 405–420 nm and 850–900 nm considerably enhances aesthetic and surgical aesthetic procedures without consuming user time.

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