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Treatment of cutaneous hyperpigmentary disorders using radiofrequency microneedling device

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Cutaneous hyperpigmentary disorders, including melasma and pigmented contact dermatitis, are often refractory to conventional laser toning and other therapeutic options used. In recent years, radiofrequency (RF) devices are evolving in cosmetic dermatology, adding multiple indications for use. RF produces heat through electrical impedance of biological tissues. RF thermal stimulation results in micro-inflammatory stimulation of fibroblast, which produces new collagen, elastin and other substances and enhances environment of the dermis. It is commonly used for tissue heating and tightening. Currently, minimally invasive bipolar RF devices, also known as RF microneedling system are introduced and used for the improvement of a variety of skin aging, wrinkles, scars, dilated pores and rough texture. Among RF microneedling system, minimally invasive bipolar RF devices may be applied for the treatment of hyperpigmentary disorders with abnormally dilated vessels. Minimally invasive RF devices deliver bipolar RF energy directly into the dermis minimizing epidermal damage. RF heating stimulates fibroblast and improves dermal condition. Microchannels created by microneedles provide a passage of active ingredients to the dermis. When polydeoxynucleotide and multiple growth factors having function of anti-melanogenesis confirmed in vitro were applied after RF treatment, skin lesions were much lightened. Minimally invasive RF and boosted topical delivery of active agents are thought to modulate epidermal and dermal environment for anti-melanogenesis.

Biography

Heun Joo Lee was graduated from Hanyang University and is currently pursuing PhD from Sungkyunkwan University School of Medicine. She has a Dermatology Specialist License in Korea. She is in the Fellowship of Dermatology at Asan Medical Center, Korea.

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