Radiofrequency Microneedling for Acne Scars

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Abstract

Acne scars are treated with various treatment modalities, each with its own advantages and disadvantages. These include non-invasive techniques such as chemical peels, topical retinoids, and microdermabrasion; minimally invasive methods such as microneedling, fractional lasers, and microneedling radiofrequency devices; and invasive procedures such as acne scar surgeries and ablative lasers.
Early 1990s, ablative lasers reversed facial aging, these were used for acne scars treatments too. These lasers were abandoned in the early 2000s because of long downtime and significant complication rates (persistent erythema, hypopigmentation, infection, and scarring). Nonablative lasers were safer but less effective and required more treatments. Fractional technology was introduced in the mid-2000s to reduce the side-effects of non-ablative and later ablative lasers. Ablative lasers reemerged when healthy tissue accelerated recovery.
Lasers have 2 downsides. Heat affects the epidermis and dermis, putting darker skin at risk for PIH. Hydroquinone, tretinoin, and skin cooling reduce PIH pre-and post-treatment. Lasers are risky in the neck because of the lesser number of pilosebaceous units. Radiofrequency devices are electro-thermal energy, not chromophore-dependent devices. Even though RF devices are safe, darker skin is risky. Radiofrequency is perfect for busy patients with little downtime. There were only fleeting discomfort, erythema, oedema, and hyperpigmentation. RF devices have been found to be effective in treating acne scars especially deeper ones from multiple studies. Microneedling fractional radiofrequency is an effective method for treating moderate to severe acne scarring.