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Hydradermabrasion: An innovative modality for nonablative facial rejuvenation



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Abstract

Hydradermabrasion is a relatively new procedure that combines crystal-free microdermabrasion with the pneumatic application of an antioxidant-based serum. This study aims to validate the safety and efficacy of hydradermabrasion for nonablative facial rejuvenation and to determine whether antioxidant levels could be increased in the skin with this technique. Twenty female volunteers, aged 34-56 years, were randomized into two groups. Group A underwent a series of six facial hydradermabrasion treatments using a polyphenolic antioxidant serum spaced 7-10 days apart. In Group B, the same polyphenolic antioxidant serum was applied manually to the skin for a total of six treatments at 7- to 10-day intervals. Digital photographs, skin biopsies, and skin polyphenolic antioxidant levels were obtained prior to and after the treatment regimen. Patient surveys were taken following the study. In Group A, treated skin demonstrated increased epidermal thickness, papillary dermal thickness, and polyphenolic antioxidant levels ($P < 0.01$). There was replacement of elastotic dermal tissue, collagen hyalinization, and increased fibroblast density. Fine lines, pore size, and hyperpigmentation were decreased following treatment. There were no reported complications. In Group B, there was no change in skin structure, antioxidant levels, or clinical skin attributes. Hydradermabrasion effectively improved skin quality both clinically and histologically. There were no changes to suggest that pneumatic serum application adversely affected dermal components. After hydradermabrasion, skin polyphenolic antioxidant levels were increased. In contrast, the intermittent manual application of the polyphenolic antioxidant serum without the microdermabrasion element did not result in detectable skin changes.

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