Trichloroacetic Acid Peels

The author has added significant refinements to his trichloroacetic acid peel procedure. To achieve optimal results, he advises readers to carry the peel to the layer of the skin below the location of the problem area. (Aesthetic Surg J 2004;24:469-470.)

Since I began performing trichloroacetic acid (TCA) peels, I have made refinements in patient selection, skin preparation, technique, and posttreatment care. These are important considerations for any type of peel, but they merit even more attention in TCA peeling because TCA has such a wide range of penetration. It can be used to erase superficial problems located in the epidermis as well as to modify the papillary and reticular layers of the dermis.

Before I select a patient for a TCA, or any peel, I determine the layer of the skin (epidermis, papillary, or reticular dermis) in which the problem is situated. This is essential because to correct the problem the peel must be carried to the layer of the skin below the location of the problem area. Thus, for some types of melasma, an epidermal peel may not provide sufficient correction while a papillary dermal peel will be sufficient. For example, mosaic wrinkles in a thin-skinned patient will usually be corrected by an upper reticular dermal peel, while deeper lines will not be adequately corrected.

Pretreatment

To ensure that skin is healthy and will peel uniformly, patients are given instructions for a prepeel skin conditioning program that outlines the use of the following products: (1) a facial cleanser is used in the morning and evening; (2) a 15% alphahydroxyl acid gel with a pH of 1 or less is used every other night, alternated with 0.05% retinoic acid cream; and (3) an SPF 30 sunblock, regardless of the patient’s sun exposure, is used daily. I do not instruct patients to use chemical sunscreens, such as paraaminobenzoic acid (PABA), salicylates, cinnamates or benzophenones. Instead, patients use the powdered or micronized form of metal oxides, containing either zinc or titanium dioxide or a combination of both. Sun protection offered in many cosmetic moisturizers or makeup bases is not an adequate substitute for the metal oxides.

In addition to the previous routine, patients with Fitzpatrick skin types 2 through 5 are instructed to use hydroquinone or dihydroquinone to decrease the possibility of postinflammatory hyperpigmentation (PIH).

If the process of pigmentation can be decreased or completely shut down during the early healing process in patients with Fitzpatrick 2 through 5 skin, there is less likelihood that PIH will occur in the postpeel period.

If a patient has had difficulty following the prepeel instructions, I will not perform the peel.

Technical Refinements

I have also introduced some major technical refinements in performing TCA peels.

- Using a degreaser such as acetone, I remove all the oil from the patient’s face because oil may prohibit the peel from penetrating the epidermis evenly.
- Because of the unpredictability and potential complications with TCA, I no longer use any TCA strength greater than 35%.
- For consistent, reproducible results it is also extremely important to have the TCA peel solution made up with fresh crystals and formulated by weight-to-volume measurement (Delasco Labs, Council Bluffs, IA). Most local pharmacies do not produce TCA peel solutions with any consistency. Not only may they use old crystals, but frequently they do not formulate TCA correctly.
- Because the skin usually has subareas with variable conditions and characteristics such as melasma, superficial or deeper lines, and areas of varying...
skin thickness, I modify my technique for each patient. To selectively deepen the peel, you may partially remove the epidermis before the actual TCA application using Jessner’s solution, glycolic acid, dermaplaning, or a weak solution of 10% to 15% TCA. As has been shown by Stone and Lefer, another way to deepen a peel in any selected area is to rub the peeling solution in more deeply during its application, thus effectively abrading the skin.

**Postpeel**

After performing a TCA peel, I have found that topical occlusive dressings using Aquaphor (Eucerin, Wilton, CT) or bacitracin are important for 2 reasons: they keep the healing area from desiccating and they give the patient an active role in the recovery process.

Although the herpes virus is not a concern until the skin has reepithelialized, I administer antiherpetic drugs to all patients. Because many people have household pets that can be a source of infection, I routinely place all patients on antibiotics for the first week. I have patients make office visits 24 hours postpeel and then every other day until healing has sufficiently progressed. This close follow-up enables me to detect any early problems, such as allergies to the topicals or scab picking, so I can head off any problem that may result in possible scarring or PIH. These refinements have helped me achieve greater consistency in the results of TCA peels.

**Editor's Note:** This article was written in April 2004. Dr. Slavin has since retired from active practice.

**Reference**


Reprint requests: James W. Slavin, 8216 Cedar Road, Elkins Park, PA 19087.

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