DERMATOLOGICAL SURGERY

CRYOPEELING VERSUS TRICHLOROACETIC ACID PEELING IN THE TREATMENT OF SOLAR LENTIGINES: EFFECT ON EPIDERMAL LANGERHANS CELLS

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Introduction: Solar lentigines are of great aesthetical concern for many patients. Although cryotherapy is the golden standard treatment, it may be associated with some side effects. Trichloroacetic acid (TCA) peeling may be an effective alternative but with some concerns regarding potential tumorigenesis. Cryopeeling technique would be better tolerated with improving the entire sun-damaged skin region.

Objective: To evaluate the efficacy and side-effects of cryopeeling compared with TCA 35% peeling in the treatment of solar lentigines on the dorsum of the hands and assess their influence on the number of epidermal LCs.

Material and Methods: Twenty-five patients were included in the study. The right hand of each patient was treated with TCA 35%, and the left hand with cryopeeling. Two treatment sessions were done three weeks apart. Evaluations were scheduled at weeks 0, 3, and 8. Skin lesions were biopsied before and 3 weeks after treatment for immunohistochemical staining for CD1a+ epidermal LCs.

Results: After the first session, the number of lentigines was reduced only in the hand treated with cryopeeling ($p < 0.001$) and reduced for both cryopeeling and TCA treated hands at the end of the study ($p<0.001$, $p=0.004$, respectively). Cryopeeling produced significant lightening ($p= 0.05$) compared with TCA 35%. Blistering, hyper/hypopigmentation were reported side effects with cryopeeling, whereas only hyperpigmentation was noted after TCA peeling. The number of epidermal LCs remained at about the pretreatment number in cryopeeling treated skin ($p= 0.058$), though they decreased after TCA peeling compared with both untreated ($p<0.001$) and cryopeeling treated skin ($p=0.001$).

Conclusions: Cryopeeling provided faster and superior improvement of lentigines compared with TCA peeling. Cryopeeling seems to have little effect on LCs, in contrast to TCA peeling which might exert inhibitory effect on skin immunity through reduction of epidermal LCs,

suggesting a possible tumorigenic effect of TCA.