

Re-pigmentation of Vitiligo Involving Angle of Lip Using Radiofrequency Cautery and Topical 5-Fluorouracil

Abstract

Vitiligo involving the angle of lip is a therapeutically challenging site because of the small and delicate area, high mobility, and lack of hair follicles. Dermabrasion combined with topical 5-fluorouracil cream has shown promising results in various studies involving different sites. Here we present a novel technique of using radiofrequency cautery for abrasion of epidermis followed by application of 5-fluorouracil cream. This technique has the advantage of being simple, easy, cost-effective with less downtime. A single session can yield excellent pigmentation in small areas such as the angle of lip.

Sir,

Vitiligo involving angles of lip is a cosmetically disfiguring condition with a prevalence ranging from 0.2% to 1.8% globally.^[1] This site poses a treatment challenge due to its high mobility, lack of hair follicles, and variable response to therapy. Surgical methods including suction blister grafting, miniature punch grafting, split-thickness grafting, and autologous melanocyte culture grafting have been tried with successful outcomes. However, these procedures are time-consuming, require technical expertise and considerable downtime, and have cost limitations.^[2]

Topical 5-fluorouracil cream has been combined with microdermabrasion, fractional CO₂ laser, and micro-needling in stable vitiligo over other body parts with re-pigmentation ranging from good to excellent. Dermabrasion using radiofrequency cautery is a simple and easy OPD procedure that is routinely performed. It provides good control of depth and evenness of abrasion in delicate and irregularly shaped areas such as the angle of mouth. Here, we have devised a simple technique of combining radiofrequency cautery with topical 5-fluorouracil to achieve re-pigmentation in a case of vitiligo involving the angle of the lip in an adult male.

After surgical preparation of the recipient area, local anesthesia was given with 2% xylocaine injection intradermally [Figure 1A]. The vitiligo patch was marked and the epidermis was abraded with a radiofrequency cautery device using a loop electrode using the coagulation mode at 50% power. A thick paste of 5% fluorouracil cream was applied to the abraded area. The patient was then advised to apply a mixture of topical 5% fluorouracil and antibiotic cream once daily for 4 weeks. Initially, erythema and erosion, followed by crusting, were seen in the first week. Complete re-epithelization was evident by the second week. Excellent re-pigmentation was seen at the end of 4 weeks [Figure 1B].

Various studies have reported the efficacy of combination of topical 5%-fluorouracil with dermabrasion. In a study by Tsuji

and Hamada,^[3] it was postulated that 5-FU causes initiation of pigmentation over abraded skin by producing melanocyte localization in vitiliginous epidermis via stimulation and migration of epidermal and hair follicle melanocytes.

Successful re-pigmentation of areas, such as the periungual skin and dorsa of feet which are devoid of hair follicles, was first reported by Anbar *et al.*^[4] on using ER:YAG laser ablation followed by topical application of 5-FU and NB-UVB phototherapy. It was hence concluded that, in non-glabrous skin, the re-pigmentation is due to melanocyte reactivation from the adjacent skin. Garg *et al.*^[5] also suggested that combination of microdermabrasion and topical 5-FU combination therapy gives better and faster results as 27.5% of their patients achieved good response with only a single therapy session. Manual dermabrasion, motor dermabrasion, and microneedling, although effective, are difficult to use in



Figure 1: A. Stable vitiligo involving angle of lip at baseline. B. Excellent re-pigmentation at the end of 4 weeks

areas such as lip. Lasers have the disadvantage of being costly and inaccessible to many dermatologists.

Hence, radiofrequency cautery followed by topical 5-FU provides an easier and cheaper alternative in lip vitiligo with minimal downtime. A single session is effective for small areas such as the angle of lip. However, well-controlled randomized trials are required to validate this technique.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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