

# Efficacy of CICAACTIVE® versus silver sulfadiazine 0.1% cream on facial wound healing in patients treated with Erbium-YAG resurfacing laser: A single-blind randomized clinical trial

Iran J Dermatol 2011; 14: 119-120

## Dear Editor,

In recent years, Laser Skin Resurfacing (LSR) has become the treatment of choice for a variety of pathological skin conditions such as facial rhytids, photoaged skin and acne scarring<sup>1</sup>. Cicactive® (CICA) gel (Uriage, France) is a hydrocolloid gel which is composed of sodium alginate, hydroxyprolisilane, D-panthenol, comfrey great, zinc gluconate and Uriage thermal water 30%. This agent, which is fragrance-free and hypoallergic, and has a high tolerance, encourages wound healing and renewal of damaged epidermis. The gel suits for treatment of skin damage caused by mechanical reasons or after medical/dermatological treatment. Studies have shown that zinc gluconate accelerates keratinization and wound healing; however, its synergistic effect with D-panthenol enhances the latter function<sup>2</sup>. D-panthenol is a variant of vitamin B5 which significantly increases intracellular protein synthesis and cell renewal rate. Therefore, it decreases the duration of wound healing<sup>3-5</sup>. The current study was conducted to determine the effectiveness of CICA gel in the postoperative care of patients with photoaged facial skin who

received Erbium: Yttrium-Aluminum-Garnet (Erbium-YAG) resurfacing laser in comparison with silver sulfadiazine 0.1% (AgSD) cream.

In a single-blind randomized clinical trial, 15 patients who were referred to Razi Hospital for the treatment of photoaged facial skin with Erbium-YAG resurfacing laser were studied. Skin resurfacing laser was applied with a wave-length of 2940 nm and frequency of 8-10 Hz. It produced a 3-5 mm spot with fluencies of 500 mj per pulse. Immediately after surgery, CICA gel and AgSD cream were randomly applied to either the right or the left side of the patient's face. On days 1, 4, 7, and 14 after laser therapy, the degree of erythema and itching on the treated areas and the patient's discomfort were evaluated as none, mild, moderate and severe. Re-epithelialization was assessed according to a 4-point scale: 0= with no changes, 1= epithelial islands formation>25%, 2= epithelial islands formation>50%, 3= epithelial islands formation>75%, 4=complete epithelialization. Data analysis was performed using Statistical Package of Social Sciences software (SSPS, Chicago, Ill). Continuous and discrete values were compared between test and control groups with non-parametric tests. Pre and post treatment measures

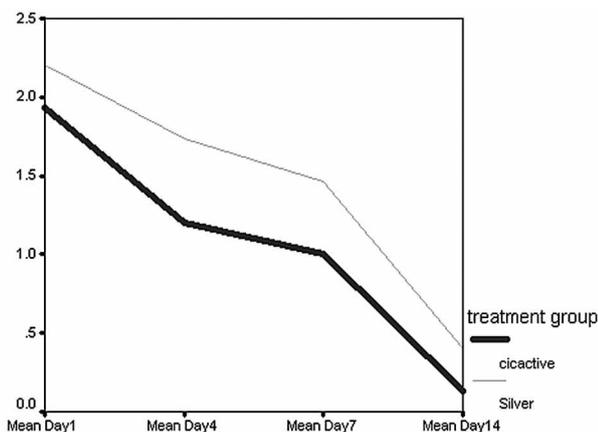


Figure 1. Erythema scores of 2 treatment groups

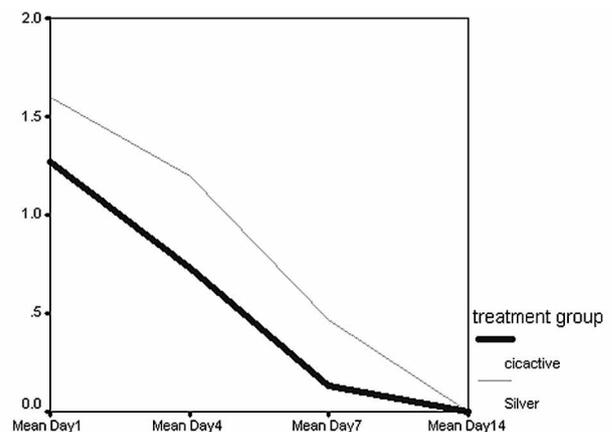
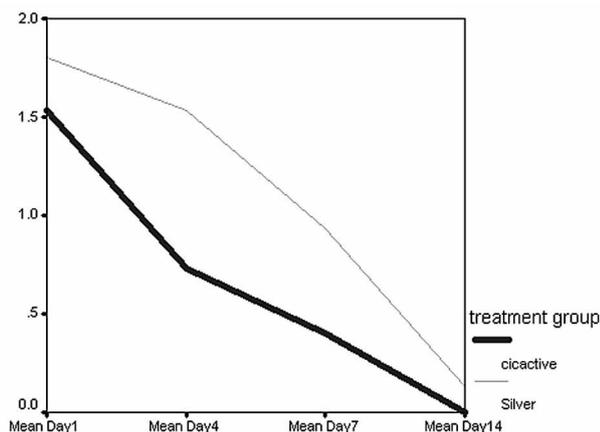


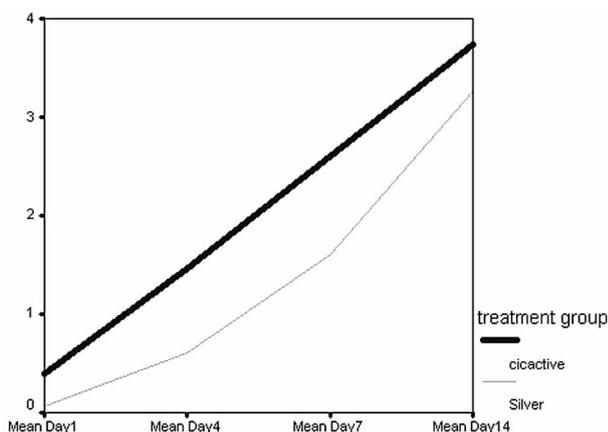
Figure 2. Itching scores of 2 treatment groups

of variables of interest in each study group were also compared by Wilcoxon test. A P-value < 0.05 was considered statistically significant.

Of 15 patients, 8 (53.3%) were female and 7 (46.7%) were male with a mean age of 27.6 years. On the first day of treatment, among studied parameters; only re-epithelialization was significantly lower in AgSD side ( $p=0.03$ ). During the treatment follow-up period except for day 1, the overall severity of erythema, itching and patient's discomfort was lower on the CICA side than the control side (Figure 1-3). The severity of erythema was less in the CICA side during all follow-up sessions but this difference was only significant on days 4 and 7 after laser ( $p=0.04, 0.02$ ; respectively). During the whole follow-up period; the rate of re-epithelialization was significantly higher on the CICA side compared to the AgSD side ( $p=0.03, 0.002, 0.001, 0.05$ ; respectively). (Figure 4) The mean rate of examiners' and patients' satisfaction was totally higher on the CICA side but



**Figure 3.** Patient discomfort scores of 2 treatment groups



**Figure 4.** Re-epithelialization scores of 2 treatment groups

none of these differences was significant. None of patients complained about any local or systemic adverse effects related to test treatments.

The current study introduced CICA as an effective wound gel which could accelerate re-epithelialization and improvement of post laser treatment complications such as erythema, itching and patient's discomfort. Therefore, it seems to be a precious adjunct to post LSR.

### Acknowledgement

There was no source of financial support.

Amir Houshang Ehsani, MD  
 Pedram Noormohammadpour, MD  
 Milad Miresmaeli, MD  
 Laleh Montaser-Kouhsari, MD  
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*Conflict of interest : none to declare*

*Received: August 27, 2009*

*Accepted: July 20, 2011*

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