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Treatment of facial laceration scars with non-ablative fractional laser in early postoperative period

Ho Kwon

The Catholic University of Korea, South Korea

Purpose: Facial laceration is one of the most common trauma cases in the outpatient department of plastic surgery. For decades, a variety of scar management and prevention methods have been introduced. Recently, early postoperative fractional laser treatment has been attempted in many institutes, but the most effective energy parameter and laser type has not been established yet. This study was performed to determine effective parameters in treatment of laceration scar with a non-ablative fractional laser.

Methods: From September 2012 to September 2015, a total of 154 patients were enrolled in the study according to the following criteria. Uneven lacerations in aspects of direction and depth were excluded and also only clear-cut facial lacerations with size of 4 to 10 cm were included in the study. To compare final results of low and high fluence parameters in 1,550 nm fractional Erbium-glass fractional laser treatment, we virtually divided the scar of individual patient in half each treated with fluence setting of 10 mJ/spot and 200 spots/cm², and 50 mJ/spot and 40 spots/cm², respectively. A total of four treatment sessions were performed taking records of clinical photographs.

Results: Results were assessed with VSS (Vancouver Scar Scale) scores and global assessment score of two portions of the individual scar. VSS scores were significantly more decreased in high pulse energy group and global assessment scores were also significantly lower, which indicates more favorable cosmetic results.

Discussion & Conclusion: In this study, we concluded that high fluence parameter could be more effective in early postoperative scar prevention with non-ablative fractional laser. In terms of facial laceration scar treatment, a future study with Botox utilization for prevention of tension around the scar during the laser sessions could be considered for a better result.

Biography

Ho Kwon has completed his PhD from The Catholic University of Korea, School of Medicine. He is the Director of Department of Plastic Surgery. He has published more than 25 papers in reputed journals and has been serving as an Editorial Board Member of *Archives of Plastic Surgery*.

kwonho@catholic.ac.kr

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