

The efficacy of *Aloe vera* gel in post procedural wound care after fractional 1550 nm erbium-doped fiber laser

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Objective: To evaluate clinical efficacy and the safety of *aloe vera* gel in postprocedural wound care after fractional 1550 nm erbium-doped fiber laser treatment.

Material and Method: Thirty Thai participants with mild to moderate, photoaging skin, categorized by Glogau's classification were enrolled. All participants were treated with fractional 1550 nm erbium-doped fiber laser. After laser treatment, the participants randomly assigned to apply one side with *aloe vera* gel and contralateral side with placebo. Clinical erythema score, erythema index, melanin index by Mexameter, transepidermal water loss (TEWL) by Tewameter and skin capacitance by Corneometer were assessed. The daily self-assessment report for wound recovery and global satisfaction score for treatment were assessed by participants. This study was followed for 5 visits, at the baseline, immediately after laser, at day 3, day 7 and day 14.

Result: *Aloe vera* group was significantly better improvement for clinical erythema score than the placebo at day 3 and day 7 after laser (p-value = 0.005 and 0.011, respectively). *Aloe vera* group was also significantly lower transepidermal water loss (TEWL) than the placebo at day 7 and day 14 after laser (p-value = 0.03 and 0.04, respectively). Therefore, *aloe vera* group was significantly better global satisfaction score than the placebo at day 7 and day 14 after laser (p-value = 0.05 and 0.05, respectively). However, there was no significant difference between 2 groups for erythema index, melanin index and skin capacitance. Median duration of wound recovery was no difference between the 2 groups (6 days vs. 7 days, p = 0.11)

Conclusions: *Aloe vera* gel for postprocedural wound care after fractional 1550 nm erbium-doped fiber laser treatment is highly effective for the reduction of skin redness and the preservation of transepidermal water loss or skin barrier function with better global satisfaction score. *Aloe vera* gel could be considered as an alternative treatment

Biography

Montree Udompataikul has completed his M.D. and Certified Board of Dermatology at the age of 24 years and 31 years from Faculty of Medicine, Ramathibodi Hospital, Mahidol University. He is the director of Skin Center and the head of MS in dermatology curriculum, Srinakarinwirot University. He has published 15 papers in reputed journals and has received the research awards.

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