

Thesis Title	Comparison of a Pulsed Dye Laser: 595 nm and an Intense Pulsed Light for the Treatment of Postinflammatory Erythema from Acne Vulgaris
Author	Maytharat Tussanatappasert
Degree	Master of Science (Dermatology)
Advisor	Lecturer Paisal Rummaneethorn

ABSTRACT

Background: Postinflammatory erythema occur as a result of inflammatory acne. Some acne erythema lesions may improve with time, but the persistent erythema. Currently, Target of treatment to reduce vascular include the pulsed dye laser (PDL) and intense pulsed light devices also have been approved for safety in human. To date there are no published studies that compare clinical efficacy about postinflammatory erythema from acne vulgaris between this two treatments.

Objectives: To compare the clinical improvement of postinflammatory erythema from acne vulgaris, side effect and satisfaction of the Pulsed dye laser: 595 nm with those of Intense pulsed light device in treatment of postinflammatory erythema.

Materials and methods: In randomized split-face controlled trial, 20 Thai subjects with with postinflammatory erythema from acne vulgaris on both sides of the cheeks, Fitzpatrick skin types III to V were enrolled. All subjects received treatment with both device. Half of the patient's face was treated with the pulsed dye laser (PDL): 595 nm device (V-beam Pectecta laser®) and another half with the intense pulsed light (IPL) device (Quantum SR®) were randomly assigned to the treatment. The treatments were

performed once a month for three months. Photographic by VISIA[®] was done before treatment and four weeks after each treatment (on weeks 4, 8 and 12).

Measurements of erythema from erythema index by Mexameter at four weeks after each treatment. The was measured same sites on three selected acne erythema lesions at baseline and 4 weeks after each treatment. Clinical improvement of postinflammatory erythema and postinflammatory erythema lesion counts was independently evaluated by two masked dermatologists. Patients were asked to evaluate their satisfaction score and choose the preferred each device. Adverse events were recorded

Results: The mean reduction of postinflammatory erythema lesion counts and the mean reduction of erythema index after completing both devices treatments with statistical significance. The result showed no statistically significant difference of the erythema index and postinflammatory lesion counts in two groups. Clinical improvement grading by two independently dermatologists showed better at PDL treated side than IPL treated side with statistically significant differences. There was no statistical significance in the difference between the numbers of patients who preferred each device and patient satisfaction scores. The pain score of pulsed dyelaser:595 nm device was higher than intense pulsed light device and the durational of facial edema (hrs) in the pulsed dyelaser: 595 nm (Vbeam) was longer than the intense pulsed light device. One case with skin type V of postinflammatory hyperpigmentation after treat with intense pulsed light device was reported.

Conclusions: Both intense pulsed light device (Quantum SR[®]), and the pulsed dye laser: 595 nm device (V-beam laser[®]; Candela Laser Corporation) are safe and effective treatment modality for the treatment of postinflammatory erythema from acne vulgaris in patients with Fitzpatrick Skin Types III to V. Most of the patients were very satisfied with the result of treatment. Both devices have similar effectiveness for

postinflammatory erythema from acne vulgaris treatment. Although there were some differences regarding side effects from both devices, they were mild and transient.

Keywords: Postinflammatory erythema from acne vulgaris/Pulsed dye laser: 595 nm
/Intense pulsed light

